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Documents of the World Radiocommunication Conference (WRC-97) (Geneva, 1997)

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- This PDF includes Document No. 101-200
- The complete set of conference documents includes Document No. 1-405, DL No. 1-60, DT No. 1-157

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Document 101-E
27 October 1997
Original: English

CHAIRMANSHIP OF THE CONFERENCE

(as established by the First Plenary Meeting)

Chairman of the Conference	:	Mr. R. Smith (Australia)		
Vice-Chairmen of the Conference	:	Mr. J. W. Bryant (United States) Mr. M. Johnson (United Kingdom) Mr. A. Kroupnov (Russia) Mr. M. N. Benjelloun-Touimi (Morocco) Mr. S. Tanaka (Japan)		
Committee 1 (Steering)	:	(composed of the Chairman and Vice-Chairmen of the Conference and of the Chairmen and Vice-Chairmen of the other Committees and of the Working Groups of the Plenary)		
Committee 2 (Credentials)	:	Chairman	:	Mr. A. Mapunda (Tanzania)
		Vice-Chairman	:	Mr. F. He (China)
Committee 3 (Budget Control)	:	Chairman	:	Mr. M. Landsmann (Ukraine)
		Vice-Chairman	:	Mr. P. G. T. Touré (Senegal)
Committee 4 (Regulatory and Associated Issues)	:	Chairman	:	Mr. E. George (Germany)
		Vice-Chairmen	:	Mr. H. K. Al-Shankiti (Saudi Arabia)
				Mrs. S. Jalife Villalon (Mexico)

.../...

Committee 5 (Allocations and) Associated Issues)	:	Chairman	:	Mrs. V. Rawat (Canada)
		Vice-Chairmen	:	Mr. C. T. Van Diepenbeek (Netherlands)
				Mr. N. Kisrawi (Syria)
Committee 6 (Editorial)	:	Chairman	:	Mrs. A.-M. Nebes (France)
		Vice-Chairmen	:	Mr. M. Goddard (United Kingdom)
				Mr. V. Rubio Carretón (Spain)
Working Group 1 of the Plenary	:	Chairman	:	Mr. H. Railton (New Zealand)
Working Group 2 of the Plenary	:	Chairman	:	Mr. D. Leive (United States)

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Document 102-E
27 October 1997
Original: English

PLENARY MEETING

Note by the Secretary-General

SECRETARIAT OF THE CONFERENCE

Secretary of the Conference	:	Mr. P. Tarjanne, Secretary-General
Executive Secretary	:	Mr. A. Boussaïd
Technical Secretary	:	Mr. K. Olms
Administrative Secretary	:	Mrs. H. Laugesen
Plenary Meeting and Committee 1 (Steering)	:	Mr. D. MacLean
Committee 2 (Credentials)	:	Mr. A. Boussaïd
Committee 3 (Budget Control)	:	Mr. A. Tazi-Riffi
Committee 4 (Regulatory and associated issues)	:	Mr. T. Gavrilov
Committee 5 (Allocations and associated issues)	:	Mr. J. Lewis
Committee 6 (Editorial)	:	Mr. A. Peñaranda
Working Group 1 of the Plenary	:	Mr. A. Nalbandian
Working Group 2 of the Plenary	:	Mr. G. Korolev

Pekka TARJANNE
Secretary-General

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Document 103-E
27 October 1997
Original: English

Note by the Secretary-General

CONFERENCE STRUCTURE OF THE
WORLD RADIOCOMMUNICATION CONFERENCE (WRC-97)

Geneva, 1997

(approved at the First Plenary Meeting)

The agenda of the Conference appears in Resolution 1086 which was adopted by the Council at the third Plenary Meeting of its 1996 session.

Bearing in mind Nos. 356 to 367 inclusive of the Convention of the International Telecommunication Union, Geneva, 1992, the following committees with their terms of reference are suggested. These terms of reference have been drawn up within the framework of the Constitution and Convention, the Conference agenda and in the light of experience at previous conferences.

Committee 1 – Steering Committee

Terms of reference:

To coordinate all matters connected with the smooth execution of work and to plan the order and number of meetings, avoiding overlapping wherever possible in view of the limited number of members of some delegations (No. 360 of the Convention, Geneva, 1992).

Committee 2 – Credentials Committee

Terms of reference:

To verify the credentials of delegations and to report on its conclusions to the Plenary Meeting within the time specified by the latter (No. 361 of the Convention, Geneva, 1992).

Committee 3 – Budget Control Committee

Terms of reference:

To determine the organization and the facilities available to the delegates, to examine and approve the accounts for expenditure incurred throughout the duration of the conference, and to report to the Plenary Meeting the estimated total expenditure of the conference, as well as an estimate of the costs that may be entailed by the execution of the decisions taken by such a conference (Nos. 364 to 366 of the Convention, Geneva, 1992).

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Committee 4 – Regulatory and Associated issues

Terms of reference:

On the basis of proposals by administrations and the Report from the Conference Preparatory Meeting:

1 to review issues remaining from WRC-95 including consideration of the VGE Report in accordance with Resolution 71 (WRC-95) and any essential changes to Articles S4, S7, S8, S9, S11, S13, S14 and Appendices S4 and S5 of the simplified Radio Regulations adopted by WRC-95 to ensure consistency between all of their provisions (item 1.2);

2 to examine, and take necessary decisions on, the question of the HF bands allocated to the broadcasting service in the light of developments to date and the results of the studies carried out by the Radiocommunication Sector, and review of Article 17 (S12) of the Radio Regulations in accordance with Resolution 530 (WRC-95) (item 1.4);

3 to consider changes to the Radio Regulations, as appropriate, based on the results of the studies to be carried out under Recommendation 720 (WRC-95) (item 1.5);

4 to consider matters related to the maritime mobile and maritime mobile-satellite services (item 1.6);

5 to review the Appendices 30 (S30) and 30A (S30A) for Regions 1 and 3 in response to Resolution 524 (WARC-92), and taking particular account of resolves 2 of that Resolution, in accordance with Resolution 531 (WRC-95) and taking into account Recommendation 35 (WRC-95) (item 1.10);

6 to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the associated Radiocommunication Assembly, in accordance with Resolution 28 (WRC-95); and decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to Resolution 27 (WRC-95) (item 2);

7 to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the Conference (item 3);

8 to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this committee with a view to their possible revision, replacement or abrogation (item 4);

9 to consider any other item submitted to the Committee by the Plenary.

Committee 5 – Allocations and Associated Issues

Terms of reference:

On the basis of proposals by administrations and the Report from the Conference Preparatory Meeting:

1 to consider requests from administrations to delete their country footnotes or to have their country's name deleted from footnotes, if no longer required, within the limits of Resolution 26 (WRC-95) (item 1.1);

2 to review Appendix 28 (S7) to the Radio Regulations, taking into account Resolution 60 (WARC-79), Resolution 712 (Rev.WRC-95) and Recommendation 711 (WARC-79) (item 1.3);

3 to review Appendix 8 to the Radio Regulations taking into account Recommendation 66 (Rev.WARC-92) (item 1.7);

4 to consider the possible deletion of all secondary allocations from the band 136 -137 MHz, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87) and in order to meet the special needs of the aeronautical mobile (R) service (item 1.8);

5 to consider, taking into account the needs of other services to which the relevant frequency bands are already allocated:

5.1 issues concerning existing and possible additional frequency allocations and regulatory aspects as related to the mobile-satellite and fixed-satellite services including consideration of Resolutions 116 (WRC-95), 117 (WRC-95), 118 (WRC-95), 121 (WRC-95), 214 (WRC-95), 215 (WRC-95), 714 (WRC 95), 715 (WRC-95), 717 (WRC-95) and Recommendation 717 (Rev.WRC-95) (item 1.9.1);

5.2 Resolutions 211 (WARC-92), 710 (WARC-92) and Resolution 712 (Rev.WRC-95) (item 1.9.2);

5.3 Recommendation 621 (WARC-92) (item 1.9.3);

5.4 frequency allocation issues related to the needs of the Earth exploration-satellite service, which are not covered in the above-mentioned Resolutions, namely:

5.4.1 allocation of frequency bands above 50 GHz to the Earth exploration-satellite (passive) service (item 1.9.4.1);

5.4.2 frequency allocations near 26 GHz to the Earth exploration-satellite service (space-to-Earth) (item 1.9.4.2);

5.4.3 the existing frequency allocations near 60 GHz and, if necessary, their re-allocation, with a view to protecting the Earth exploration-satellite (passive) service systems operating in the unique oxygen absorption frequency range from about 50 GHz to about 70 GHz (item 1.9.4.3);

5.5 allocations to the space research service (space-to-space) near 400 MHz (item 1.9.5);

5.6 the identification of suitable frequency bands above 30 GHz for use by the fixed service for high-density applications (item 1.9.6);

6 to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this committee with a view to their possible revision, replacement or abrogation (item 4);

7 to consider any other item submitted to the Committee by the Plenary.

Committee 6 – Editorial Committee

Terms of reference:

To perfect the form of the texts to be included in the Final Acts of the Conference without altering the sense, for submission to the Plenary Meeting (Nos. 362 and 363 of the Convention, Geneva, 1992).

Working Group 1 of the Plenary

Terms of reference:

1 to review, and take appropriate action on, the report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the Convention (Geneva, 1992) (item 5);

2 to identify those items requiring urgent actions by the radiocommunication study groups in preparation for the 1999 World Radiocommunication Conference (WRC-99) (item 6);

3 in accordance with Article 7 of the Convention (Geneva, 1992):

3.1 to consider and approve the report of the Director of the Radiocommunication Bureau on the activities of the Radiocommunication Sector since the last Conference (item 8.1);

3.2 to recommend to the Council items for inclusion in the agenda for the WRC-99, and to give its views on the preliminary agenda for the 2001 Conference and on possible agenda items for future conferences (item 8.2);

4 to consider any other item submitted to the Working Group by the Plenary.

Working Group 2 of the Plenary

Terms of reference:

1 to consider the final report of the Director of the Radiocommunication Bureau on activities related to Resolution 18 (Kyoto, 1994) (item 7).

2 to consider any other item submitted to the Working Group by the Plenary.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 104-E
27 October 1997
Original: Spanish

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5
WORKING GROUP 2 OF
THE PLENARY

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

PART 1

Agenda item 1.1 - Modification of Article S5

Introduction

Resolution 26 (WRC-95) resolves that the Table of Frequency Allocations should include only those footnotes which have international implications for the use of radio frequencies. It also resolves that footnotes serving a common purpose should be in a common format, and, where possible, be grouped into a single footnote with appropriate references to the relevant frequency bands.

The Administration of Mexico considers that while the number of footnotes to the Table of Frequency Allocations (Article S5) should preferably not increase, it is nevertheless important to modify those of them that have significant implications for the legitimate interests of administrations. In this respect, signals from the satellite and terrestrial broadcasting services, as well as from certain fixed service applications, are spilling over into areas that cover two or more national territories.

It is of fundamental importance to the Mexican Administration to be able to have fixed services and satellite and terrestrial broadcasting services that cover parts or the whole of its territory using systems operating within the framework of the country's national legislation while also adhering to the relevant international legislation. In particular, Mexico intends in the near future to operate the fixed service in the band 10 - 10.45 GHz and satellite and terrestrial broadcasting services in the band 2 310 - 2 360 MHz, for which reason it makes the following proposals:

MEX/104/1
MOD S5.393 *Additional allocation:* in the United States, ~~and~~ India and Mexico, the band 2 310 - 2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (WARC-92)**.

MEX/104/2
MOD S5.480 *Additional allocation:* in Costa Rica, Ecuador, Guatemala, ~~and~~ Honduras and Mexico, the band 10 - 10.45 GHz is also allocated to the fixed and mobile services on a primary basis.

Reasons: To cater for national radiocommunication requirements in the immediate future.

PART 2

Agenda item 7 - Resolution 18 (Kyoto, 1994) - Administrative due diligence

Introduction

The Administration of Mexico, has studied the advantages and disadvantages of applying the administrative due diligence procedure and considers that it would be appropriate to adopt a resolution providing for its speedy application and the inclusion of appropriate references thereto in the Radio Regulations, on the understanding that WRC-99 will review the results of its application.

Proposals

In order to ensure the effective application of the due diligence procedure and the Resolution itself, the following proposals are made:

ARTICLE S9

MEX/104/3
MOD **Section II. Coordination Procedure**[1, 2, 3]

MEX/104/4
ADD A.S.9.II.3 See Resolution [MEX-1].

MEX/104/5
MOD S9.27 Frequency assignments to be taken into account in effecting coordination are identified using Appendix **S5** and the indications given in Resolution [MEX-1].

ARTICLE S11

MEX/104/6
MOD **Section I. Notification**[1]

MEX/104/7
ADD A.S.11.I.1 For cases of frequency assignments to satellite systems or networks, see Resolution [MEX-1].

MEX/104/8
ADD

DRAFT RESOLUTION [MEX-1]

ADMINISTRATIVE DUE DILIGENCE AS APPLICABLE TO THE ASSIGNMENT OF FREQUENCIES TO SATELLITE SYSTEMS OR NETWORKS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that Resolution 18 of the Plenipotentiary Conference (Kyoto, 1994) instructed the Director of the Radiocommunication Bureau to carry out a review of some important issues concerning international satellite network coordination;

b) that the orbit/spectrum resource is congested, partly as a result of the notification of "paper satellites";

c) that there is growing concern regarding the location of new satellite networks, including those of new Members of ITU, and the need to maintain the integrity of ITU procedures and agreements;

d) that Resolution 18 identifies important issues concerning satellite network coordination as including:

– the linkage between ITU procedures and commitments to take up notified frequencies and orbital positions;

– the ongoing need for ITU's frequency coordination and planning framework for satellite networks to continue to be relevant to rapidly advancing technological possibilities in order, for example, to facilitate the establishment of multiservice systems;

e) the identification of some of the key aspects of satellite network coordination, as well as the studies and contributions of the Radiocommunication Advisory Group, ITU-R Study Groups, the Special Committee on Regulatory/Procedural Matters, the Radio Regulations Board and consultations effected at three regional forums;

f) that the Director of the Radiocommunication Bureau has submitted a report proposing various recommendations for prompt implementation and identifying the issues that require further study,

considering further

a) the need to adopt a procedure for resolving the problem of reserved but subsequently unused capacity;

b) the need to try out and gain experience in the application of administrative due diligence,

taking into account

Article 44 of the Constitution of the International Telecommunication Union,

resolves

1 that the administrative due diligence procedures set out in the Annex hereto shall apply to any satellite system or network submitted to the Bureau in conformity with Articles **S9** and **S11**;

2 that the due diligence procedures set out in the Annex hereto shall apply to any satellite system or network being coordinated or that has been notified and/or is recorded in the Master International Frequency Register in conformity with Article **S11**, and that administrations shall have a period of 24 months, as from the date of entry into force of this Resolution, to comply with those procedures;

3 that, as from the date of expiry of the periods established in this Resolution and its Annex, any satellite systems or networks that do not comply with either *resolves* 1 or 2 above, as the case may be, shall not be taken into account for the purposes of the coordination process, and that all the work carried out and information generated under Articles **S9** and **S11** shall be cancelled, as shall the entry, if any, in the Master Register,

instructs the Director

to report to WRC-99 on the results of the application of this Resolution.

ANNEX TO RESOLUTION [MEX-1]

Administrative due diligence

1 Administrations responsible for satellite systems or networks which are in the process of coordination under Nos. **S9.6** to **S9.14**, that have been submitted and published in conformity with Nos. **S9.30** and **S9.38**, shall send to the Bureau:

1.1 within a period of 36 months as from the date of advance publication in conformity with No. **S9.2B**, the following information:

a) name of the satellite system or network under which publication was effected in conformity with No. **S9.38**;

b) name of the manufacturer of the satellite system or network;

c) name of the satellite operator;

d) date of execution of the contract for the satellite system or network and reference number or code by which the contract is identified by the operator and manufacturer of the satellite;

e) agreed date for handover of the satellite system or network;

f) number of satellites purchased;

g) the operating frequency range and, as appropriate, the orbital positions of the satellite(s) that form(s) the satellite system or network;

1.2 during the 18-month period prior to the date of launch of the satellite(s) that form(s) the satellite system or network, the following information:

a) name of the satellite system or network under which publication was effected in conformity with No. **S9.38**;

b) name of the supplier of the launch vehicle;

c) name of the satellite operator;

d) date of the launch vehicle contract and the reference number or code by which the contract is identified by the operator and launcher of the satellite;

e) date of launch (launch window) set down in the contract;

f) the operating frequency range and, as appropriate, the orbital position(s) of the satellite(s) that form(s) the satellite system or network;

1.3 if the launch services are contracted through the manufacturer of the satellite system or network, §§ 1.1.d) and 1.2.d) above will coincide.

2 The notifying administration requesting the extension provided for in No. **S11.44** shall have previously sent to the Bureau the information required in § 1.1 above in conformity with No. **S11.44C**.

3 In the case of satellite system or network frequency assignments that are under coordination or have been notified and in respect of which the notifying administration does not submit the information indicated in §§ 1.1 and 1.2 above by the specified deadlines, the coordination procedures provided for in Section II of Article **S9** and, as appropriate, those corresponding to Article **S11** shall be cancelled, as shall the record of the frequency assignments in the Master International Frequency Register and the advance publication effected under Section I of Article **S9**. Any action taken and work done under Articles **S9** and **S11** shall also be cancelled.

4 The Bureau shall inform both the notifying administration and other administrations concerned that the coordination and advance publication procedures relating to the satellite system or network in question have been cancelled owing to a failure to comply with the present administrative due diligence procedure.

5 The Bureau shall publish, on a quarterly basis, the satellite systems or networks cancelled under this Resolution.

6 Should the administration wish to continue its satellite system or network project, it shall have to resubmit a request for advance publication under No. **S9.1**.

7 In the case of orbital relocation of an existing satellite system or network to operate in an orbital position that is in the process of coordination under Nos. **S9.30** and **S9.38** within a period of 36 months as from the date of advance publication under No. **S9.2B**, the notifying administration shall send to the Bureau, in place of the information required under §§ 1.2 and 2.2 above, the date of relocation of the satellite system or network, the date of the contract relating to the relocation, if applicable, and the information required under §§ 1.1.a) and 1.1.g).

8 The relocation of a satellite system or network shall not apply for the purposes of the procedure for obtaining the extension provided for in Nos. **S11.44** to **S11.44G**

PART 3

Agenda item 7 - Resolution 18 (Kyoto, 1994) - Modification of the advance publication procedure

We agree with the view that the advance publication stage should be maintained in the satellite system or network coordination procedures, that it should be simplified and that it should have regulatory significance by establishing the commencement of the periods of time that constitute the various stages of the satellite system or network coordination procedure.

Advance publication is an informative stage intended to give administrations the opportunity to announce their intention of placing a (geostationary or non-geostationary) satellite system or network in orbit.

Administrations shall confirm their formal intention of establishing a satellite system or network by submitting the information corresponding to the coordination procedure in conformity with Article **S9**, for which purpose they shall have a period of up to 18 months as from the date on which the advance publication information is published in the weekly circular. If the coordination information is not submitted within the said 18-month period, the advance publication and all proceedings relating thereto shall be cancelled.

Administrations that consider their existing or planned satellite systems or networks to be affected will be able to submit their comments to the administration responsible for the satellite system or network in question, so that it can take them into consideration when it initiates the coordination procedure.

In the light of the above, the following proposals are put forward:

MEX/104/9

MOD S9.1 Before initiating any action under this Article in respect of frequency assignments for a satellite network or a satellite system, an administration, or one[1] acting on behalf of a group of named administrations, shall, prior to the coordination procedure described in Section II of Article **S9** below, where applicable, send to the Bureau a general description of the network or system for advance publication in the Weekly Circular not earlier than ~~six~~five years and preferably not later than two years before the planned date of bringing into use of the network or system (see also No. **S11.44**). The characteristics to be provided for this purpose are listed in Appendix **S4**. The coordination or notification information may also be communicated to the Bureau at the same time; it shall be considered as having been received by the Bureau not earlier than six months after the date of receipt of the information for advance publication where coordination is required by Section II of Article **S9**. Where coordination is not required by Section II, notification shall be considered as having been received by the Bureau not earlier than six months after the date of publication of the advance publication information.

MEX/104/10
MOD S9.2
(CPM-97)

Amendments to the information sent in accordance with the provisions of No. **S9.1** shall also be sent to the Bureau as soon as they become available. ~~For geostationary-satellite networks and non-geostationary-satellite networks which are subject to Section II of Article **S9**, t~~The use of an additional frequency band will require the application of the advance publication procedure for this band. ~~For non-geostationary-satellite networks which are not subject to Section II of Article **S9**, the use of an additional frequency band or an extension of the service area will require the application or recommencing, respectively, of the advance publication procedures for these modifications (see Resolution **48 (WRC-95)**).~~

MEX/104/11
MOD S9.3

If, upon receipt of the Weekly Circular containing information published under No. **S9.2B**, ~~an~~any administration ~~believes that interference which may be unacceptable may be caused to its existing or planned satellite networks or systems or terrestrial stations[2], it shall within four months of the date of the Weekly Circular communicate to the publishing administration its comments on the particulars of the anticipated interference to its existing or planned systems.~~considers its existing or planned satellite systems or networks to be affected, it may send its comments to the administration responsible for the satellite system or network in question, so that the latter may take those comments into consideration when initiating the coordination procedure. A copy of these comments shall also be sent to the Bureau. Thereafter, both administrations shall endeavour to cooperate in joint efforts to resolve any difficulties, with the assistance of the Bureau, if so requested by either of the parties, and shall exchange any additional relevant information that may be available. ~~If no such comments are received from an administration within the aforementioned period, it may be assumed that the administration concerned has no basic objections to the planned satellite network(s) of the system on which details have been published.~~

MEX/104/12
SUP S9.5

MEX/104/13
ADD S9.5B

If the information required under No. **S9.30** has not been received by the Bureau within 18 months, in conformity with No. **S9.2B**, the advance publication shall be cancelled, as shall any action and proceedings relating to it. If the administration wishes to continue its project, it shall have to submit a fresh request for advance publication in conformity with No. **S9.1**.

MEX/104/14
ADD S9.5C

The Bureau shall publish, on a quarterly basis, the satellite systems or networks cancelled under No. **S9.5B**.

PART 4

Agenda item 7 - Resolution 18 (Kyoto, 1994) - Reduction of the period for placing a satellite system or network in orbit and of the amount of time by which that period may be extended

Introduction

We agree with the view that the period between presentation of the advance publication information and the date of bringing into service of a satellite system or network should be reduced to five years.

As to the extension of that period, we consider that it should be reduced from three to two years and should not be granted automatically, without justification. It should be granted only in specific cases, on condition that a contract exists for the manufacture of the satellite system or network in question.

Justified cases of extension involve situations such as the delayed launching of the satellite system or network, a delay in manufacture of the satellite due to modifications resulting from coordination agreements, and *force majeure* or unforeseen circumstances beyond the control of the notifying administration or the operator. An administration shall specify and provide evidence of the circumstances pertaining to its request for an extension.

Proposals

In the light of the above, the following proposals are put forward:

MEX/104/15
MOD S11.44 The ~~notified~~announced date of bringing into use of any assignment to a space station of a satellite network shall be no later than ~~six~~five years following the date of publication of the relevant Weekly Circular referred to in No. **S9.2B**. The ~~notified~~announced date of bringing into use will be extended at the request of the notifying administration by not more than ~~three~~two years, and only in such cases as are described in Nos. **S11.44C** to **S11.44G**.

MEX/104/16
ADD S11.44A Any frequency assignment relating to a satellite system or network which is under coordination or has been notified and which does not enter into operation within the requisite five-year period or upon expiry of any extension granted under No. **S11.44C** shall be cancelled by the Bureau, which will communicate such cancellation to the responsible administration.

MEX/104/17
ADD S11.44B The Bureau shall publish, on a quarterly basis, any satellite systems or networks cancelled under No. **S11.44A**.

MEX/104/18
ADD S11.44C The date of entry into service of the use of frequencies relating to a satellite system or network may be extended at the request of the notifying administration in conformity with No. **S11.44** provided that the satellite system or network in question is in the process of coordination, the provisions of

Resolution [MEX-1] have been satisfied and any one or more of the following conditions are met:

MEX/104/19
ADD S11.44D The notifying administration presents evidence to the effect that a breakdown or delay due to circumstances beyond the control of the administration or operating agency has occurred in the launch procedure for the satellite system or network; or

MEX/104/20
ADD S11.44E The administration presents evidence to the effect that a delay has occurred in the manufacture of the satellite system or network on account of the need to modify the satellite's characteristics as a result of the coordination procedure; or

MEX/104/21
ADD S11.44F The notifying administration announces that it is in a situation resulting from unforeseen circumstances or *force majeure* for which it is not responsible.

MEX/104/22
ADD S11.44G The notifying administration shall specify clearly which of Nos. **S11.44D** to **S11.44F** is applicable to its request for extension, and provide evidence in support of that request.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 105-E
27 October 1997
Original: French

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Burkina Faso

PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-97 agenda item 1.1 - Requests from administrations to delete their country footnotes or to have their country's name deleted from footnotes, if no longer required, within the limits of Resolution 26 (WRC-95)

a) Deletion of footnotes

Burkina Faso is one of the countries mentioned in footnote **S5.221** (band 148 - 149.9 MHz). The provisions of the Radio Regulations should enable our country to protect its existing fixed and mobile services in this band against the risks of interference from the mobile-satellite service sharing the same band. The CPM Report to WRC-97 indicates that, according to the results of the studies that have been carried out, sharing between the land mobile service and the mobile-satellite service in the band 148 - 149.9 MHz is possible.

Footnote **S5.221** is thus made redundant. For that reason, Burkina Faso withdraws its name from footnote **S5.221**.

BFA/105/1

MOD S.5221 Stations of the mobile-satellite service in the band 148 - 149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, ~~Burkina Faso,~~ Cameroon, Canada, China, Cyprus, Colombia, Congo, the Republic of Korea, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Honduras, Hungary, India, Indonesia, the Islamic Republic of Iran, Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Russia, Senegal, Sierra

Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Yugoslavia, Zambia, and Zimbabwe.

b) Retention of footnotes

Burkina Faso requests the retention of the other footnotes which concern it in the Radio Regulations, particularly footnote **S5.347**.

BFA/105/1A
NOC S5.347

Reasons: Burkina Faso uses the band 1 452 - 1 492 MHz intensively for rural telephony, together with the two adjacent bands, 1 429 - 1 452 MHz and 1 492 - 1 525 MHz.

BFA/105/1B
NOC S5.464

Reasons: Burkina Faso hosts the African regional remote-sensing centre in Ouagadougou. It was in connection with scientific research in Africa that this footnote was included in the Radio Regulations.

WRC-97 agenda item 1.2 - Issues remaining from WRC-95 including consideration of the VGE Report in accordance with Resolution 71 (WRC-95) and any essential changes to Articles S4, S7, S8, S9, S11, S13, S14 and Appendices S4 and S5 of the simplified Radio Regulations adopted by WRC-95 to ensure consistency between all of their provisions

BFA/105/2

The Administration of Burkina Faso requests that a modification be made to No. **S9.49** (which states that, if an administration has not replied to a request for coordination from the Bureau within 30 days, it shall be deemed to have undertaken that the use of its own assignments will not cause harmful interference to the assignment for which coordination was requested).

The modification requested by the Administration of Burkina Faso is the following:

1) In the case of an administration of a country that has sought the assistance of the Radiocommunication Bureau, before and after the 30-day time limit, there should be another provision drawing the matter to the attention of the administration with which coordination is sought.

2) It is unfair that the administration with which coordination is sought should be deemed to have undertaken that the use of its own assignments will not cause harmful interference to the assignment for which coordination was requested.

3) The new provision to be introduced must more closely involve the administration requesting coordination vis-à-vis the administration with which coordination is sought.

WRC-97 agenda item 1.4 - Examination of, and taking necessary decisions on, the question of the HF bands allocated to the broadcasting service in the light of developments to date and the results of the studies carried out by the Radiocommunication Sector, and review of Article 17 (S12) of the Radio Regulations in accordance with Resolution 530 (WRC-95)

1 Aims of the proposal

To elaborate and implement, in a cost-effective manner, a method that takes account of all the requirements of administrations. Such a method must be based on the principle of equal rights of all countries, large or small, to equitable access to the HF bands allocated to the broadcasting service.

2 Background

Since 1959, administrations and broadcasters throughout the world have, together with ITU, spent a great deal of time and invested large sums in an effort to develop a satisfactory HFBC planning system. Given the limited spectrum resources and the numerous requirements of certain administrations, these efforts have resulted in the elaboration of a considerable number of procedures, none of which appear to be satisfactory owing to the fact that, if they were implemented, the quality of many broadcast programmes would be unacceptable.

3 Proposal by Burkina Faso

Burkina Faso's proposal is not new; it takes into account the advantages of each of the procedures applied, elaborated and proposed in order to enable all countries to have equitable access to these bands, having regard in particular to the technical and economic constraints. Account will be taken of the national and possibly international requirements deemed to have priority by each administration.

BFA/105/3

The Administration of Burkina Faso proposes the following:

a) Replacement of the present Article **17** by the new Article **S12** proposed by CPM-97, which provides for seasonal planning based on a coordination procedure between administrations or "broadcasters", as described in Nos. **S12.2** to **S12.45**, duly modified so as to take into account a certain degree of priority to be accorded to national broadcasting requirements in relation to those intended for international broadcasting.

Reasons: Many developing countries will not be able to participate in the many bilateral or multilateral regional or world meetings which would become necessary to settle cases of incompatibility or cases of interference resulting from the application of this procedure.

b) Response to Resolution 529 (WRC-95)

The other primary services operated in the additional bands which WARC-92 allocated to the broadcasting service should be protected up to 1 April 2007.

c) Transition from double-sideband (DSB) emissions to single-sideband (SSB) emissions (or even digital broadcasting). In accordance with WARC Resolution No. 517 (HFBC-87), the period for the transition from DSB to SSB (or digital technology), having begun in 1987, should end on 31 December 2015, provided that the statistics on the worldwide distribution of SSB (or digital) transmitters and receivers are satisfactory.

WRC-97 agenda item 1.5 - Based on the results of the studies to be carried out under Recommendation 720 (WRC-95), consider changes to the Radio Regulations, as appropriate

Recommendation 720 deals with the use of frequency-agile equipment in the frequency range between 1.6 and 28 MHz.

Burkina Faso recognizes the emergence of this type of equipment as a major technological advance in the field of HF radiocommunications. However, our country is concerned about the influence (or impact) of its use simultaneously with existing equipment used to establish essential HF radiocommunication links for security, state, public health, civil engineering and other services.

BFA/105/4

Consequently, the Administration of Burkina Faso calls for ITU-R studies in this field to continue and for specific frequency bands to be designated for the future use of frequency-agile equipment.

WRC-97 agenda item 1.8 - The possible deletion of all secondary allocations from the band 136 -137 MHz, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87) and in order to meet the special needs of the aeronautical mobile (R) service

BFA/105/5

Burkina Faso is in favour of the deletion of all secondary allocations and all footnotes in this band which constrain the functioning of the aeronautical mobile (R) service.

However, provision should be made for transitional arrangements to enable the other existing services to vacate this band.

Reasons: The aeronautical mobile (R) service is a safety service which should be protected.

WRC-97 agenda item 1.9.1 - Issues concerning existing and possible additional frequency allocations and regulatory aspects as related to the mobile-satellite and fixed-satellite services including consideration of Resolutions 116 (WRC-95), 117 (WRC-95), 118 (WRC-95), 121 (WRC-95), 214 (WRC-95), 215 (WRC-95), 714 (WRC 95), 715 (WRC-95), 717 (WRC-95) and Recommendation 717(Rev.WRC-95)

The allocations made to the MSS at around 2 GHz by WARC-92 and WRC-95 have resulted in either the transfer of fixed services to other frequency bands or the sharing of frequencies between two services (MSS and FS), entailing the likely risk of harmful interference to the fixed service. The fixed services around 2 GHz are widely used in developing countries like our own in order to open up semi-urban and rural areas in the field of telecommunications.

BFA/105/6

Burkina Faso is therefore not in favour of any new allocation of frequency bands to the mobile-satellite service around 2 GHz which might jeopardize the operation of its existing fixed services.

WRC-97 agenda item 1.9.3 - Recommendation 621 (WARC-92)

Burkina Faso would be able to accept the allocation of three frequency bands for the introduction of wind profiler radars in the 50, 400 and 1 000 MHz bands.

ITU is nevertheless requested to carry out a more detailed study of the technical considerations and the sharing arrangements between wind profiler radars and the other services to which the frequency bands proposed for this purpose are allocated, with a view to determining appropriate frequencies.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

ORGANIZATION OF THE WORK OF COMMITTEE 4

To cover the Conference agenda items assigned to Committee 4, the following Working Groups are proposed:

Working Group 4A (WG 4A) - Simplified Radio Regulations

Terms of reference:

- to review issues remaining from WRC-95 including consideration of the VGE Report in accordance with Resolution 71 (WRC-95) and to make any essential changes to Articles S4, S7, S8, S9, S11, S13, S14 and Appendices S4 and S5 of the simplified Radio Regulations adopted by WRC-95 to ensure consistency between all of their provisions (item 1.2);
- to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the associated Radiocommunication Assembly, in accordance with Resolution 28 (WRC-95); and decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to Resolution 27 (WRC-95), (item 2);
- to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the Conference (item 3);
- to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this Working Group with a view to their possible revision, replacement or abrogation (item 4).

Chairman:	R.N. Agarwal (India)	Box 1788
Secretary:	T. Gavrilov	Box 2041

Working Group 4B (WG 4B) - Maritime mobile and maritime mobile-satellite services and other issues related to non-broadcasting services in the MF/HF bands

Terms of reference:

- to consider the following matters related to the maritime mobile and maritime mobile-satellite services:
  - the provisions of Chapters IX (Appendix S13) and NIX (Chapter SVII) of the Radio Regulations, as stipulated in Resolution 331 (Mob-87), and appropriate action in respect of the issues dealt with in Resolutions 200 (Mob-87), 210 (Mob-87) and 330 (Mob-87),

including maritime certification and licensing issues related to Chapter SIX of the Radio Regulations, taking into account that the global maritime distress and safety system (GMDSS) shall be fully implemented in 1999 (item 1.6.1);

– the use of Appendix 18 (S18) to the Radio Regulations in respect of the VHF band for maritime mobile communications, and the use and extension of UHF channels contained in S5.287, taking into account Resolution 310 (Mob-87) (item 1.6.2);

– Article 61 (S53) of the Radio Regulations relating to the order of priority of communications in the maritime mobile service and in the maritime mobile-satellite service (item 1.6.3);

– review, and if necessary, revision of the provisions related to the NAVTEX coordination in order to release ITU from the obligation to undertake operational coordination for this service operating on 490 kHz, 518 kHz and 4 209.5 kHz, in the light of the consultations undertaken with the International Maritime Organization (IMO) (see Resolution 339 (WRC-95)) (item 1.6.4);

– use of the new digital technology in the maritime radiotelephony channels (item 1.6.5),

- to consider changes to the Radio Regulations, as appropriate, based on the results of the studies to be carried out under Recommendation 720 (WRC-95), (item 1.5);
- to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this Working Group with a view to their possible revision, replacement or abrogation (item 4).

Chairman:	R. Swanson (United States)	Box 1366
Secretary:	W. Frank	Box 2037

Working Group 4C (WG 4C) - HFBC

Terms of reference:

- to examine, and take necessary decisions on, the question of the HF bands allocated to the broadcasting service in the light of developments to date and the results of the studies carried out by the Radiocommunication Sector, and to review Article 17 (S12) of the Radio Regulations in accordance with Resolution 530 (WRC-95), (item 1.4);
- to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this Working Group with a view to their possible revision, replacement or abrogation (item 4);

Chairman:	I. Davey (United Kingdom)	Box 644
Secretary:	J. Fonteyne	Box 2074

Working Group 4D (WG 4D) - BSS

Terms of reference:

- to review Appendices 30 (S30) and 30A (S30A) for Regions 1 and 3 in response to Resolution 524 (WARC-92), taking particular account of *resolves* 2 of that Resolution, in accordance with Resolution 531 (WRC-95) and taking into account Recommendation 35 (WRC-95), (item 1.10);
- to review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this Working Group with a view to their possible revision, replacement or abrogation (item 4);

Chairman:	R. Zeitoun (Canada)	Box 338
Secretary:	G. Mesias	Box 2022

E. GEORGE
Chairman of Committee 4, Box 208
Secretary C4: T. Gavrilov, Box 2041

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

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30 October 1997
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PLENARY MEETING

GENERAL SCHEDULE OF THE WORK OF THE CONFERENCE
(as approved at the second meeting of the Steering Committee)

Week 1 (27 - 31 October)

Organization and commencement of work in Committees and Working Groups

Week 2 (3 - 7 November)

Continuation of work in Committees and Working Groups

Friday 7	-	End of work of Plenary Working Group 2
	-	End of work of Working Groups 5A and 5C

Week 3 (10 - 14 November)

Continuation of work in Committees and Working Groups as well as Plenary meetings to consider output of Committees 4 and 5

Monday 10	-	End of work of Working Group 4B
Wednesday 12	-	End of work of Working Group 5B
Friday 14	-	End of work of Working Groups 4A and 4C
	-	End of work of Plenary Working Group 1

Week 4 (17 - 21 November)

Monday 17	-	End of work of Working Group 4D
	-	End of work of Committee 3
Tuesday 18	-	End of work of Committee 4
	-	End of work of Committee 5
	-	Report of Committee 2
	-	Report of Committee 3
Wednesday 19	-	First reading by Plenary of last texts of the Final Acts
Thursday 20	-	Second reading by Plenary of last texts of the Final Acts
Friday 21	-	Signing ceremony and Closing

Note 1 - Plenary meetings will be scheduled as necessary during each week of the Conference.

Note 2 - This schedule may be changed in the course of the work of the Conference

• For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available. •

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Document 107-E
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PLENARY MEETING

GENERAL SCHEDULE OF THE WORK OF THE CONFERENCE
(as approved at the first meeting of the Steering Committee)

Week 1 (27 - 31 October)

Organisation and commencement of work in Committees and Working Groups

Week 2 (3 - 7 November)

Continuation of work in Committees and Working Groups

Friday 7 - End of work of Plenary Working Group 2

Week 3 (10 - 14 November)

Continuation of work in Committees and Working Groups

Friday 14
- End of work of Working Groups of Committee 5
- End of work of Plenary Working Group 1
- Plenary meetings to consider output of Committees 4 and 5

Week 4 (17 - 21 November)

Monday 17 - End of work of Working Groups of Committee 4

Tuesday 18
- End of work of Committee 4
- End of work of Committee 5
- Report of Committee 2
- Report of Committee 3

Wednesday 19 - First reading by Plenary of last texts of the Final Acts

Thursday 20 - Second reading by Plenary of last texts of the Final Acts

Friday 21 - Signing ceremony and Closing

Note 1 - Plenary meetings will be scheduled as necessary during each week of the Conference.

Note 2 - This schedule may be changed in the course of the work of the Conference

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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COMMITTEE 5

Nigeria (Federal Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

INCLUSION OF NIGERIA IN CERTAIN FOOTNOTES

Introduction

In view of the proceedings of the current WRC-97 Conference, the Nigerian Administration wishes to be included in the following footnotes.

NIG/108/2
MOD S5.322 In Region 1, in the band 862 - 960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **S5.10** to **S5.13**) excluding Algeria, Egypt, Spain, Libya ~~and~~, Morocco and Nigeria, subject to agreement obtained under No. **S9.21**.

NIG/108/3
MOD S5.349 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Cameroon, Egypt, the United Arab Emirates, France, Georgia, the Islamic Republic of Iran, Iraq, Israel, Kazakstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Qatar, Syria, Kyrgyzstan, Romania, Russia, Tajikistan, Turkmenistan, Ukraine, Yemen and Yugoslavia, the allocation of the band 1 525 - 1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **S5.33**).

NIG/108/4
MOD S5.495 *Additional allocation:* in Belgium, Bosnia and Herzegovina, Croatia, Denmark, Spain, France, Greece, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Monaco, Nigeria, Norway, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5 - 12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

NIG/108/5
MOD S5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Australia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, the Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Lesotho, Lebanon, Malaysia, Malawi, Mali, Morocco, Mauritania, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, the Democratic People's Republic of Korea, Senegal, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad and Yemen, the band 14 - 14.3 GHz is also allocated to the fixed service on a primary basis.

NIG/108/6
MOD S5.508 *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, Denmark, Spain, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Luxembourg, Nigeria, Norway, Portugal, the United Kingdom, Slovenia, Switzerland, Turkey and Yugoslavia, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 5

Nigeria (Federal Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.9.1 - USE OF THE BANDS 18.8 - 19.3/28.6 - 29.1 GHz
BY NGSO FSS SYSTEMS

1 Background

Nigeria is in favour of the development of new satellite technologies, including the provision of broadband telecommunications/data services to different users regardless of their locations.

It is the view of Nigeria that opportunity be given for a healthy competition amongst operators/service providers as this would deliver to the users/subscribers quality service at minimal costs.

2 Nigeria's views

Nigeria believes that it is necessary to make it possible for the LEO systems to use additional 2 x 100 MHz in the 18.8 - 18.9/28.6 - 28.7 MHz range.

Furthermore, it is Nigeria's view that additional limitations that will inhibit the development of LEO systems in the bands 18.8 - 19.3/28.6 - 29.1 MHz should not be imposed.

3 Conclusion

NIG/108/1

Nigeria supports making additional allocations available to the NGSO FSS systems in the 18.8 - 18.9/28.6 - 28.7 GHz frequency band.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

Nigeria (Federal Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

1 Background

WARC-92

Nigeria was one of the countries that pioneered the contributions to WARC-92 leading to the allocation of the frequency bands 1 980 - 2 010/2 170 - 2 200 MHz (all Regions) and 1 970 - 2 010/2 160 - 2 200 MHz (Region 2) bands to MSS with a date of entry into force of 1 January 2005. Nigeria however supported at WARC-92 that the date of entry into force of year 2000 be adopted.

WRC-95

Nigeria is aware of the attempt by some Member States to shift and increase worldwide 2 GHz MSS allocations in Regions 1 and 3 from 1 980 - 2 010/2 170 - 2 200 MHz to 1 980 - 2 025/2 160 - 2 200 MHz or 1 990 - 2 025/2 165 - 2 200 MHz.

This proposal was opposed by the vast majority of Member States at WRC-95. However, after a prolonged session dealing with these issues, the following changes were agreed upon:

a) The date of entry into force of MSS allocations be advanced to 1 January 2000 in the bands 1 980 - 2 010/2 170 - 2 200 MHz in Regions 1 and 3 and in the bands 1 990 - 2 010/2 170 - 2 200 MHz generally in Region 2.

b) Agreed allocation change

Regions 1 and 3	No change;
Region 2	Addition of band 2 010 - 2 025 MHz with date of entry into force of 2005.

c) Resolution 717

Resolution 717, seeking to defer the 2 GHz MSS allocation harmonization issues to WRC-97 was reluctantly adopted at WRC-95.

Hence, this is on the agenda of WRC-97.

2 Nigeria's views

Nigeria's concern stems from the following realizations:

a) Nigeria operates over 200 LOS FS systems in accordance with ITU-R 382-2 channelization plans in the 2 GHz bands.

b) The 2 GHz bands are already congested and further allocations to MSS at 2 GHz are inappropriate and not required.

c) Increasing these 2 GHz MSS bands will disrupt our 2 GHz fixed service re-channelization plans.

d) The proposals for the harmonization of the 2 GHz MSS allocations will considerably complicate the 2 GHz fixed service channelization problems and will lead to a reduction of spectrum available for terrestrial fixed service use in Nigeria. It is therefore unacceptable to Nigeria.

3 Conclusion

Nigeria is strongly in favour of no change to the 2 GHz MSS allocations in Regions 1 and 3 and is accordingly opposed to any shift or increase in the 2 GHz MSS allocations in Regions 1 and 3.

Nigeria also proposes that Resolution 717 (WRC-95) be abrogated/deleted.

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WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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COMMITTEE 5

ORGANIZATION OF THE WORK OF COMMITTEE 5

To cover the Conference agenda items assigned to Committee 5 and on the basis of proposals by administrations and the Report from the Conference Preparatory Meeting, the following Working Groups are proposed:

Working Group 5A (WG 5A)

Terms of reference:

To consider, taking into account the needs of other services to which the relevant frequency bands are already allocated:

– agenda item 1.9.2 - Resolutions 211 (WARC-92), 710 (WARC-92) and Resolution 712 (Rev.WRC-95);
– frequency allocation issues related to the needs of the Earth exploration-satellite service, which are not covered in the above-mentioned Resolutions, namely:
  – agenda item 1.9.4.1 - allocation of frequency bands above 50 GHz to the Earth exploration-satellite (passive) service;
  – agenda item 1.9.4.2 - frequency allocations near 26 GHz to the Earth exploration-satellite service (space-to-Earth);
  – agenda item 1.9.4.3 - the existing frequency allocations near 60 GHz and, if necessary, their re-allocation, with a view to protecting the Earth exploration-satellite (passive) service systems operating in the unique oxygen absorption frequency range from about 50 GHz to about 70 GHz;
– agenda item 1.9.5 - allocations to the space research service (space-to-space) near 400 MHz.

Documents: See DT/1, DT/4

Chairman: Mr. R. Taylor (United States) Box 446

Secretary: Mr. A. Matas Box 2105

Working Group 5B (WG 5B)

Terms of reference:

To consider, taking into account the needs of other services to which the relevant frequency bands are already allocated:

– agenda item 1.9.1 - issues concerning existing and possible additional frequency allocations and regulatory aspects as related to the mobile-satellite and fixed-satellite services including consideration of Resolutions 116 (WRC-95), 117 (WRC-95), 118 (WRC-95), 121 (WRC-95), 214 (WRC-95), 215 (WRC-95), 714 (WRC 95), 715 (WRC-95), 717 (WRC-95) and Recommendation 717 (Rev.WRC-95).

Documents: See DT/1, DT/4

Chairman: Dr. Y. Ito (Japan) Box 1099

Secretary: Mr. Y. Henri Box 2085

Working Group 5C (WG 5C)

Terms of reference:

– agenda item 1.1 - to consider requests from administrations to delete their country footnotes or to have their country's name deleted from footnotes, if no longer required, within the limits of Resolution 26 (WRC-95);

– agenda item 1.3 - to review Appendix 28 (S7) to the Radio Regulations, taking into account Resolution 60 (WARC-79), Resolution 712 (Rev.WRC-95) and Recommendation 711 (WARC-79);

– agenda item 1.7 - to review Appendix 8 to the Radio Regulations taking into account Recommendation 66 (Rev.WARC-92);

– agenda item 1.8 - to consider the possible deletion of all secondary allocations from the band 136 - 137 MHz, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87) and in order to meet the special needs of the aeronautical mobile (R) service;

To consider, taking into account the needs of other services to which the relevant frequency bands are already allocated:

– agenda item 1.9.3 - Recommendation 621 (WARC-92);

– agenda item 1.9.6 - the identification of suitable frequency bands above 30 GHz for use by the fixed service for high-density applications.

Documents: See DT/1, DT/4

Chairman: Mr. N. Kisrawi (Syria) Box 1743

Secretary: Mr. L. Casado Box 2048

All Committee 5 Working Groups

Agenda item 4 - working groups shall also review, in accordance with Resolution 94 (WARC-92), those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to the terms of reference of this committee with a view to their possible revision, replacement or abrogation.

V. RAWAT
Chairman, Committee 5, Box 331
Secretary C5: J.A. Lewis, Box 2062

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 3

Note by the Secretary-General

SITUATION OF THE ACCOUNTS OF THE WORLD
RADIOCOMMUNICATION CONFERENCE (WRC-97)
AS AT 24 OCTOBER 1997

I have the honour to submit herewith for examination by the Budget Control Committee an estimate of the expenditure of the World Radiocommunication Conference (WRC-97) as at 24 October 1997.

Pekka TARJANNE
Secretary-General

Situation of the accounts of the World Radiocommunication Conference (WRC-97) as at 24 October 1997

Swiss francs (000)

Recapitulation	1996/97 Budget (1)	Expenditure as at 24 October 97 (2)	Projected expenditure (3)	Credits available (1) -(2) -(3)
Staff costs	1,589	1,365	120	104
Other staff costs	81	66	15	0
Travel on duty				
Contractual services		1		-1
Rental & maintenance of premises and equipment	88	8	80	0
Materials and supplies	78		78	0
Acquisition of premises, furniture and equipment				
Public and internal services	85	85		0
Miscellaneous	19	8	11	0
Sub-Total	**1,940**	**1,533**	**304**	**103**
Documentation*)				
Translation	738	211	504	23
Typing	618	204	438	-24
Reprography	425	376	396	-347
Sub-Total	**1,781**	**791**	**1,338**	**-348**
TOTAL	**3,721**	**2,324**	**1,642**	**-245**
		3,966		

***)The cost of documentation is based on the following volumes** :

Pages

	1996/97 Budget		Revised budget estimates
Translation	5,266		5,000
Typing	13,635		14,150
Reprography	7,740,000		15,000,000

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Document 111-E
28 October 1997
Original: English

COMMITTEES 4, 5
WORKING GROUP 1 OF
THE PLENARY

NOTE BY THE CHAIRMAN OF COMMITTEE 3
TO THE CHAIRMEN OF COMMITTEES 4 AND 5 AND
WORKING GROUP 1 OF THE PLENARY

Under its terms of reference (Document 32), the Budget Control Committee is requested to present a report to the Plenary Meeting showing, as accurately as possible, the estimated total expenditure of the conference, as well as an estimate of the costs that may be entailed by the execution of the decisions taken by such conference in accordance with Article 32 of the Convention of the International Telecommunication Union (Geneva, 1992).

In this respect, it should also be reminded that the Council, at its June 1997 session, when approving the 1998-1999 budget, authorized a provision of 500,000 Swiss francs for WRC-97 post-conference work, subject to the approval of the Budget Control Committee of the WRC-97.

Thus, any decision taken by Committees 4 and 5 and by Working Group 1 of the Plenary, which might generate post-conference work and have financial implications, should be communicated to Committee 3 as soon as possible but not later than 14 November 1997.

Mark S. LANDSMAN
Chairman, Committee 3

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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28 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Canada

PROPOSALS FOR THE WORK OF THE CONFERENCE

INTERVAL BETWEEN WORLD RADIOCOMMUNICATION CONFERENCES

Introduction

The Report of the High Level Committee entitled "Tomorrow's ITU: The Challenges of Change", was published in April 1991 and a series of 96 Recommendations on the structure and functioning of the Union was presented to the Additional Plenipotentiary Conference (APP) for consideration and eventual adoption the following year. Recommendation 57 stated in part that, because of the rapidly changing radiocommunication environment, world radiocommunication conferences should be held in general every two years. As further noted in the Report, this "will be particularly necessary as the ITU tries to catch up to the widening gap between its Radio Regulations and the current radiocommunication environment".

This Recommendation, having been adopted by the APP, is reflected in a provision of the Constitution and reads as follows: "World radiocommunication conferences shall normally be convened every two years; however, following the application of the relevant provisions of the Convention, such a conference need not be convened or an additional one may be convened." (CS 90).

While in theory the rationale for scheduling radiocommunication conferences every two years for the purpose of ensuring a certain degree of symmetry between technological developments and the formulation of enabling regulatory provisions is basically sound, in practice the two-year interval has placed considerable burden, from a human and financial resource perspective, on Member States, Sector Members and others participating in the work of the ITU-R, as well as the BR itself. This situation is directly linked to the recent practice at WRC-95 in developing a long, multi-faceted and complicated agenda for WRC-97. Moreover, it may be assumed that there may be a tendency to defer or postpone decisions until a subsequent conference on grounds which include the argument that there was insufficient opportunity to complete the necessary preparatory studies.

Proposal

While there may be compelling reasons for extending the interval between WRCs, it is Canada's view that, in all cases, the spirit and intent of H.L.C. Recommendation 57 should be borne in mind, i.e. that the implementation of new technologies should not be impeded through the absence of

enabling regulations. Moreover, the extension of the interval would appear to be no guarantee that future conferences would not be at least as complicated and burdensome.

Accordingly, it is proposed that:

a) if it is determined during the course of preparations for any given conference that preparatory studies related to a particular agenda item are not sufficiently mature to lead to substantive results, consideration of that item should be deferred until the following conference;

b) each conference should be oriented and focused on issues requiring urgent regulatory action and for which the necessary technical preparatory work can be completed;

c) the budgetary implications of the work required to be performed by the BR in the interval between conferences should be made available to conference participants to be factored into the finalization of any conference agenda; and

d) while the 2-year interval between conferences should normally be maintained at two years, the possibility of extending that interval should be considered on a case-by-case basis, as provided under the provisions of CS 90.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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28 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Greece

PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-97 Agenda item 1.6.1 - Matters concerning aural watch on 500 kHz, 2 182 kHz and VHF Channel 16 after implementation of GMDSS (1 February 1999)

1 Greece does not agree that a listening watch on Channel 16 will no longer be mandatory after 1 February 1999. We consider that it is not practical to discontinue the audio watch on that date for the reason that a communication link between Convention, non-Convention ships (not fitted for the GMDSS) and the coast stations is necessary for **safety reasons**. Greece would not disagree to discontinuing watch on Channel 16, if it was realistic to believe, that all ships and vessels including small fishing vessels and pleasure crafts could be GMDSS equipped by 1 February 1999. Considering that Greece has more than 15 000 VHF licences issued to pleasure craft, fishing vessels and other non-SOLAS vessels below 300 gross tonnage, it will not be possible to equip all these vessels in accordance with GMDSS requirements before 1 February 1999.

2 Greece believes that, mainly from a SAR point of view, it is necessary to continue watch on Channel 16 after 1 February 1999. We clarify our opinion considering the following:

a) The vast majority of the maritime SAR operation takes place close to shore and the vessels involved are mainly non-SOLAS vessels. Provided that all these vessels are not GMDSS equipped, it is pointed out that keeping watch on Channel 16 SOLAS, non-SOLAS vessels and coast stations is necessary for SAR coordination and efficiency.

b) Most SAR aircraft and helicopters use the maritime VHF Channel 16. Consequently in a SAR operation where air units are involved, contact with the ship in distress could be successful if vessels continue to keep watch on VHF Channel 16.

c) The objective of education and examination needed for a Restricted Operator's Certificate (ROC) will not be reached until 1 February 1999. Also the industry, with its present production capacity, will not be able to deliver GMDSS equipment according to expectations.

d) Taking into account the above, discontinuing audio watch on VHF Channel 16 after 1 February 1999 should encourage the use of non-approved means of communication (e.g. mobile telephones) which offer no possibility for effective search and rescue or on-scene communication.

3 We also have to bear in mind the IMO/MSC 68 considered that "a large number of non-SOLAS ships may not have been fitted with GMDSS equipment by 1 February 1999 and if watchkeeping was discontinued on VHF Channel 16 by SOLAS Convention Ships, such non-SOLAS ships would, if in distress, be unable to alert GMDSS-fitted ships". The MSC decided that SOLAS ships **should continue to maintain watch on VHF Channel 16 after 1 February 1999** and instructed the IMO Sub-Committee COMSAR3 to recommend a final date for cessation of mandatory watchkeeping on VHF Channel 16 by GMDSS ships.

4 Considering the above and provided that the listening watch on VHF Channel 16 by SOLAS ships is directly related to the aural watch by coast stations, we suggest that the obligatory character of aural watchkeeping on Channel 16 be retained until the date that IMO decides the cessation of mandatory watchkeeping on Channel 16 by GMDSS ships.

5 Therefore we agree with the European Common proposal contained in Document CMR97/5 as far as it concerns watchkeeping on 500 kHz and 2 182 kHz with the following modification to Appendix S13 [Chapter IX] Part A1 MOD [2945]:

GRC/113/1

MOD [2945] § 10. ~~Until the full implementation of the GMDSS and until a competent conference decides otherwise, a~~All provisions of the Radio Regulations pertaining to the ~~present~~ distress, urgency and safety communications ~~shall~~using the techniques and frequencies 500 kHz and 2 182 kHz described in this Chapter/Appendix should be maintained in force for all stations using these techniques and frequencies for distress, urgency and safety communications (see Resolution **331** (**Mob 87**). Especially as far as it concerns VHF Channel 16, the above provisions shall be maintained in force until a competent conference decides otherwise.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 2 to
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Lebanon

PROPOSALS FOR THE WORK OF THE CONFERENCE,
AND IN PARTICULAR FOR WORKING GROUP 5B AD HOC 4

Lebanon proposes, in accordance with the wishes expressed by South Africa and Brazil, supported by many other Administrations, to split the examination of the limits proposed by the CEPT into three different steps:

a) Ku band;

b) parts of Ka band not covered by Resolution 118;

c) parts of Ka band covered by Resolution 118.

This order of examination is opposite to the order proposed by Indonesia and Canada, but shares the basic logic of those two Administrations. These Administrations wish to first exclude the examination of the application of S22.2 in the part of the Ka band covered by Resolution 118, considering that there is probably a real support from WRC-97 for an agreement on that point. Lebanon, which also proposes to exclude the application of S22.2 in the part of the Ka band covered by Resolution 118, considers that a compromise will be much easier to reach if that question is raised at the end of the work of WG 5B ad hoc 4.

In order to quickly reach a global agreement on the adoption (or not) of limits in the different frequency bands above-mentioned, it is therefore necessary to first examine the values to be adopted for the limits in the Ku band and in the parts of the Ka band not covered by Resolution 118.

This proposal is indeed the only way to assure those numerous Administrations which have asked, with reason, for the examination of the values for the limits to be adopted in the Ku band and in the parts of the Ka band not covered by Resolution 118, that their concerns will be taken into account within the framework of a global discussion.

The examination on a band-by-band basis must in no way give rise to separate decisions.

<u>In principle, the approach to limits is global.</u>

Lebanon opposes a premature decision on certain bands to the detriment of decisions to be made in other bands. This position is supported by a vast majority of the Administrations of Regions 1, 2 and 3 attending the Conference.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

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COMMITTEE 5

Lebanon

PROPOSAL FOR THE WORK OF THE CONFERENCE

USE OF THE 10 - 18 GHz FREQUENCY BAND
BY NGSO FSS NETWORKS

Introduction

Several systems have been proposed to provide broadband telecommunication services directly to end-users via non-geostationary (NGSO) satellite systems in the fixed-satellite service (FSS).

The emergence of these new NGSO systems will be of considerable benefit for the development of broadband telecommunication networks in all countries. WRC-95 has already shown support for NGSO FSS systems in the Ka band. Considering that it is in the interest of all countries to foster competition in this field and optimize usage of orbit/spectrum resources, Lebanon believes that measures should be taken at WRC-97 to allow the development and implementation of NGSO FSS systems in the 10 - 18 GHz frequency band.

LBN/114/32

Lebanon supports the introduction of NGSO FSS systems in the 10 - 18 GHz frequency band, subject to meeting the power limits proposed in Document WRC97/5 in order to allow coexistence of NGSO, GSO and terrestrial systems in this band.

This should in particular ensure adequate protection of the Appendices 30, 30A and 30B Plans. Therefore, Resolution 506 should be revised in such a way that NGSO FSS systems complying with these provisions could operate in the 11.7 - 12.7 GHz frequency band covered by Appendix 30.

ITU-R should be requested to conduct, in time for consideration by WRC-99, the appropriate studies to confirm that the technical limits adopted under the above approach do not pose undue constraints on the development of NGSO, GSO and terrestrial networks in the 10 - 18 GHz frequency band.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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28 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Lebanon

PROPOSALS FOR THE WORK OF THE CONFERENCE

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1 Agenda item 1.2 of WRC 97 - Issues remaining from WRC-95 including consideration of the VGE Report in accordance with Resolution 71 (WRC-95) and any essential changes to Articles S4, S7, S8, S9, S11, S13, S14 and Appendices S4 and S5 of the simplified Radio Regulations adopted by WRC-95 to ensure consistency between all of their provisions

The following proposals are made for Article S8.

ARTICLE S8

Status of Frequency Assignment Recorded in the Master International Frequency Register

LBN/114/1
NOC S8.1

LBN/114/2
NOC S8.1.1

LBN/114/3
ADD S8.2 A frequency assignment shall have the right to international protection from harmful interference when it is recorded in the Master Register with the indication that it is in accordance with a frequency allotment or assignment plan originally adopted by a world radiocommunication conference. In the case of a regional plan, such protection shall be limited to the countries which are parties to the relevant regional agreement; relations between parties and non-parties are governed by the provision of these Regulations. The right to international protection from harmful interference shall also be afforded to any frequency assignment to a station in the fixed service in the high frequency bands selected in accordance with Nos. **S11.16** and **S13.5** of Articles **S11** and **S13** respectively.

LBN/114/4
MOD S8.3 Any frequency assignment recorded in the Master Register with ~~a favourable finding under Nos. **S11.31** to **S11.34** and **S11.41**, as appropriate~~an indication that it is in conformity with the Table of Frequency Allocations and the associated provisions of these Regulations, shall have the right to international recognition. For such an assignment, this right means that other administrations~~, recognizing Nos. **S4.2** and **S4.3** in particular~~, shall take it into account when making their own assignments, in order to avoid harmful interference.

LBN/114/5
ADD S8.3A Any frequency assignment recorded in the Master Register following the successful application of one or more of the coordination procedures of Article **S9** and Appendices **30** and **30A** or a procedure of modification of an allotment or assignment Plan shall have the right to be taken into account by administrations when coordinating other assignments or when

applying the modification procedure of a Plan. The same applies to those assignments which could not be successfully coordinated and received a favourable finding following their examination by the Bureau in accordance with the relevant provisions of Article **S11**.

LBN/114/6
NOC S8.4

LBN/114/7
NOC S8.4.1

LBN/114/8
NOC S8.5

The following modifications are proposed for Article S11.

ARTICLE S11

Notification and Recording of Frequency Assignments[1]

LBN/114/9
ADD S11.16 When an Administration in need of special assistance desires to seek the help of the Bureau in selecting frequencies for a station of the fixed service in the high frequency bands allocated to that service, it shall notify such characteristics as it is able from the table in Appendix **S4** and shall state the specific assistance required from the Bureau, see also Resolution **103**.

LBN/114/10
NOC S11.44

The following modifications are proposed for Article S13.

ARTICLE S13

Instructions to the Bureau

LBN/114/11
ADD S13.5 When an administration in need of special assistance requests the assistance of the Bureau, under No. **S11.16**, in selecting for the operation of its radiocommunication services in the high frequency bands allocated of the fixed service, the Bureau shall:

LBN/114/12
ADD S13.6 using such information as is available to it, provisionally select a group of frequencies and publish them for comment in the Weekly Circular.

LBN/114/13
ADD S13.7 on the basis of any comments received, finalize its selections and communicate them to the requesting administration.

LBN/114/14
ADD S13.8 for those that are accepted, enter them in the Master Register with an indication that they have been coordinated by those means and shall have the status indicated in No. **S8.2**.

LBN/114/15
ADD S13.12A Whenever it appears from reliable information available that a recorded assignment has not been brought into regular operation in accordance with the notified characteristics or is not being used in accordance with those characteristics, the Bureau shall consult the notifying administration and, subject to its agreement either cancel, or suitably modify, or retain the basic characteristics of the entry.

LBN/114/16
ADD

DRAFT RESOLUTION [LBN-1] (RESOLUTION 103*)

RELATING TO IMPROVEMENTS IN ASSISTANCE TO DEVELOPING COUNTRIES IN SECURING ACCESS TO HF BANDS FOR THEIR FIXED SERVICES AND IN ENSURING PROTECTION OF THEIR ASSIGNMENTS FROM HARMFUL INTERFERENCE

The World Radiocommunication Conference (Geneva, 1997),

noting

the other Resolutions adopted by previous conferences and at this Conference relating to the special needs of developing countries,

considering

a) that in many cases the developing countries have a need of assistance of a highly specialized nature and that this assistance must often be obtained at short notice, particularly in relation to the fixed service and the use of the HF bands;

b) that the technical knowledge and experience of most value to the developing countries in this field is obtainable from or through the Bureau,

considering also

c) that the resources of the Bureau are limited,

resolves

1 that the provisions of the Radio Regulations Nos. [**1218, 1260, 1275** to **1304, 1416** and **1963** to **1966**] are intended essentially for use by the administrations of developing countries;

2 that the administrations of developed countries should make the minimum possible use of these provisions;

3 that the administrations of developing countries should make the maximum possible use of these provisions;

4 that the necessary budget resources to meet the needs of developing countries, should be secured.

---

* Note by the Secretariat - Resolution 103 was suppressed by WRC-95.

1.1 Incorporation in Articles S9 and S11 of the coordination and notification procedures of Appendices 30 and 30A

The Lebanon is of the view that the principle of equal and equitable access to all ITU members to orbit/spectrum resources should not be questioned by the incorporation of the coordination and notification procedures of Appendices 30 and 30A into Articles S9 and S11. WRC-95 proposed some changes to the coordination procedures applicable to stations of services sharing frequency bands with the planned BSS. These modifications may have impact on some principles on the basis of which the frequency bands were allocated to the BSS.

LBN/114/17

In order to avoid such impacts the Lebanon proposes to keep Appendices 30 and 30A unchanged except for those changes required as a consequence of other decisions by the Conference.

LBN/114/18

The Lebanon proposes to keep Resolution 33 in its present form separate from Articles S9 and S11.

LBN/114/19

The Lebanon proposes to keep Resolution 507.

2 Agenda item 1.8 - The possible deletion of all secondary allocations from the band 136 - 137 MHz, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87) and in order to meet the special needs of the aeronautical mobile (R) service

LBN/114/20

The frequency band 136 - 137 MHz is allocated to the aeronautical mobile (R) and aeronautical mobile (OR) by footnote S5.202 and to the fixed and mobile (except aeronautical mobile (R)) services on a secondary basis. The Lebanon is of the view that the exclusion of the secondary allocation to the above-mentioned services from this band is not necessary since by definition these services shall not cause to, or claim protection from primary services.

Therefore, the Lebanon proposes to keep the secondary allocation to the fixed and mobile (except aeronautical mobile (R)) services in the frequency band 136 - 137 MHz.

3 Agenda item 1.9.1 - Issues concerning existing and possible additional frequency allocations and regulatory aspects as related to the mobile-satellite and fixed-satellite services including consideration of Resolutions 116 (WRC-95), 117 (WRC-95), 118 (WRC-95), 121 (WRC-95), 214 (WRC-95), 215 (WRC-95), 714 (WRC-95), 715 (WRC-95), 717 (WRC-95) and Recommendation 717 (Rev.WRC-95)

3.1 Mobile-satellite service below 1 GHz

LBN/114/21

The Lebanon proposes that no change be made to the allocations below 1 GHz for additional allocations to the mobile-satellite service.

3.2 Mobile-satellite service in the band 1 - 3 GHz

LBN/114/22

The Lebanon proposes to have the frequency bands 1 525 - 1 559 MHz and 1 626.5 - 1 660.5 MHz allocated to the mobile-satellite service on a generic basis.

LBN/114/23

The Lebanon proposes that no change be made to the current frequency allocations at frequency bands around 2 GHz.

3.3 Non-GSO MSS feeder links

LBN/114/24

Taking into account the outcome of the studies on Resolution 120 and Resolution 121 given in the CPM Report, the Lebanon may consider the allocation of the 2 x 100 MHz additional frequency spectrum to NGSO MSS feeder links in the 19.6 - 19.7 GHz and 29.4 - 29.5 GHz frequency bands.

3.4 Non-GSO FSS networks

Several systems have been proposed to provide broadband telecommunication services directly to end-users via non-geostationary (NGSO) satellite systems in the fixed-satellite service (FSS).

Considering that the emergence of these new NGSO systems will be of significant benefit for the development of broadband telecommunication networks in all countries, and that fostering competition would be in the interest of those countries, the Lebanon is of the opinion that the issue of broadband NGSO FSS networks in the bands 10 - 18 GHz and 20/30 GHz is to be considered as a whole. Considering that WRC-95 has already shown support for NGSO FSS systems in the Ka band, the Lebanon believes that measures should be taken at WRC-97 to allow the rapid implementation of NGSO FSS systems in the 10 - 18 GHz frequency band.

LBN/114/25

The Lebanon proposes therefore the following global solution for the NGSO/FSS issue:

- With regard to Resolution 118, the Lebanon supports the decisions made by WRC-95 in the bands 18.9 - 19.3 GHz and 28.7 - 29.1 GHz (i.e. the application of the provisions of No. S9.11A/Resolution 46 (Rev.WRC-95) and non application of No. S22.2), and proposes an extension of those decisions in the bands 18.8 - 18.9 GHz and 28.6 - 28.7 GHz.
- The Lebanon supports the introduction of NGSO FSS systems in the 10 - 18 GHz frequency band, subject to meeting certain power limitations in order to protect the current and the future use of these frequency bands by GSO and terrestrial networks. This should in particular ensure adequate protection of the Appendices 30, 30A and 30B Plans. Therefore, Resolution 506 could be revised in such a way that NGSO FSS systems complying with these provisions could operate in the 11.7 - 12.7 GHz frequency band covered by Appendix 30.
- ITU-R should be requested to conduct, in time for consideration by WRC-99, the appropriate studies to confirm that the technical limits adopted under the above approach do not pose undue constraints on the development of NGSO, GSO and terrestrial networks in the 10 - 18 GHz frequency band.

4 Agenda item 1.10 - Review of Appendices 30 (S30) and 30A (S30A) for Regions 1 and 3 in response to Resolution 524 (WARC-92), and taking particular account of *resolves* 2 of that Resolution, in accordance with Resolution 531 (WRC-95) and taking into account Recommendation 35 (WRC-95)

The Lebanon is of the view that the following principles should apply in revising Appendices 30 and 30A:

- equitable access to all countries providing them with a spectrum permitting economical development of satellite systems;
- the planning should be limited to national coverage;
- any modification to the Plan is to be based on a procedure similar to Article 4;
- coverage of another country can be only with the formal consent of this country;
- avoidance of a high fill factor in the Plan, in order to facilitate the accommodation of additional requirements in the future, in particular the development of subregional systems;
- modifications to the Plans for additional requirements or subregional systems should not monopolize the use of the bands by a country or a group of countries.

In order to have those principles implemented, the Lebanon makes the following propositions:

LBN/114/26

The Lebanon proposes to consider the parameters adopted by WRC-95 and to review them in order to permit the economical development of satellite systems. The Lebanon is of the view that the minimum capacity for each country should be of the order of 400 MHz.

LBN/114/27

The Lebanon proposes that only those parts of the planning exercises referred to in Resolution 531 which relate to steps 1 and 2 should be implemented at WRC-97.

LBN/114/28

The Lebanon proposes to apply the principles used at WARC-77 to the entries for the new countries.

LBN/114/29

The Lebanon proposes to consider Palestine as a new country.

LBN/114/30

The Lebanon proposes that WRC-97 takes the appropriate decisions so that WRC-99 or WRC-01 could accommodate STEP 3 of the Planning Exercises.

LBN/114/31

The Lebanon is of the view that Annex 7 to Appendix 30 imposes restrictions on the Regions 1 and 3 Plan to protect Region 2 FSS. These restrictions are no longer valid therefore the Lebanon proposes to suppress Annex 7.

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CMR-97 CONFÉRENCE MONDIALE DES RADIOCOMMUNICATIONS

GENÈVE, 27 OCTOBRE – 21 NOVEMBRE 1997

Corrigendum 1 au
Document 115-F/E/S
7 novembre 1997
Original: français

COMMISSION 5

République de Côte d'Ivoire

PROPOSITIONS POUR LES TRAVAUX DE LA CONFÉRENCE

Veuillez supprimer la proposition **CTI/115/8** de ce document.

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COMMITTEE 5

Republic of Côte d'Ivoire

PROPOSALS FOR THE WORK OF THE CONFERENCE

Please delete proposal **CTI/115/8** from this document.

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COMISIÓN 5

República de Côte d'Ivoire

PROPUESTAS PARA LOS TRABAJOS DE LA CONFERENCIA

Sírvase suprimir la propuesta **CTI/115/8** de este documento.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD RADIOCOMMUNICATION CONFERENCE

Document 115-E
28 October 1997
Original: French

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Republic of Côte d'Ivoire

PROPOSALS FOR THE WORK OF THE CONFERENCE

1 Introduction

The Administration of the Republic of Côte d'Ivoire wishes to submit the following proposals:

1.1 Deletion of footnotes (agenda item 1.1)

The Administration of the Republic of Côte d'Ivoire proposes deleting its name from footnotes S5.369, S5.400 and S5.464.

CTI/115/1
MOD S5.369 *Different category of service:* in Angola, Australia, Burundi, ~~Côte d'Ivoire,~~ Eritrea, Ethiopia, India, the Islamic Republic of Iran, Israel, Jordan, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syria, Senegal, Sudan, Swaziland, Togo, Zaire and Zambia the allocation of the band 1 610 - 1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. **S5.33**) subject to agreement obtained under No. **S9.21** from countries not listed in this provision.

CTI/115/2
MOD S5.400 *Different category of service:* in Angola, Australia, Bangladesh, Burundi, China, ~~Côte d'Ivoire,~~ Eritrea, Ethiopia, India, the Islamic Republic of Iran, Jordan, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syria, Senegal, Sudan, Swaziland, Togo, Zaire and Zambia, the allocation of the band 2 483.5 - 2 500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. **S5.33**) subject to agreement obtained under No. **S9.21** from countries not listed in this provision.

CTI/115/3
MOD S5.464 *Different category of service:* in Bangladesh, Benin, Burkina Faso, Cameroon, China, the Central African Republic, ~~Côte d'Ivoire,~~ Egypt, France, Guinea, India, the Islamic Republic of Iran, Italy, Japan, Libya, Mali, Niger, Pakistan, Senegal, Somalia, Sudan, Sweden, Tanzania, Zaire and Zambia, the allocation of the band 8 025 - 8 400 MHz to the Earth exploration-satellite service (space-to-Earth) is on a primary basis, subject to agreement obtained under No. **S9.21**.

1.2 HF broadcasting (agenda item 1.4)

Côte d'Ivoire proposes that the provisions contained in footnotes S5.136, S5.143, S5.146 and S5.151 should be maintained.

CTI/115/4
NOC S5.136

CTI/115/5
NOC S5.143

CTI/115/6
NOC S5.146

CTI/115/7
NOC S5.151

1.3 Mobile-satellite service (agenda item 1.9.1)

a) MSS below 1 GHz

In view of the intensive use of the band 148 - 149.9 MHz by stations of the fixed and mobile services, Côte d'Ivoire proposes adding the name of its country to footnote S5.221. It further proposes that no new allocations should be made in this band.

CTI/115/8
MOD S5.221 Stations of the mobile-satellite service in the band 148 - 149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Burkina Faso, Cameroon, Canada, China, Cyprus, Colombia, Congo, the Republic of Korea, Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Honduras, Hungary, India, Indonesia, the Islamic Republic of Iran, Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea,

Paraguay, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Russia, Senegal, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Yugoslavia, Zambia, and Zimbabwe.

CTI/115/9
NOC

MHz
148 – 156.8375

Allocation to Services		
Region 1	Region 2	Region 3
148 – 149.9 FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) S5.209 S5.218 S5.219 S5.221	**148 – 149.9** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.209 S5.218 S5.219 S5.221	

b) MSS between 1 and 3 MHz

FS stations are operated intensively in the bands 2 010 - 2 025 MHz and 2 025 - 2 110 MHz (radio-relay links in particular). Accordingly, Côte d'Ivoire proposes that no new allocations should be made in these bands and that its name should be added to footnote S5.389F.

CTI/115/10
MOD S5.389F In Algeria, Benin, Cape Verde, Côte d'Ivoire, Egypt, Mali, Syria and Tunisia, the use of the bands 1 980 - 2 010 MHz and 2 170 - 2 200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services.

CTI/115/11
NOC

MHz
2 010 – 2 170

Allocation to Services		
Region 1	Region 2	Region 3
2 010 – 2 025 FIXED MOBILE S5.388	**2 010 – 2 025** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389C S5.389D S5.389E	**2 010 – 2 025** FIXED MOBILE S5.388
2 025 – 2 110	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE S5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) S5.392	

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 116-E
28 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

Norway

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of Norway wishes to make the following proposals to the work of the Conference:

NOR/116/1

MOD S5.434 In Denmark~~, Norway~~ and the United Kingdom, the fixed, radiolocation and fixed-satellite services operate on a basis of equality of rights in the band 3 400 - 3 600 MHz. However, these Administrations operating radiolocation systems in this band are urged to cease operations by 1985. After this date, these Administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

NOR/116/2

MOD S5.508 *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, Denmark, Spain, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Luxembourg, ~~Norway,~~ Portugal, the United Kingdom, Slovenia, Switzerland, Turkey and Yugoslavia, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 117-E
28 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

INFORMATION DOCUMENT ON APT COORDINATION

Document WRC97/14 incorporates the Asia-Pacific common proposals developed and agreed within the framework of the APT.

Mr. R.N. Agarwal (India, box no. 1788) will be the overall Coordinator for the Asia-Pacific countries participating in WRC-97. Also, Mr. David Hartley (Australia, box no. 260) has been designated for regulatory and associated issues, Dr. K. Kosaka (Japan, box no. 1104) for frequency allocations and associated issues, and Mr. S. Sadhu (ABU, box no. 1951) for broadcasting issues.

However, a number of Coordinators and Associate Coordinators have been designated to each part of Document 14 to deal with specific issues.

Anyone wishing to discuss a specific part of Document 14 in detail, please feel free to contact the relevant Coordinator or Associate Coordinator as attached.

ANNEX

List of Coordinators and Associate Coordinators

Agenda item	Short title	WRC97/ 14	Coordinator	Associate Coordinator
1.1	Country Footnotes	***Part 1***	AUS (Mr. G. Hutchins, 261)	AUS (Mr. G. Hutchins, 261)
1.2	Regulatory/Procedural Matters	***Part 2***	JPN (Mr. Y. Yokoyama, 1162)	AUS (Mr. A. Ashman, 259)
1.3	Review of Appendix 28 (S7)	***Part 3***	IND (Mr. P.K. Garg, 1789)	AUS (Mr. A. Ashman, 259)
1.4	HF Broadcasting	***Part 4***	AUS (Mr. G. Wardle, 281)	IRN (Mr. E. Behdad, 1057)
1.5	Adaptive HF Systems	***Part 5***	IND (Mr. P.K. Garg, 1789)	JPN (Mr. H. Tajima, 1081)
1.6	Maritime Services	***Part 6***	AUS (Mr. B. Riches, 1960)	JPN (Mr. H. Tajima, 1081)
1.7	Review of Appendix S3 (8)	***Part 7***	JPN (Mr. H. Aoyama, 1072)	AUS (Mr. P. McGill, 262)
1.9.1	Mobile-Satellite and Fixed-Satellite Services	***Part 8A1***	NZL (Mr. H. Railton, 531)	JPN (Mr. T. Yamauchi, 1085)
		Part 8A2	KOR (Dr. K. Wee, 1394)	VTN (Mr. B. Thanh, 756)
		Part 8A3	INS (Ms. Cessy Karina, 1201)	IND (Dr. K.S. Mohanavelu, 1793)
		Part 8B	AUS (Mr. A. De Soyza, 267)	JPN (Mr. M. Sumiya, 1143)
		Part 8C	AUS (Mr. A. De Soyza, 267)	JPN (Dr. K. Kosaka, 1104)
		Part 8D	KOR (Dr. K. Wee, 1394)	JPN (Mr. H. Maruyama, 1110)
		Part 8E	PNG (Mr. A. Taravatu, 1032)	INS (Mr. L. Hutagalung, 995)
		Part 8F	AUS (Mr. Natoli, 275)	INS (Mr. B. Sembiring, 1712)
		Part 8G	PNG (Mr. V. Doncevski, 1026)	INS (E. Suryanto, 1715)
1.9.2	Space Science Services			
	Resolution 211	***Part 9A***	IND (Dr. K.S. Mohanavelu, 1793)	KOR (Dr. H. Chung, 1371)
	Resolution 710	***Part 9B***	AUS (Mr. R. Jacobsen, 271)	JPN (Mr. M. Wada, 1157)
	Resolution 712 (resolves 1, 2, 3, 5)	***Part 9C***	*resolves* 1 AUS (Mr. R. Jacobsen, 271) *resolves* 2 JPN (Mr. K. Komuro, 1102) *resolves* 3 JPN (Mr. M. Wada, 1157) *resolves* 5 IND (Mr. S. Sayeenathan, 1794)	*resolves* 1 AUS (Mr. R. Jacobsen, 271) *resolves* 2 KOR (Dr. H. Chung, 1371) *resolves* 3 IND (Mr. S. Sayeenathan, 1794) *resolves* 5 AUS (Mr. R. Jacobsen, 271)
	Resolution 712 (resolves 4)	***Part 9D***	JPN (Mr. T. Hoshino, 1074)	KOR (Dr. H. Chung, 1371)
1.9.3	Wind Profiler Radars	***Part 10***	NZL (Mr. D. Jenner, 532)	JPN (Mr. K. Maeda, 1108)
1.9.4	Other EESS Allocation Issues			
	Above 50 GHz	***Part 11A***	JPN (Mr. K. Maeda, 1108)	AUS (Mr. R. Jacobsen, 271)
	Near 26 GHz	***Part 11B***	KOR (Dr. H. Chung, 1371)	PHI (Ms. P. Demition, 556)
	Near 60 GHz	***Part 11C***	JPN (Mr. M. Wada, 1157)	AUS (Mr. R. Jacobsen, 271)

Agenda item	Short title	WRC97/ 14	Coordinator	Associate Coordinator
1.9.5	Allocations to the Space Research Service	***Part 12***	JPN (Mr. M. Wada, 1157)	AUS (Mr. R. Jacobsen, 271)
1.9.6	FS Bands Above 30 GHz	***Part 13***	AUS (Mr. G. Hutchins, 261)	JPN (Mr. R. Miura, 1076)
1.10	Review of Appendices 30 and 30A BSS Plans for Regions 1 and 3			
	Planning, Regulatory and Procedural Issues	***Part 14A***	AUS (Mr. M. Barton, 264)	PAK (Mr. Z. Zaheer, 552)
	Resolutions 519 and 34	***Part 14B***	CHN (Mr. K. Wong, 357)	NZL (Mr. B. Emirali, 534)
	Procedures Relevant to BSS Plans and Feeder Links Plans of Appendices S30 and S30A	***Part 14C***	AUS (Mr. D. Jadeja, 272)	KOR (Mr. C. Yoo, 1395)
	Modifications to the Procedures for Beam Grouping	***Part 14D***	JPN (Mr. N. Yamaguchi, 1083)	THA (Mr. Nopadol, 1283)
7	Satellite Review - Resolution 18 (Kyoto 1994)			
	API and Administrative Due Diligence	***Part 15A***	JPN (Mr. T. Yokoyama, 1086)	AUS (Mr. A. Ashman, 259) TON (P. Mau, 1731)
	Financial Due Diligence and other Recommendations	***Part 15B***	JPN (Mr. T. Yokoyama, 1086)	KOR (Mr. S. Park, 1390) TON (Mr. B. Kautoke, 1729)
	Overall Approach to Administrative and Financial Due Diligence	***Part 15C***	AUS (Mr. D. Hartley, 260)	IND (Dr. K.S. Mohanavelu, 1793) TON (Mr. M. Posen, 1733)
8.2	WRC-99 Agenda	***Part 16***	AUS (Mr. P. McGill, 262)	NZL (Mr. D. Jenner, 532)

APT Secretatiat : K. Seo (box no. 759)

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Corrigendum 1 to
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13 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

MINUTES

OF THE

FIRST PLENARY MEETING

Please replace paragraph 16.2 as follows:

16.2 The **delegate of Syria**, speaking on behalf of the Arab delegations, said that the Arab group had prepared for WRC-97 on the basis of regional cooperation - the best way to ensure success - and had set up a dialogue with the African and European groups in an endeavour to harmonize views and reach agreement on principles that would serve the interests of all parties concerned. As the views of the Arab countries would be outlined in Document 76, he wished simply to highlight a number of salient points: the need to protect the BSS and FSS Plans and to ensure their protection from harmful interference; the need of the Radiocommunication Bureau's assistance to developing countries with respect to coordination for HFBC; the need to protect the terrestrial FS networks; the need to apply those principles in the Constitution, in particular those of Article 1, Provision 78 in Article 12 which call for rational, equitable, efficient and economical use of the radio-frequency spectrum in accordance with the objectives laid down in Article 44. For the Arab Group equitable access should be based on the following: any satellite coverage, other than the national coverage, should be achieved only after clear approval of the concerned national authorities; replanning for Appendices 30 and 30A and a minimum bandwidth of 400 - 500 MHz should be assigned to each Member; the introduction of the principle of reciprocity for subregional satellite networks, within regions, and between regions; global and/or regional satellite coverage shall not cause financial losses to the national broadcasting authorities with regard to their publicity income; and finally ensure that the rights of Palestine regarding spectrum allocation and management, with respect to both satellite and non-satellite technologies, are respected.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD RADIOCOMMUNICATION CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

MINUTES

OF THE

FIRST PLENARY MEETING

Monday, 27 October 1997, at 1040 hours

Chairman: Mr. J. BARTOLO (Malta) (Dean of the Conference)

Later: Mr. R. SMITH (Australia)

Subjects discussed		**Documents**
1	Opening of the first Plenary Meeting	-
2	Election of the Chairman of the Conference	-
3	Address by the Chairman of the Conference	-
4	Election of the Vice-Chairmen of the Conference	-
5	Address by the Secretary-General	-
6	Address by the Director of the Radiocommunication Bureau	-
7	Conference structure	DT/2
8	Election of the Chairmen and Vice-Chairmen of the Committees	-
9	Composition of the Conference secretariat	-
10	Allocation of documents to Committees	DT/4
11	Requests for participation received from international organizations	61
12	Invitations to the Conference	60
13	Date by which the Credentials Committee must submit its conclusions	-
14	Working hours of the meetings of the Conference	-
15	Financial responsibilities of conferences	32
16	Introductory remarks by regional representatives	-

1 Opening of the first Plenary Meeting

1.1 The **Dean of the Conference** declared open the first Plenary Meeting of the World Radiocommunication Conference (Geneva, 1997).

2 Election of the Chairman of the Conference

2.1 The **Secretary-General** announced that the meeting of Heads of delegation had unanimously decided to propose Mr. Roger Smith (Australia) for the post of Chairman of the Conference.

2.2 The proposal was **adopted** by acclamation.

2.3 **Mr. Smith took the chair.**

3 Address by the Chairman of the Conference

3.1 The **Chairman** delivered the address reproduced in Annex 1.

4 Election of the Vice-Chairmen of the Conference

4.1 The **Secretary-General** announced that the meeting of Heads of delegation had unanimously decided to propose the following delegates for the posts of Vice-Chairmen of the Conference:

Mr. J. Bryant (United States of America);

Mr. M. Johnson (United Kingdom of Great Britain and Northern Ireland);

Mr. A. Kroupnov (Russian Federation);

Mr. N. Benjelloun-Touimi (Kingdom of Morocco);

Mr. S. Tanaka (Japan).

4.2 The proposal was **adopted** by acclamation.

5 Address by the Secretary-General

5.1 The **Secretary-General** delivered the address reproduced in Annex 2.

5.2 The **Chairman** endorsed the Secretary-General's remarks concerning the keen interest in the Conference - hence the need to achieve results, for the provision of services worldwide. Participants must bear that in mind throughout the proceedings of the Conference.

6 Address by the Director of the Radiocommunication Bureau

6.1 The **Director of the Radiocommunication Bureau** delivered the address reproduced in Annex 3.

7 Conference structure (Document DT/2)

7.1 The **Secretary-General** said that the meeting of Heads of delegation had approved the Conference structure outlined in Document DT/2. That meeting had also drawn attention to the

short time available to complete a very heavy Conference agenda, and stressed the need for the Steering Committee to ensure that adequate time was allowed for consideration of the most important issues, such as Appendices 30 and 30A and Resolution 18.

7.2 Document DT/2 was **approved**.

8 Election of the Chairmen and Vice-Chairmen of the Committees

8.1 The **Secretary-General** announced that the meeting of Heads of delegation had approved the following nominations for the posts of Chairmen and Vice-Chairmen of the Committees:

Committee 2 - Credentials Committee

Chairman: Mr. A. Mapunda (United Republic of Tanzania)

Vice-Chairman: Mr. F. He (People's Republic of China)

Committee 3 - Budget Control Committee

Chairman: Mr. M. Landsmann (Ukraine)

Vice-Chairman: Mr. P.G.T. Touré (Senegal)

Committee 4 - Regulatory and associated issues

Chairman: Mr. E. George (Federal Republic of Germany)

Vice-Chairmen: Mr. H.K. Al-Shankiti (Kingdom of Saudi Arabia)
Mrs. S. Jalife Villalon (Mexico)

Committee 5 - Allocations and associated issues

Chairperson: Mrs. V. Rawat (Canada)

Vice-Chairmen: Mr. C.T. Van Diepenbeek (Kingdom of the Netherlands)
Mr. N. Kisrawi (Syrian Arab Republic)

Committee 6 - Editorial Committee

Chairperson: Mrs. A.-M. Nebes (France)

Vice-Chairmen: Mr. M. Goddard (United Kingdom of Great Britain and Northern Ireland)
Mr. V. Rubio Carretón (Spain)

Working Group 1 of the Plenary

Chairman: Mr. H. Railton (New Zealand)

Working Group 2 of the Plenary

Chairman: Mr. D. Leive (United States of America)

8.2 The proposals were **adopted**.

9 Composition of the Conference secretariat

9.1 The **Secretary-General** informed the Conference that the following ITU staff members would make up the Conference secretariat:

Executive Secretary:	Mr. A. Boussaïd
Technical Secretary:	Mr. K. Olms
Administrative Secretary:	Ms. H. Laugesen
Secretary of Plenary Meeting and Committee 1:	Mr. D. MacLean
Secretary of Committee 2:	Mr. A. Boussaïd
Secretary of Committee 3:	Mr. A. Tazi-Riffi
Secretary of Committee 4:	Mr. T. Gavrilov
Secretary of Committee 5:	Mr. J. Lewis
Secretary of Committee 6:	Mr. A. Peñaranda
Working Group 1 of the Plenary:	Mr. A. Nalbandian
Working Group 2 of the Plenary:	Mr. G. Korolev

The Secretary-General of the ITU would act as Secretary of the Conference.

9.2 The Conference **took note** of that information.

10 Allocation of documents to Committees (Document DT/4)

10.1 The **Chairman**, introducing Document DT/4, said that it was based on proposals received so far and was therefore subject to review as the work of the Conference progressed. A number of amendments had already been suggested by the Heads of delegation during their meeting: Part D.2 of Document 5 should be allocated to Committee 5; and the whole of Document 62 should be submitted to Committee 5 for consideration. Furthermore, he suggested that Document 43 might be relevant to the work of Working Group 2 of the Plenary as well as Committee 5.

10.2 The **delegate of the Czech Republic** drew attention to Document 77 containing a proposal to include the name of the Czech Republic in footnote S5.164. He was aware that, strictly speaking, such matters did not come within the purview of the Conference. He emphasized, however, that the aim of the proposal was not for any additional use of the frequency band in question, but merely to reflect its current use, which was in harmony with that of several neighbouring countries. The Czech Republic considered that its proposal was fully in line with the simplification of the Radio Regulations and therefore requested that the matter should be taken up by the Conference and assigned to the appropriate committee.

10.3 The **delegate of Syria** stressed that accepting the allocation of documents proposed in Document DT/4 did not necessarily mean agreement in principle that such documents should be considered. Certain countries considered that some of the proposals in question were not relevant to the Conference agenda. Syria and the Arab countries reserved the right to raise the question of the consideration of documents later during the Conference, at committee level.

10.4 The **delegate of Saudi Arabia**, after endorsing the Syrian delegate's remarks, said that as the whole of Document 63 was in fact allocated to Committee 5, the entry in the table should state "Entire document", for clarity.

10.5 The **delegate of Cuba**, referring to Document 66, said that the entry under the Committee 5 column should read "CUB 66 1-2, 92-100".

10.6 The **Chairman** said that since there were likely to be other queries concerning the relevance of documents to the Conference agenda, it would be advisable to wait until the work of the committees got under way before deciding whether proposals came within their sphere of competence. He fully understood the concern raised by the delegate of the Czech Republic, for more often than not proposals for amendments to footnotes were not covered by Conference agendas. The best way of dealing with such matters might become clearer as the work of the Conference progressed. He therefore suggested that the Plenary Meeting should approve the current allocation of documents outlined in Document DT/4, as a preliminary basis for the work of the committees, on the understanding that the comments made would be duly taken into account.

10.7 On that understanding, Document DT/4 was **approved**.

11 Requests for participation received from international organizations (Document 61)

11.1 Document 61 was **approved**.

12 Invitations to the Conference (Document 60)

12.1 Document 60 was **noted**.

13 Date by which the Credentials Committee must submit its conclusions

13.1 The **Secretary-General** proposed that Committee 2 should submit its conclusions to the Conference on Tuesday, 18 November 1997.

13.2 The proposal was **approved**.

14 Working hours of the meetings of the Conference

14.1 The **Secretary-General** proposed the following as normal working hours: Monday to Thursday from 0930 to 1230 hours and from 1430 to 1730 hours; Friday from 0900 to 1200 hours and 1430 to 1730 hours.

14.2 The proposal was **approved**.

14.3 The **Chairman** stressed the importance of time-saving procedures such as concision and relevance of statements, promptness of attendance, close formal and informal liaison between committee and working group Chairmen, especially concerning issues having implications for more than one committee, and expeditious handling of uncontroversial topics in the first days of the Conference.

14.4 The **delegate of Morocco** requested that the Steering Committee avoid scheduling simultaneous meetings, in order to take into account of the difficult situation facing small delegations.

15 Financial responsibilities of conferences (Document 32)

15.1 Document 32 was **noted**.

16 Introductory remarks by regional representatives

16.1 The **delegate of the United Kingdom**, speaking as the coordinator of the European countries, said that those countries, which had for some time coordinated their position for world radiocommunication conferences within the framework of CEPT, believed that regional cooperation contributed considerably to the successful outcome of such conferences. The consolidation of views at regional level and during interregional discussions prior to conferences increased the probability of reaching consensus. Furthermore, financial and physical resources would be saved by an effort to adhere to normal working hours. He drew attention to Document 5 which contained the European common proposals for the work of the Conference, and invited delegates wishing to discuss those proposals to contact the respective European coordinators for those items, whose names would be circulated in due course.

16.2 The **delegate of Syria**, speaking on behalf of the Arab delegations, said that the Arab group had prepared for WRC-97 on the basis of regional cooperation - the best way to ensure success - and had set up a dialogue with the African and European groups in an endeavour to harmonize views and reach agreement on principles that would serve the interests of all parties concerned. As the views of the Arab countries would be outlined in Document 76, he wished simply to highlight a number of salient points. He stressed the need to: maintain frequency allocations and planning, at both national and international levels, so as to ensure protection from harmful interference; assist developing countries through frequency assignments in the HF bands for their fixed services; provide sustained support for new technologies and the funding of satellite projects such as ARABSAT; guarantee equitable access for national systems in order to strengthen the position of developing countries; ensure that non-national coverage took place only on the basis of mutual agreement and was not detrimental to the country concerned, regarding matters either of a substantive or financial nature; and ensure that the rights of Palestine regarding spectrum allocation and management, with respect to both satellite and non-satellite technologies, were respected.

16.3 The **delegate of India**, speaking as Chairman of the APT regional preparatory committee for WRC-97 and on behalf of Asia-Pacific countries said that, despite a heavy agenda, he was confident that, under the excellent leadership of the Chairman, the Conference would reach a successful conclusion. The Asia-Pacific countries attached great significance to the outcome of the Conference. While new and emerging technologies should be welcomed, existing technologies, which had considerable applications, should be protected. Under APT, the Region had been preparing for WRC-97, harmonizing views between administrations on most issues. For the first time, consolidated regional proposals had been submitted (in Document 14). Coordination with other regional groups had been fruitful. It was hoped that those efforts would contribute to the satisfactory solution of problems at WRC-97, and thus save time and reduce costs. The Asia-Pacific Region would work towards the achievement of mutually acceptable, positive results, building a solid foundation for telecommunications in the next century.

16.4 The **delegate of Mali**, speaking on behalf of the African group of countries, said that, although the Conference faced a great deal of work, the efforts already undertaken both by ITU and by the regional groups to coordinate and harmonize views would enable the Conference to reach a successful outcome. The African countries would cooperate with all other groups in order to achieve satisfactory results which took into account the concerns of all and which were in the real interests of all participants.

16.5 The **delegate of Mexico**, speaking as representative of CITEL and on behalf of the Latin American countries, thanked the Secretary-General for the assistance that had been given through the ITU offices established in the Latin American Region in the previous 18 months. CITEL and ITU had worked in close cooperation in order to achieve joint objectives: recent examples included work on a regional database on the use of the radio frequency spectrum and a workshop held on GMPCS. During 1996 and 1997 there had been an increase in the exchange of information with other groups, such as APT and Caricom, in order to gain a greater understanding of those bodies. In March 1998, CITEL would hold its next Assembly, which would further strengthen regional cooperation and enhance preparation for future world radiocommunication conferences. She believed that WRC-97 would be characterized by a mature approach in which consensus would be positively encouraged.

The meeting rose at 1220 hours.

The Secretary:
Pekka TARJANNE

The Chairman:
R. SMITH

Annexes: 3

ANNEX 1

Address by the Chairman of the Conference

Mr. Bartolo, Dean of the Delegations to the Conference, Mr. Secretary-General, Deputy Secretary-General, Director of the Radiocommunication Bureau and other officials of the Union, honourable delegates, ladies and gentlemen.

I thank you all most sincerely for the opportunity you have given me to undertake this very significant role as Chairman of your Conference. It is certainly an honour for me personally, for Australia and for the Asia-Pacific Region overall. I do, however, have a great degree of trepidation in accepting this role for I am very well aware of the importance of this Conference to the world radiocommunication community as a whole.

As you probably all know, I have participated in previous World Radiocommunication Conferences of the "new era ITU" as well as in earlier World Administrative Radio Conferences and I have shared with many of you, my friends and colleagues, the excitement and challenge of these conferences. But above and beyond all of that, I have experienced the immense sense of achievement and satisfaction when we can look at the tangible evidence of the work we do.

You will all recall the efforts made in Spain at WARC-92 to reach agreement on spectrum allocations and associated regulatory provisions for new satellite systems - the so-called "big LEOs" and "little LEOs" - and allocations for satellite and terrestrial broadcasting sound services. There were many hundreds of pages of text but, in the end, the important aspect is not the result but the tangible, hard practical evidence of our work. There are LEO systems now in space providing telecommunications and other valuable community services. Many countries are now moving to introduce digital sound broadcasting services. There are also broadcasting satellite sound services in advanced stages of development as well as complementary terrestrial services using digital technologies. In my own country, for example, we are moving in this direction to introduce digital sound broadcasting.

But additionally with all of these developments we have been able to proceed whilst existing terrestrial and satellite services also continue to develop in harmony through agreed sharing provisions.

These are examples of the practical rewards to us all. I hope that after this Conference we will all look back on the outcome with pride: not the texts, not all the paperwork we produced, but the practical outcome, that is what is important to us, I believe.

Ladies and Gentlemen,

It has been said often over the last two years that this Conference has been set a punishing agenda. We have a significant number of diverse issues and within these issues there are many potential problem areas. But, I must say, that I have great optimism and confidence that we can successfully address these issues and achieve outcomes that we will be able to accept in terms of our national and international objectives.

We will have the benefit of an extraordinary amount of preparatory work that has been done individually and collectively. Proposals have been prepared, made and reworked through many iterations. Groupings such as the Arab group of countries, CEPT, CITEL and APT have worked together to produce agreed positions and proposals. I certainly believe this will be a positive benefit to our work as there has already been a reconciliation process bringing together a wide range of

views and alternatives from individual countries within these groups. This preparatory process has saved much time and effort within this Conference in reducing the need to reconcile these individual approaches. There have also been regional information meetings and very many informal meetings in attempting to come closer together on the proposals and positions we bring to this Conference. There is also the excellent work done by study groups and the CPM to provide a sound technical basis for our deliberations.

But the time has come when all of this work will come to fruition.

Ladies and Gentlemen,

For my part, I give you my personal assurance that I will do the very best I can to deal with the proposals you will all present to the Conference at various meetings as fairly and impartially as I possibly can.

As you know, much of the detailed work will be done through the committees and working groups of the Conference that we will shortly consider on our agenda. It is my intention to work closely with those you will elect to chair these committees and working groups and to assist in any way I can, on a day by day basis, as they proceed. I am also available to any of you individually if you wish to discuss any matter of concern as we go forward. And I mean that. If anyone has a problem that he or she would like to discuss, my door is always open.

Much is at stake over the next four weeks. Let us all work together to ensure a successful outcome.

Thank you everyone.

ANNEX 2

Address by the Secretary-General

Mr. Chairman,
Honourable Ministers,
Distinguished Guests,
Ladies and Gentlemen,

It is my pleasure to welcome all of you to Geneva and to the opening Plenary Meeting of the World Radiocommunication Conference WRC-97.

All of us know that we are facing a very heavy agenda, as pointed out by the Chairman and that we have a lot of work to do in the next four weeks. Our task will be made all the heavier by the very large volume of documentation that has been produced for this Conference - most of it at the last minute - so large, in fact, that our budget for document production is already exhausted.

I hope that we will not spend too much time writing even more documents or reminding each other how much work there is to be done. If I may borrow a well-known advertising slogan, instead of urging each other to work efficiently, let's "just do it"!

In this spirit, distinguished delegates, I hope you will allow me to speak on behalf of everyone in this room when I express to you, Mr. Chairman, our congratulations on your election, our confidence in your leadership, and our willingness to do everything we can to help make sure that this Conference is a success. If everybody agrees with me then we do not have to have this statement repeated by 180 plus delegations.

Ladies and Gentlemen,

With this event, the eyes of the world are on the ITU perhaps more than ever before.

There is unprecedented interest, not just in the telecommunications industry, but in the whole international community in the results of this Conference.

Why is this so?

This is partly because telecommunications in itself has become a matter of intense media and public interest. As you know, scarcely a day passes without some major story being written about a new technology breakthrough, or the latest developments on the competitive battlefield, or the social consequences of the information revolution.

But I think there is more to it than that.

In recent years, there has been a growing awareness at the highest levels of the international community - in both the public and private sectors - that telecommunications is the foundation of the global information economy and society.

In a way, this recognition is flattering to those of us who are used to working in obscurity, away from the bright lights of media and public attention.

This also means that all of us in this room today, and all of those who will take part in the work of this Conference, have a very heavy responsibility. Your decisions will have a major impact on the life of mankind in the twenty-first century - and we in the Secretariat must do everything we can to help you reach the right decisions.

Mr. Chairman,

As a result of the intense international interest in your work, I must apologize because I will have to be absent from this Conference for a few days next week, and I will explain why.

I will go first to Cologne to address the private sector Global Information Infrastructure Commission on the role of the ITU in the development of the GII.

I will then go straight to New York, where the United Nations General Assembly is about to consider a report I have submitted on universal access to basic communication and information services - what I like to call "the right to communicate".

On both occasions, I promise to report on the work this Conference is doing to make these noble goals a practical reality. We hope that you and the distinguished delegates will forgive me this short absence, and agree that it is in the Union's interest.

Mr. Chairman,
Ladies and Gentlemen,

Let me now try to set a good example for what you said we should all do by concluding my remarks, and by wishing you all the best in dealing with the very very challenging agenda before you. Good luck.

ANNEX 3

Address by the Director of the Radiocommunication Bureau

Mr. Chairman,
Excellencies,
Ladies and Gentlemen,
Dear Colleagues and Friends,

I too would like to welcome you to this important event. As you can see, we have had to open up the Conference facility to make use of its maximum capacity. The last time we had to do this in ITU was for the first World Telecommunication Policy Forum which dealt with important applications of radiocommunication technology. I believe the large attendance at that Forum and now WRC-97 reflects the growing importance of the world of radiocommunications.

Some of you, I know, were present for that marathon conference, WARC-79, which lasted for some eleven weeks. In spite of an extremely loaded agenda for this Conference, as you know, we have only four weeks and so we have to work very efficiently and in harmony with each other just as the harmony one enjoys when one attends a concert presented by a symphony orchestra.

Here at this Conference, we are all in a sense part of an orchestra. You have just chosen our orchestra leader and he had already taken up his baton. Each of us has a part to play under the direction of our conductor. Indeed, as with any orchestra, much preparation has already taken place. Not only has our conductor prepared himself well, but also extensive preparatory work has taken place in the administrations of Member States as well as by Sector Members. In addition, there have been probably the best-ever preparations in the various regions of the world, principally through the regional telecommunication organizations. For our part, we in the Radiocommunication Bureau have been devoting a tremendous amount of time and resources to the preparations for this Conference. We have assisted more than ever before in these important regional preparations and, of course, we have been very busy here in Geneva carrying out the heavy programme of post-conference work which WRC-95 handed us. So, Mr. Chairman, I believe that the members of your orchestra have prepared themselves well to work under your direction.

Now, as for the tunes we shall play, we may not hear much Mozart or Schubert but one familiar chorus running throughout these four weeks which I am sure we shall hear is "the need to ensure the optimal use of the scarce spectrum and orbital resources".

Other pieces shall include such notable works as the further simplification of the Radio Regulations, the paper satellite serenade, aeronautical and maritime mobile excerpts and works related to short-wave broadcasting, enhancing the use of the spectrum by the mobile-satellite and fixed-satellite services, providing more possibilities for the space science services and, last but not least, the updating of the broadcasting satellite plans for Regions 1 and 3.

So during these four weeks, let us remember that, while we have different roles and responsibilities, we are all part of the orchestra. Let us get off to a good start and let us work together in harmony to ensure that people in all countries - both developed and developing - will be able to derive the maximum benefit possible from the use of the radio-frequency spectrum.

Mr. Chairman, ladies and gentlemen, may I wish us all good luck!

Thank you!

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 119-E
31 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

(REGULATORY AND ASSOCIATED ISSUES)

Monday, 27 October 1997, at 1435 hours

Chairman: Mr. E. GEORGE (Germany)

Subjects discussed		**Documents**
1	Opening of the meeting	-
2	Terms of reference of the Committee	DT/2
3	Organization of work	DT/7
4	Appointment of working group Chairmen	-
5	Allocation of documents to working groups	DT/4, DT/7(Add.1)

1 Opening of the meeting

1.1 The **Chairman** welcomed participants, stressing the complexity of the task before the Committee. Compromise on contentious issues would be facilitated by the preparatory work which had been conducted by the CPM and regional groupings. Further informal discussions were to be encouraged.

2 Terms of reference of the Committee (Document DT/2)

2.1 The terms of reference of Committee 4 were **noted**.

3 Organization of work (Document DT/7)

3.1 The **Chairman** outlined the suggested terms of reference of the proposed working groups, as detailed in Document DT/7.

3.2 In response to the **delegate of Zimbabwe**, the **Chairman** said that every effort would be made to ensure that the concerns of small delegations were taken into account in the scheduling of working group activities, but that some parallel meetings on non-overlapping issues might prove unavoidable.

3.3 Following a comment by the **observer for IMO** to the effect that no mention had been made of Resolution 208 in the terms of reference for Working Group 4B, the **Chairman** explained that Resolution 208 is not explicitly on the WRC-97 agenda, but may be considered under item 4 of the Conference agenda.

3.4 The draft organization of work of Committee 4, as set out in Document DT/7, was **approved**.

4 Appointment of working group Chairmen

4.1 The appointment of Mr. Agarwal (India), Mr. Swanson (United States), Mr. Davey (United Kingdom) and Mr. Zeitoun (Canada) as Chairmen of Working Groups 4A, 4B, 4C and 4D, respectively, was **approved**.

5 Allocation of documents to working groups (Documents DT/4 and DT/7(Add.1))

5.1 The **delegate of the Islamic Republic of Iran** proposed that Annex 1 to Document 44 (IRN/44/33 ADD) should be discussed both in Committee 4 and Plenary.

5.2 It was so **agreed**.

5.3 The **delegate of New Zealand** observed that the correct proposal number for Addendum 1 to Document 37 was NZL/37/42.

5.4 In response to a request for clarification from the **delegate of Japan,** the **Chairman** explained that proposal number 56 from Document 29 should appear in square brackets in the proposed allocation of documents for Working Group 4A (in Addendum 1 to Document DT/7) since the proposal would initially be considered by Committee 5 and only forwarded to Committee 4 if necessary.

5.5 The **delegate of Japan** suggested that proposals ASP/14/13 to ASP/14/16 in Document 14 should be transferred from Working Group 4D to Working Group 4A.

5.6 It was so **agreed.**

5.7 In reply to the **delegate of Syria**, the **Chairman** confirmed that it had been agreed in the Plenary Meeting that preliminary allocation of documents to a particular committee did not signify approval that those documents would indeed be considered; administrations were entitled to oppose discussion at the committee level. He also recalled that in the Plenary Meeting it had been agreed that Part D.2 of Document 5 should be transferred from Committee 4 to Committee 5 and that Document 62 would be considered in its entirety by Committee 5. It might be necessary for Committee 4 to consider Document 62 at a later stage.

5.8 After an extensive discussion concerning the allocation of Documents 5 and 62, it was **agreed** that an informal Group should be established to consider the matter further and that the outcome of those informal discussions should be transmitted directly to Working Group 4D and Committee 5.

5.9 On that understanding, the preliminary allocation of documents outlined in Addendum 1 to Document DT/7, as amended, was **approved**.

The meeting rose at 1555 hours.

The Secretary:
T. GAVRILOV

The Chairman:
E. GEORGE

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COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5

(ALLOCATIONS AND ASSOCIATED ISSUES)

Monday, 27 October 1997, at 1605 hours

Chairman: Mrs. V. RAWAT (Canada)

Subjects discussed		**Documents**
1	Opening of the meeting	-
2	Terms of reference of the Committee	1; DT/2
3	Organization of work	DT/6
4	Allocation of documents to working groups	DT/1, DT/4

1 Opening of the meeting

1.1 The **Chairman** welcomed participants and appealed for cooperation in achieving consensus on the many issues on the Committee's agenda.

2 Terms of reference of the Committee (Documents 1; DT/2)

2.1 The terms of reference of Committee 5 were **noted**.

3 Organization of work (Document DT/6)

3.1 The appointment of Mr. Taylor (United States), Dr. Ito (Japan) and Mr. Kisrawi (Syria) as Chairmen of Working Groups 5A, 5B and 5C, respectively, was **approved**.

3.2 The **Chairmen of Working Groups 5A, 5B** and **5C** outlined their intentions for dealing with the tasks assigned to their working groups which were set out, by Conference agenda item, in Document DT/6. The establishment of smaller groups might be necessary to facilitate the early completion of their work.

3.3 The **delegate of Morocco**, supported by the **delegates of Saudi Arabia, Lebanon** and **Zimbabwe**, pointed out the difficulties encountered by smaller delegations in attending meetings held in parallel and expressed the hope that matters dealt with by smaller groups would be discussed by each working group as a whole. The **Chairman** said that every effort would be made to meet those concerns.

3.4 In response to comments by the **delegates of Mexico** and the **United Kingdom**, the **Chairman** said that while Working Group 5C was, in principle, to consider agenda item 1.1 in its entirety, she would expect certain footnotes, such as those relating to allocation proposals, to be transferred to another working group for consideration when appropriate.

3.5 The **delegate of Israel** said that, when reviewing appendix 8 to the Radio Regulations in accordance with agenda item 1.7, Working Group 5C should make every effort to ensure that the Appendix was aligned with Recommendation ITU-R SM.329-7.

3.6 The draft organization of the work of Committee 5, as set out in Document DT/6, was **approved**.

4 Allocation of documents to working groups (Documents DT/1 and DT/4)

4.1 The **Chairman** said that the allocation of documents to the Committee and its Working Groups would be revised to take account of new proposals submitted since the preparation of Documents DT/1 and DT/4, incorporating corrections and amendments made in the Plenary Meeting and others submitted by delegations.

4.2 In reply to the **delegate of the United States**, she confirmed that the results of the discussions in the ad hoc group set up by Committee 4 to consider the allocation of documents where there was an overlap in the work of Committees 4 and 5 would also be taken into consideration.

4.3 On that understanding, the preliminary allocation of documents to Committee 5, as set out in Document DT/4, was **approved**.

The meeting rose at 1655 hours.

The Secretary:
J. LEWIS

The Chairman:
V. RAWAT

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 6

Note by the Chairman of Committee 6 (Editorial)

In order to facilitate the work of the Conference, the Chairman of Committee 6 wishes to draw participants' attention to the following points regarding the Editorial Committee and the way it operates.

Terms of reference of the Committee

Under Nos. 362 and 363 (Article 32, Rules of Procedure) of the Convention of the International Telecommunication Union (Geneva, 1992), the Editorial Committee's terms of reference are as follows:

"*4.3 Editorial Committee*

362 *a)* The texts prepared in the various committees, which shall be worded as far as possible in their definitive form by these committees, taking account of the views expressed, shall be submitted to an Editorial Committee charged with perfecting their form without altering the sense and, where appropriate, with combining them with those parts of former texts which have not been altered.

363 *b)* The texts shall be submitted by the Editorial Committee to the Plenary Meeting, which shall approve them, or refer them back to the appropriate committee for further examination."

Structure of the Committee

Chairman:	Mrs. Anne-Marie NEBES (France)	Pigeon-hole 1589
Vice-Chairman:	Mr. Vincente RUBIO CARRETON (Spain)	Pigeon-hole 1402
Vice-Chairman:	Mr. Michael GODDARD (United Kingdom)	Pigeon-hole 635

Secretariat

Mr. Antonio PEÑARANDA	Room J.131
Mr. Colin LANGTRY	Room J.132
Mr. Eric DALHEN	Room J.132

Composition

In order to facilitate the Committee's work, in particularly as regards to the preparation of meeting documents, and in view of the small size of the Committee's meeting room, it is desirable that delegations wishing to take part in the Editorial Committee's work should notify the Chairman by using the registration form in **Annex** to this document and returning it to the Committee Secretariat (Room J.133 or pigeon-hole 2030) as far as possible by **1800 hours on Friday, 31 October.**

Organization of work

The Editorial Committee will hold its first meeting **Thursday, 30 October 1997, at 1130 hours** in Room III/IV. The agenda will be circulated separately.

The Committee's other meetings will be held in Room XI.

During the remaining weeks of the Conference, notice of meetings will be communicated individually to delegates registered with Committee 6.

Committee documents will be made available to members of the Committee at the entrance to Room XI.

A second team may be set up if the volume of work makes it necessary, facilities being available for this purpose. If the two teams have to meet at the same time, it will not always be possible, in view of the volume of work, to assign all Committee 4 texts to one team and all Committee 5 texts to the other. The two teams will not be under supervision, it being the task of the Secretariat, under the authority of the Committee Chairman, to coordinate their work as a whole.

A.-M. NEBES
Chairman of Committee 6

ANNEX

COMMITTEE 6

REGISTRATION FORM

To be completed and returned to Room J.133
or pigeon-hole 2030 by **1800 hours**
on Friday, 31 October

COUNTRY .....

Delegate

Surname .....

First name .....

Position in delegation .....

Number of pigeon-hole .....

Working language

E ☐ F ☐ S ☐

Signature

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
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CONFERENCE

Corrigendum 2 to
Document 122-E
7 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

NOTE BY THE SECRETARY-GENERAL

Replace Annex 2 by the attached text.

Pekka TARJANNE
Secretary-General

ANNEX 2

List of the ITU-R Recommendations related to the CPM Report to WRC-97 as of 24 October 1997

NOTE - This is an updated version of Annex 2 to the CPM Report to the WRC-97 (Document 4) resulting from the approval of the ITU-R Recommendations by the 1997 Radiocommunication Assembly.

Chapter 2		
Recommendation ITU-R BS.560-4	Radio-frequency protection ratios in LF, MF, and HF broadcasting	Document 10/1005
Recommendation ITU-R BS.640-3	Single-sideband (SSB) system for HF broadcasting	Document 10/1006
Recommendation ITU-R BS.705-1	HF transmitting and receiving antennas characteristics and diagrams	1995 Separate publication
Recommendation ITU-R P.533-5	HF propagation prediction method	1995 P Series
Recommendation ITU-R P.842-1	Computation of reliability and compatibility of HF radio systems	1994 PI Series
Chapter 3		
Recommendation ITU-R M.257-3	Sequential single frequency selective-calling system for use in the maritime mobile service	1995 M Series, Part 3
Recommendation ITU-R M.476-5	Direct-printing telegraph equipment in the maritime mobile service	1995 M Series, Part 3
Recommendation ITU-R M.1084-2	Improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	Document 8/1012
Recommendation ITU-R M.1312 [Doc. 8/54]	A long-term solution for improved efficiency in the use of the band 156 - 174 MHz by stations in the maritime mobile service	Document 8/1013
Chapter 4		
Recommendation ITU-R M.1039-1	Co-frequency sharing between stations in the mobile service below 1 GHz and FDMA NON-GSO mobile earth stations	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1185-1	Method for determining coordination distance between ground based mobile Earth stations and terrestrial stations operating in the 148.0 - 149.9 MHz band	Document 8/1019
Recommendation ITU-R SA.1164-1	Sharing and coordination criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services	Document 7/BL/13

Recommendation ITU-R SA.1258 [Doc. 7/70]	Sharing of the frequency band 401-403 MHz between the METSAT service, EESS and METAIDS service	Document 7/BL/7
Recommendation ITU-R SA.1165-1	Technical characteristics and performance criteria for radiosonde systems in the METAIDS service	Document 7/BL/22
Recommendation ITU-R SA.1262 [Doc. 7/39]	Sharing and coordination criteria for METAIDS in the 400.15 to 406 MHz and 1 668.4 to 1 700 MHz bands	Document 7/BL/23
Recommendation ITU-R SA.1263 [Doc. 7/41]	Interference criteria for METAIDS operated in the bands 400.15 to 406 and 1 668.4 to 1 700 MHz	Document 7/BL/24
Recommendation ITU-R SM.1051-2	Priority of identifying and eliminating radio interference in the band 406-406.1 MHz	Document 1/BL/6
Recommendation ITU-R RA.769-1	Protection criteria used for radioastronomical measurements	1995 RA Series
Recommendation ITU-R RA.1031-1	Protection of the RA service in frequency bands shared with other services	1995 RA Series
Recommendation ITU-R BT.417-4	Minimum field strengths for which protection may be sought in planning a television service	1994 BT Series
Recommendation ITU-R BT.655-4	Radio-frequency protection ratios for AM vestigial sideband terrestrial television systems	1994 BT Series
Recommendation ITU-R IS.851-1	Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands	1995 IS Series
Recommendation ITU-R M.1087	Methods for evaluating sharing between systems in the land mobile service and spread-spectrum LEO systems in the MSS below 1 GHz	1994 M Series, Part 5
Recommendation ITU-R SA.1021	Methodology for determining performance objectives for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R SA.1022	Methodology for determining interference criteria for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R SA.1023	Methodology for determining sharing and coordination criteria for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R M.1230	Performance objectives for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1231	Interference criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1232	Sharing criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5

Recommendation ITU-R M.1315 [8D/XQ]	Methodology for evaluating interference from narrow-band mobile-satellite networks to spread-spectrum direct-sequence mobile-satellite networks operating with space stations in low-earth orbit at frequencies below 1 GHz	Document 8/1020
Recommendation ITU-R M.1316 [8D/XN]	Principles and a methodology for frequency sharing in the 1 610.6 - 1 613.8 and 1 660 - 1 660.5 MHz bands between the mobile-satellite service (earth-to-space) and the radio astronomy service	Document 8/1021
Recommendation ITU-R M.1186	Technical considerations for the coordination between MSS networks utilizing CDMA and other spread spectrum techniques in the 1 - 3 GHz band	1995 M Series Part 5
Recommendation ITU-R M.1318 [8D/XO]	Interference protection evaluation model for the radionavigation-satellite service in the 1 559 - 1 610 MHz band	Document 8/1023
Recommendation ITU-R M.1317 [Doc. 8/57]	Considerations for sharing with systems of other services operating in bands allocated to the radionavigation-satellite and aeronautical radio-navigation services and the global navigation satellite system (GLONASS-M)	Document 8/1022
Recommendation ITU-R M.830	Operational procedures for mobile-satellite networks or systems in the bands 1530-1544 MHz and 1626.5-1645.5 MHz which are used for distress and safety purposes as specified for GMDSS	1995 M Series Part 5
Recommendation ITU-R M.1037	Bit error performance objectives for aeronautical mobile-satellite (R) service (AMS(R)S) radio link	1995 M Series Part 5
Recommendation ITU-R M.1089	Technical considerations for the coordination of mobile-satellite systems supporting AMS(R)S	1995 M Series Part 5
Recommendation ITU-R SA.1158-1	Sharing of the 1 675 - 1 710 MHz Band between the meteorological-satellite service (space-to-Earth) and the mobile-satellite service (Earth-to-space)	Document 7/BL/8
Recommendation ITU-R F.1245 [Doc. 9/20]	Mathematical model of average radiation patterns for line-of-sight point-to-point radio-relay system antennas for use in certain coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	Document 9/BL/5
Recommendation ITU-RF.1246 [Doc. 9/29]	Reference bandwidth of receiving stations in the fixed service to be used in coordination of frequency assignments with transmitting space stations in the mobile-satellite service in the 1 - 3 GHz range	Document 9/BL/6
Recommendation ITU-R F.1336 [Doc. 9/92]	Reference radiation patterns of omnidirectional and other antennas in point-to-multipoint systems for use in sharing studies	Document 9/BL/39
Recommendation ITU-R M.1141-1	Sharing in the 1-3 GHz frequency range between the non-geostationary space stations operating in the MSS and stations in the fixed service	Document 8/1024
Recommendation ITU-R M.1142-1	Sharing in the 1-3 GHz frequency range between geostationary space stations operating in the MSS and stations in the fixed service	Document 8/1025

Recommendation ITU-R SA.1264 [Doc. 7/38]	Frequency sharing between the meteorological aids service and the MSS (Earth-to-space) in the 1 675 - 1 700 MHz band	Document 7/BL/25
Recommendation ITU-R F.283-5	Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.382-7	Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands	Document 9/BL/26
Recommendation ITU-R F.1098-1	Radio-frequency channel arrangements for radio-relay systems in the 1 900-2 300 MHz band	1995 F Series, Part 1
Recommendation ITU-R M.1143-1	System specific methodology for coordination of non-geostationary space stations (space-to-Earth) operating in the MSS with the fixed service	Document 8/1026
Recommendation ITU-R P.530-7	Propagation data and prediction methods required for the design of terrestrial line-of-sight systems	Document 3/BL/12
Recommendation ITU-R P.452-8	Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0.7 GHz	Document 3/BL/13
Recommendation ITU-R P.619-1	Propagation data required for the evaluation of interference between stations in space and those on the surface of the Earth	1994 PN Series
Recommendation ITU-R F.1095	A procedure for determining coordination area between radio-relay stations of the fixed service	1994 F Series, Part 1
Recommendation ITU-R F.746-3	Radio-frequency channel arrangements for radio-relay systems	Document 9/BL/11
Recommendation ITU-R M.1036	Spectrum considerations for implementation of FPLMTS in the bands 1 885-2 025 MHz and 2 110-2 200 MHz	1994 M Series, Part 2
Recommendation ITU-R S.1255 [4A/XH]	Use of adaptive uplink power control to mitigate codirectional interference between GSO/FSS networks and feeder links of NGSO/MSS networks and between GSO/FSS networks and NGSO/FSS networks	Document 4/BL/7
Recommendation ITU-R S.1256 [4A/XF]	Methodology for determining the maximum aggregate pfd at the GSO in the band 6 700 - 7 075 MHz from feeder links of non-GSO satellite systems in the MSS in the space-to-Earth direction	Document 4/BL/8
Recommendation ITU-R S.1257 [4A/XC]	Analytical method to calculate visibility statistics for NGSO satellites as seen from a point on the Earth’s surface	Document 4/BL/9
Recommendation ITU-R S.1341 [4A/XO]	Sharing between feeder links for the MSS and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4 - 15.7 GHz and the protection of the radioastronomy service in the band 15.35 - 15.4 GHz	Document 4/1007
Recommendation ITU-R S.1340 [4A/XP]	Sharing between feeder links for the MSS and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4 - 15.7 GHz	Document 4/1006

Recommendation ITU-R SF.1320 [4/26-9/33]	Maximum allowable values of pfd at the surface of the earth produced by NGSO in the FSS used in feeder links for the MSS and sharing the same frequency bands with radio-relay systems (Parts relating to 19 GHz band)	Document 4-9/BL/4
Recommendation ITU-R S.1328 [4A/XQ]	Satellite system characteristics to be considered in frequency sharing analyses between GSO and non-GSO satellite systems in the fixed-satellite service including feeder links for the mobile-satellite service	Document 4/BL/19
Recommendation ITU-R S.1323 [4A/XB]	Maximum permissible levels of interference in a satellite network (GSO/FSS; NGSO/FSS; NGSO/MSS feeder links) for a hypothetical reference digital path in the FSS caused by other codirectional networks below 30 GHz	Document 4/BL/14
Recommendation ITU-R S.1324 [4A/XJ]	Analytical method for estimating interference between NGSO MSS feeder links and GSO FSS networks operating co-frequency and co-directionally	Document 4/BL/15
Chapter 5		
Recommendation ITU-R SA.1154	Provisions to protect the space research (SR), space operations (SO) and earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2 025 - 2 110 and 2 200 - 2 290 MHz bands	1995 SA Series
Recommendation ITU-R SA.1258 [Doc. 7/70]	Sharing of the frequency band 401-403 MHz between the meteorological satellite service, Earth exploration satellite service and meteorological aids service in the band 401-403 MHz	Document 7/BL/7
Recommendation ITU-R SA.577-5	Preferred frequencies and necessary bandwidths for spaceborne active remote sensing	Document 7/BL/18
Recommendation ITU-R SA.1166-1	Performance and interference criteria for active spaceborne sensors	Document 7/BL/19
Recommendation ITU-R SA.1260 [Doc. 7/11]	Feasibility of sharing between active spaceborne sensors and other services in the vicinity of 410-470 MHz	Document 7/BL/20
Recommendation ITU-R SA.1281 [7/116-8/93]	Protection criteria for stations in the radiolocation service from emissions from active spaceborne sensors in the band 13.4 - 13.75 GHz	Document 7/1016
Recommendation ITU-R SA.1280 [7/98-8/47]	Selection of active spaceborne sensor emission characteristics to mitigate the potential for interference to terrestrial radars operating in frequency bands 1 - 10 GHz	Document 7/1015
Recommendation ITU-R M.1088	Considerations for sharing with systems of other services operating in the bands allocated to the radionavigation satellite service	1994 M Series, Part 5
Recommendation ITU-R M.1317 [Doc. 8/57]	Considerations for sharing with systems of other services operating in bands allocated to the radionavigation-satellite and aeronautical radio-navigation services and the global navigation satellite system (GLONASS-M)	Document 8/1022
Recommendation ITU-R SA.1025-2	Performance criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/4

Recommendation ITU-R SA.1026-2	Interference criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/5
Recommendation ITU-R SA.1027-2	Sharing and coordination criteria for space-to-Earth data transmission systems in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/6
Recommendation ITU-R SA.1277 [7/14]	Sharing in the 8 025 - 8 400 MHz frequency band between the earth exploration-satellite service and the meteorological-satellite, fixed, fixed-satellite and mobile services in Regions 1, 2 and 3	Document 7/1012
Recommendation ITU-R SA. 515-3	Frequency bands and bandwidths used for satellite passive sensing	Document 7/BL/14
Recommendation ITU-R SA.1028-1	Performance criteria for satellite passive remote sensing	Document 7/BL/15
Recommendation ITU-R SA.1029-1	Interference criteria for satellite passive remote sensing	Document 7/BL/16
Recommendation ITU-R F.699-4	Reference radiation patterns for line-of-sight radio-relay system antennas for use in coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	Document 9/BL/13
Recommendation ITU-R F.761	Frequency sharing between the fixed service and passive sensors in the band 18.6 to 18.8 GHz	1994 F Series
Recommendation ITU-R SA.1261 [7/44]	Feasibility of sharing between spaceborne cloud radars and other services in the range of 92 - 95 GHz	Document 7/BL/21
Recommendation ITU-R RA.769-1	Protection criteria used for radioastronomical measurements	1995 RA Series
Recommendation ITU-R SA.1024-1	Necessary bandwidths and preferred frequency bands for data transmission from Earth exploration-satellites (not including meteorological-satellites)	Document 7/BL/3
Recommendation ITU-R SA.1159-1	Performance criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	Document 7/BL/9
Recommendation ITU-R SA.1160-1	Interference criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	Document 7/BL/10
Recommendation ITU-R SA.1161	Sharing and coordination criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	1995 SA Series
Recommendation ITU-R SA.1278 [Doc. 7/74] [Doc. 7/104]	Feasibility of sharing between the Earth exploration-satellite service (space-to-Earth) and the inter-satellite, fixed and mobile services in the band 25.5 - 27.0 GHz	Document 7/1013
Recommendation ITU-R F.748-2	Radio-frequency channel arrangements for radio-relay systems operating in the 25, 26 and 28 GHz bands	1995 F Series, Part 1

Recommendation ITU-R F.758-1	Considerations in the development of criteria for sharing between the terrestrial fixed service and other services	Document 9/BL/14
Recommendation ITU-R F.1094-1	Maximum allowable error performance and availability degradations to digital radio-relay systems arising from interference from emissions and radiations from other sources	1995 F Series, Part 1
Recommendation ITU-R F.1102	Characteristics of radio-relay systems operating in frequency bands above about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1108-2	Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands	Document 9/BL/40
Recommendation ITU-R SA.1259 [7/23]	Feasibility of sharing between spaceborne passive sensors and the fixed service from 50 to 60 GHz	Document 7/BL/17
Recommendation ITU-R SA.1279 [7C/AE]	Spectrum sharing between spaceborne passive sensors and inter-satellite links in the range 50.2 - 61.3 GHz	Document 7/1014
Recommendation ITU-R S.1339 [4A/XK]	Feasibility of sharing between spaceborne passive sensors of the EESS and inter-satellite links of GSO networks in the range 50 to 65 GHz	Document 4/1005
Recommendation ITU-R S.1327 [4A/XG]	Requirements and suitable bands for operation of the inter-satellite service within the range 50.2 - 71 GHz	Document 4/BL/18
Recommendation ITU-R S.1326 [4A/XL]	Feasibility of sharing between the inter-satellite service and the fixed satellite service in the frequency band 50.4 - 51.4 GHz	Document 4/BL/17
Recommendation ITU-R SA.1236	Frequency sharing between space research service extra-vehicular activity (EVA) links and fixed and mobile service links in the 410-420 MHz band	Document 7/BL/1
Recommendation ITU-R SA.609-1	Protection criteria for telecommunication links for manned and unmanned near-Earth research satellites	1994 SA Series
Chapter 6		
Recommendation ITU-R P.618-5	Propagation data and prediction methods required for the design of Earth-space telecommunications systems	Document 3/BL/8
Recommendation ITU-R P.837-1	Characteristics of precipitation for propagation modelling	1994 PN Series
Recommendation ITU-R BO.1211	Digital multi-programme emission systems for television, sound and data services for satellites operating in the 11/12 GHz frequency range	1995 BO Series
Recommendation ITU-R BO.1213	Reference receiving earth station antenna patterns for replanning purposes to be used in the revision of the WARC-77 BSS plans for Regions 1 and 3	1995 BO Series

Recommendation ITU-R BO.1295 [AAA]	Reference transmit earth station antenna off-axis e.i.r.p. patterns for planning purposes to be used in the revision of the Appendix 30A plans at 14 GHz and 17 GHz in regions 1 and 3	Document 10-11S/1006
Recommendation ITU-R BO.1296 [BBB]	Reference receive space station antenna patterns for planning purposes to be used for elliptical beams in the revision of the Appendix 30A Plans at 14 GHz and 17 GHz in Regions 1 and 3	Document 10-11S/1007
Recommendation ITU-R BO.1297 [DDD]	Protection ratios to be used for planning purposes in the revision of the Appendixes 30 and 30A Plans in Reg. 1 and 3	Document 10-11S/1008
Recommendation ITU-R BO.1294 [CCC]	Common functional requirements for the reception of digital multi-programme television emissions by satellites operating in the 11/12 GHz frequency range	Document 10-11S/1005
Recommendation ITU-R BO.1293 [EEE]	Protection Masks and Associated Interference Calculation Methods to be used in Appendices 30 and 30A BSS Plans	Addendum 1 to Doc. 11/1001
Chapter 7		
Recommendation ITU-R IS.847-1	Determination of the coordination area of an earth station operating with a geostationary space station and using the same frequency band as a system in a terrestrial service	1994 IS Series
Recommendation ITU-R IS.848-1	Determination of the coordination area of a transmitting earth station using the same frequency band as receiving earth stations in bidirectionally allocated frequency bands	1994 IS Series
Recommendation ITU-R IS.849-1	Determination of coordination area for earth stations operating with non-geostationary spacecraft in bands shared with terrestrial services	1994 IS Series
Recommendation ITU-R SM.1266	Adaptive MF/HF systems	Document 1/BL/8
Recommendation ITU-R F.1110-2	Adaptive radio systems for frequencies below about 30 MHz	Document 9/BL/43
Recommendation ITU-R F.613	The use of ionospheric channel sounding systems operating in the fixed service at frequencies below about 30 MHz	1994 F Series, Part 2
Recommendation ITU-R SM.329-7	Spurious emissions	Document 1/BL/11
Recommendation ITU-R M.1177-1	Techniques for measurement of spurious emissions of maritime radar systems	Document 8/1016
Recommendation ITU-R M.1226	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz	1997 M Series, Part 4
Recommendation ITU-R M.1085-1	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 400 MHz	1997 M Series Part 4
Recommendation ITU-R M.1227	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 1000 MHz	1997 M Series Part 4

Recommendation ITU-R SA.1282 [7/65]	Feasibility of sharing between wind profiler radars and active spaceborne sensors in the vicinity of 1260 MHz	Document 7/1017
Recommendation ITU-R F.746-3	Radio-frequency channel arrangements for radio-relay systems	Document 9/BL/11
Recommendation ITU-R F.749-1	Radio-frequency channel arrangements for radio-relay systems in the 38 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.750-3	Architectures and functional aspects of radio-relay systems for SDH-based networks	Document 9/BL/31
Recommendation ITU-R F.756	TDMA point-to-multipoint systems used as radio concentrators	1994 F Series, Part 1
Recommendation ITU-R F.758-1	Considerations in the development of criteria for sharing between the terrestrial fixed service and other services	Document 9/BL/14
Recommendation ITU-R F.1100	Radio-frequency channel arrangements for radio-relay systems operating in the 55 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.1101	Characteristics of digital radio-relay systems below about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1102	Characteristics of radio-relay systems operating in frequency bands above about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1104	Requirements for point-to-multipoint radio systems used in the local grade portion of an ISDN connection	1994 F Series, Part 1
Recommendation ITU-R P. 620-3	Propagation data required for the calculation of coordination distances in the frequency range 1-40 GHz	Document 3/BL/14
Recommendation ITU-R P.837-1	Characteristics of precipitation for propagation modelling	1994 PN Series

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Corrigendum 1 to
Document 122-E
4 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

NOTE BY THE SECRETARY-GENERAL

The following ITU-R Recommendations were suppressed by the Radiocommunication Assembly, 1997:

– Recommendation ITU-R BR.501-2, 716-2, 781-1, 782-1, 783-1, 784, 1217
– Recommendation ITU-R P.369-6, 434-6
– Recommendation ITU-R SA.362-2, 513-1, 578
– Recommendation ITU-R SM.508
– Recommendation ITU-R TF.375-2, 376-1, 485-2, 537, 685

Consequently, these Recommendations should be deleted from the "List of ITU-R Recommendations in force as of 24/10/1997" given in Annex 1 to Document 122.

Pekka TARJANNE
Secretary-General

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 122-E
28 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Note by the Secretary-General

I have the honour to transmit to the Conference the Report from the ITU Radiocommunication Assembly, Geneva, 1997 to the World Radiocommunication Conference, Geneva, 1997.

Pekka TARJANNE
Secretary-General

Annexes: 5

ANNEX

Report from the ITU Radiocommunication Assembly, Geneva, 1997 to the World Radiocommunication Conference, Geneva, 1997

The Radiocommunication Assembly, in accordance with No. 136 of the Convention, hereby submits this progress report on matters that WRC-97 may wish to consider for inclusion in the agenda of future radiocommunication conferences.

A list of ITU-R Recommendations in force after the Radiocommunication Assembly, Geneva, 1997, is given in Annex 1. These Recommendations represent completed studies which future radiocommunication conferences wish to take into account.

Also, a list of Questions in force after the Radiocommunication Assembly, Geneva, 1997, is given in Document RA97/PLEN/68 (document available upon request). A final edited version of this document concerning minor modifications will be available before the end of the Conference.

A list of the ITU-R Recommendations related to the CPM-97 Report to WRC-97 as of 24 October 1997 is included in Annex 2.

The status of the ITU-R Recommendations incorporated by reference in the Radio Regulations adopted by WRC-95 as of 24 October 1997 is given in Annex 3.

Finally, according to the instructions given to the Director, Radiocommunication Bureau, by the Radiocommunication Assembly, Geneva, 1997, ITU-R Resolutions 2 and 38 are brought to the attention of WRC-97. The text of these amended Resolutions can be found, respectively, in Annexes 4 and 5 to this Document.

ANNEX 1

List of ITU-R Recommendations in force as of 24/10/1997

Liste des Recommandations UIT-R en vigeur au 24/10/1997

Lista de las Recomendaciones UIT-R vigentes con fecha de 24/10/1997

Number Numéro Número	**Title**	**Titre**	**Título**	**Approved Approuvée Aprobada**	**Vol. or/ou/o Doc.**
BO.566-3	Terminology relating to the use of space communication techniques for broadcasting	Terminologie relative aux radiocommunications spatiales pour la radiodiffusion	Terminología relativa al empleo de técnicas de radiocomunicaciones espaciales para la radiodifusión	1990	BO/1994
BO.600-1	Standardized set of test conditions and measurement procedures for the subjective and objective determination of protection ratios for television in the terrestrial broadcasting and the broadcasting-satellite services	Ensemble normalisé et conditions d'essai et de méthodes de mesure pour la détermination subjective et objective des rapports de protection en télévision dans les services de radiodiffusion de Terre et de radiodiffusion par satellite	Serie normalizada de condiciones de prueba y procedimientos de medida para la determinación subjetiva y objetiva de las relaciones de protección para televisión en los servicios de radiodifusión terrenal y de radiodifusión por satélite	1986	BO/1994
BO.650-2	Standards for conventional television systems for satellite broadcasting in the channels defined by Appendix 30 of the Radio Regulations	Normes applicables aux systèmes de télévision conventionnelle pour la radiodiffusion par satellite dans les canaux définis par l'Appendice 30 du Règlement des radiocommunications	Normas relativas a los sistemas de televisión convencional para la radiodifusión por satélite en los canales definidos por el Apéndice 30 del Reglamento de Radiocomunicaciones	1992	BO/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BO.651	Digital PCM coding for the emission of high-quality sound signals in satellite broadcasting (15 kHz nominal bandwidth)	Codage numérique MIC pour l'émission de signaux audio de haute qualité en radiodiffusion par satellite (bande passante nominale 15 kHz)	Codificación digital MIC para la transmisión de señales de sonido de alta calidad en la radiodifusión por satélite (anchura de banda nominal de 15 kHz)	1986	BO/1994
BO.652-1	Reference patterns for earth-station and satellite antennas for the broadcasting-satellite service in the 12 GHz band and for the associated feeder links in the 14 GHz and 17 GHz bands	Diagramme de référence des antennes de stations terriennes et de satellites pour le service de radiodiffusion par satellite dans la bande des 12 GHz et les liaisons de connexion associées dans les bandes des 14 et 17 GHz	Diagramas de radiación de referencia de las antenas de estación terrena y de satélite para el servicio de radiodifusión por satélite en la banda de 12 GHz y para los enlaces de conexión asociados en las bandas de 14 GHz y 17 GHz	1992	BO/1994
BO.712-1	High-quality sound/data standards for the broadcasting-satellite service in the 12 GHz band	Normes du son de haute qualité et des données pour le service de radiodiffusion par satellite dans la bande des 12 GHz	Normas de transmisión de sonido de alta calidad y de datos para el servicio de radiodifusión por satélite en la banda de 12 GHz	1992	BO/1994
BO.786	MUSE system for HDTV broadcasting-satellite services	Système MUSE pour les services de radiodiffusion de TVHD par satellite	Sistema MUSE para servicios de radiodifusión de televisión de alta definición por satélite	1992	BO/1994
BO.787	MAC/packet based system for HDTV broadcasting-satellite services	Système MAC/paquets pour les services de radiodiffusion de TVHD par satellite	Sistema basado en MAC/paquetes para servicios de radiodifusión por satélite TVAD	1992	BO/1994
BO.788-1	Coding rate for virtually transparent studio quality HDTV emissions in the broadcasting-satellite service	Vitesse de codage de signaux de TVHD permettant d'obtenir une qualité quasi studio dans le service de radiodiffusion par satellite	Velocidad de codificación de las emisiones de televisión de alta definición con calidad de estudio virtualmente transparentes del servicio de radiodifusión por satélite	1993	BO/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BO.789-2	Service for digital sound broadcasting to vehicular, portable and fixed receivers for broadcasting-satellite service (sound) in the frequency range 1 400-2 700 MHz	Besoins du service de radiodiffusion sonore numérique par satellite (SRS) à destination des récepteurs à bord de véhicules, portatifs et fixes dans la gamme de fréquences 1 400-2 700 MHz	Necesidades del servicio de radiodifusión sonora digital para los receptores de vehículos, portátiles y fijos del servicio de radiodifusión (sonora) por satélite en la gama de frecuencias 1 400-2 700 MHz	1995	BO/1995
BO.790	Characteristics of receiving equipment and calculation of receiver figure-of-merit (*G*/*T*) for the broadcasting-satellite service	Caractéristiques des équipements de réception et calcul du facteur de qualité des récepteurs (*G*/*T*) pour le service de radiodiffusion par satellite	Características del equipo receptor y cálculo del factor de calidad (*G*/*T*) de los receptores del servicio de radiodifusión por satélite	1992	BO/1994
BO.791	Choice of polarization for the broadcasting-satellite service	Choix de la polarisation pour le service de radiodiffusion par satellite	Elección de la polarización en el servicio de radiodifusión por satélite	1992	BO/1994
BO.792	Interference protection ratios for the broadcasting-satellite service (television) in the 12 GHz band	Rapports de protection contre les brouillages dans le service de radiodiffusion par satellite (télévision) dans la bande des 12 GHz	Relaciones de protección contra la interferencia en el servicio de radiodifusión (televisión) por satélite en la banda de 12 GHz	1992	BO/1994
BO.793	Partitioning of noise between feeder links for the broadcasting-satellite service (BSS) and BSS down links	Répartition de bruit entre les liaisons de connexion du service de radiodiffusion par satellite (SRS) et les liaisons descendantes du SRS	Distribución del ruido entre los enlaces de conexión del servicio de radiodifusión por satélite (SRS) y los enlaces descendentes	1992	BO/1994
BO.794	Techniques for minimizing the impact on the overall BSS system performance due to rain along the feeder-link path	Techniques visant à réduire l'effet que produit la pluie le long du trajet de la liaison de connexion sur la qualité globale des systèmes du SRS	Técnicas para reducir al mínimo el efecto de la influencia de la lluvia sobre el enlace de conexión respecto a las características generales de los sistemas del servicio de radiodifusión por satélite	1992	BO/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BO.795	Techniques for alleviating mutual interference between feeder links to the BSS	Techniques propres à réduire les brouillages mutuels entre liaisons de connexion du SRS	Técnicas para reducir la interferencia mutua entre los enlaces de conexión del servicio de radiodifusión por satélite (SRS)	1992	BO/1994
BO.1130-1	System for digital sound broadcasting to vehicular, portable and fixed receivers for broadcasting service satellite (sound) bands in the frequency range 1 400-2 700 MHz	Système de radiodiffusion sonore numérique par satellite (SRS) à destination des récepteurs à bord de véhicules, portatifs et fixes dans la gamme de fréquences 1 400-2 700 MHz	Sistema de radiodifusión sonora digital para receptores en vehículos, portátiles y fijos del servicio de radiodifusión (sonora) por satélite en la gama de frecuencias 1 400-2 700 MHz	1995	BO/1995
BO.1211	Digital multi-programme emission systems for television, sound and data services for satellites operating in the 11/12 GHz frequency range	Systèmes numériques d'émission multiprogramme de télévision, son et données pour satellites exploités dans la gamme de fréquences 11/12 GHz	Sistemas de transmisión digital multiprograma en servicios de televisión, sonido y datos mediante satélites que funcionan en la gama de frecuencias 11/12 GHz	1995	BO/1995
BO.1212	Calculation of total interference between geostationary-satellite networks in the broadcasting-satellite service	Calcul du brouillage total entre réseaux à satellite géostationnaire dans le service de radiodiffusion par satellite	Cálculo de la interferencia total entre las redes de satélites geoestacionarios del servicio de radiodifusión por satélite	1995	BO/1995
BO.1213	Reference receiving earth station antenna patterns for replanning purposes to be used in the revision of the WARC-77 BSS plans for Regions 1 and 3	Diagramme de référence pour antenne de station terrienne de réception à utiliser pour la replanification lors de la révision des plans du SRS (CAMR-77) pour les Régions 1 et 3	Diagramas de antena de estación terrena receptora de referencia que deben de utilizarse en la revisión de los planes para el servicio de radiodifusión por satélite en las Regiones 1 y 3 establecidos por la CAMR RS-77	1995	BO/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BO.1293	Protection masks and associated calculation methods for interference into broadcast satellite systems involving digital emissions	Gabarits de protection et méthodes de calcul asociées pour les brouillages causés aux systèmes de radiodiffusion par satellite dans le cas d'émissions numériques	Límites de protección y métodos de cálculo correspondientes para la interferencia causada a los sistemas de radiodifusión por sistemas de satélite en los que intervienen emisiones digitales	1997	Pink - 11/1001 ADD.1
BO.1294	Common functional requirements for the reception of digital multiprogramme television emissions by satellites operating in the 11/12 GHz frequency range	Caractéristiques fonctionnelles communes à respecter pour la réception d'émissions de télévision numérique multiprogramme par des satellites dans la gamme de fréquences 11/12 GHz	Requisitos funcionales comunes para la recepción de emisiones de televisión multiprograma digital por satélites que funcionan en la gama de frecuencias 11/12 GHz	1997	Pink - 10-11S/1005
BO.1295	Reference transmit earth station antenna off-axis e.i.r.p. patterns for planning purposes to be used in the revision of the Appendix 30A plans at 14 GHz and 17 GHz in Regions 1 and 3	Diagrammes de rayonnement de référence de la p.i.r.e. hors axe pour les antennes de stations terriennes d'émission à utiliser pour la planification lors de la révision des plans de l'Appendice 30A à 14 GHz et 17 GHz pour les Régions 1 et 3	Diagramas de la p.i.r.e. fuera del eje de la antena transmisora de la estación terrena de referencia para ser utilizados con fines de planificación en la revisión de los planes del Apéndice 30A en 14 GHz y 17 GHz en las Regiones 1 y 3	1997	Pink - 10-11S/1006
BO.1296	Reference receive space station antenna patterns for planning purposes to be used for elliptical beams in the revision of the Appendix 30A plans at 14 GHz and 17 GHz in Regions 1 and 3	Diagrammes de référence d'antenne de réception de station spatiale à utiliser pour la planification dans le cas de faisceaux elliptiques lors de la révision des plans de l'Appendice 30A à 14 et 17 GHz pour les Régions 1 et 3	Diagrama de referencia de las antenas de estaciones espaciales receptoras que se ha de utilizar con fines de planificación para haces elípticos al revisar los planes del Apéndice 30A a 14 GHz y 17 GHz en las Regiones 1 y 3	1997	Pink - 10-11S/1007
BO.1297	Protection ratios to be used for planning purposes in the revision of the Appendices 30 and 30A plans in Regions 1 and 3	Rapports de protection à utiliser pour la planification lors de la révision des plans des Appendices 30 et 30A pour les Régions 1 et 3	Relaciones de protección que se han de utilizar con fines de planificación al revisar los planes de los Apéndices 30 y 30A para las Regiones 1 y 3	1997	Pink - 10-11S/1008

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BR.265-8	Standards for the international exchange of programmes on film for television use	Normes pour l'échange international de programmes sur film pour utilisation en télévision	Normas para el intercambio internacional de programas grabados en película para utilizar en televisión	1997	Pink - 10-11R/1007
BR.407-4	International exchange of sound programmes recorded in analogue form	Echange international de programmes de radiodiffusion sonore enregistrés sous forme analogique	Intercambio internacional de programas de radiodifusión sonora grabados en forma analógica	1990	BR/1994
BR.408-6	Standards of sound recording on magnetic tape for the international exchange of programmes	Normes d'enregistrement du son sur bande magnétique pour l'échange international des programmes	Normas de grabación del sonido en cinta magnética para el intercambio internacional de programas	1992	BR/1994
BR.469-6	Analogue composite television tape recording. Standards for the international exchange of television programmes on magnetic tape	Enregistrement sur bande magnétique de la télévision analogique composite. Normes pour l'échange international de programmes de télévision sur bande magnétique	Grabación en cinta magnética de programas de televisión analógicos compuestos. Normas para el intercambio internacional de programas de televisión grabados en cinta magnética	1992	BR/1994
BR.501-2	Appraisal of programmes on colour film intended for television use	Evaluation des programmes enregistrés sur des films couleur destinés à être utilisés en télévision	Evaluación de programas grabados en película en color para utilizar en televisión	1990	BR/1994
BR.602-3	Exchange of television recordings for programme evaluation	Echange d'enregistrements de télévision pour l'évaluation des programmes	Intercambio de grabaciones de televisión para la evaluación de programas	1993	BR/1994
BR.648	Digital recording of audio signals	Enregistrement numérique des signaux audio	Grabación digital de señales de audio	1986	BR/1994
BR.649-1	Measuring methods for analogue audio tape recordings	Méthodes de mesure applicables aux enregistrements sonores analogiques sur bandes magnétiques	Métodos de medición para grabaciones sonoras analógicas en cinta magnética	1992	BR/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BR.657-2	Digital television tape recording. Standards for the international exchange of television programmes on magnetic tape	Enregistrement sur bande magnétique de la télévision numérique. Normes pour l'échange international de programmes de télévision sur bande magnétique	Grabación digital de programas de televisión en cinta magnética. Normas para el intercambio internacional de programas de televisión grabados en cinta magnética	1992	BR/1994
BR.713-1	Recording of HDTV images on film	Enregistrement d'images de TVHD sur film	Grabación de imágenes de TVAD en película cinematográfica	1997	Pink - 10-11R/1010
BR.714-1	International exchange of programmes electronically produced by means of high-definition television	Echange international de programmes produits électroniquement en télévision à haute définition	Intercambio internacional de programas producidos electrónicamente con medios de televisión de alta definición	1993	BR/1994
BR.715	International exchange of ENG recordings	Echange international d'enregistrements de reportages électroniques d'actualités	Intercambio internacional de grabaciones de reportajes electrónicos de noticias	1990	BR/1994
BR.716-2	Area of 35 mm motion picture film used in HDTV telecines	Surface des films cinématographiques 35 mm explorée par les télécinémas de TVHD	Zona de la película cinematográfica de 35 mm utilizada por los telecines de TVAD	1993	BR/1994
BR.777-2	International exchange of digital audio recordings	Echange international d'enregistrements audionumériques	Intercambio internacional de grabaciones audio digitales	1995	BR/1995
BR.778-1	Analogue component television tape recording. Standards for the international exchange of television programmes on magnetic tapes	Enregistrement sur bande de signaux de télévision en composantes analogiques. Normes pour l'échange international de programmes de télévision sur bande magnétique	Grabación en cinta magnética de programas de televisión de componentes analógicas. Normas para el intercambio internacional de programas de televisión grabados en cinta magnética	1993	BR/1994
BR.779-1	Operating practices for digital television recording	Pratiques d'exploitation recommandées pour l'enregistrement de télévision numérique	Prácticas operativas para la grabación de televisión digital	1997	Pink - 10-11R/1006

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BR.780	Time and control code standards for the international exchange of television programmes on magnetic tapes	Normes du code temporel de commande pour l'échange international de programmes de télévision sur bandes magnétiques	Normas de códigos de tiempo y control para el intercambio internacional de programas de televisión en cinta magnética	1992	BR/1994
BR.781-1	HDTV telecine colour balance for film programmes	Equilibre colorimétrique des télécinémas de TVHD pour les programmes sur film	Balance de color del telecine de TVAD para programas en película	1993	BR/1994
BR.782-1	Area of 35 mm print film used for 4:3 conventional television systems	Surface des copies d'exploitation 35 mm explorée par les systèmes de télévision classique 4:3	Zona de película en copia de distribución de 35 mm utilizada para los sistemas de televisión convencional 4:3	1993	BR/1994
BR.783-1	Area of 35 mm release print film used for conventional 16:9 television systems	Surface des copies d'exploitation 35 mm explorée par les systèmes de télévision classique 16:9	Zona de película en copia de distribución de 35 mm utilizada para los sistemas de televisión de resolución convencional con formato 16:9	1993	BR/1994
BR.784	Exchange of television programmes on 16-mm film with two synchronous sound tracks on a separate support	Echange de programmes de télévision sur film 16 mm avec deux pistes audio synchrones sur supports séparés	Intercambio de programas de televisión en película de 16 mm con dos pistas de sonido síncronas en soporte separado	1992	BR/1994
BR.785	The release of programmes in a multimedia environment	Distribution de programmes dans un environnement multimédia	Difusión de programas en un entorno multimedios	1992	BR/1994
BR.1214	Studio recording of sound-broadcasting programmes on magnetic tape for release on multi-programme digital channels	Enregistrement en studio de programmes de radiodiffusion sonore pour la diffusion numérique sur des canaux multiprogrammes	Grabación en estudio de programas de radiodifusión sonora en cinta magnética para la distribución en canales digitales multiprograma	1995	BR/1995
BR.1215	Handling and storage of television and sound recordings on magnetic tape	Gestion et archivage de bandes magnétiques enregistrées (son et télévision)	Manipulación y almacenamiento de grabaciones sonoras y de televisión en cinta magnética	1995	BR/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BR.1216	Recording of television programmes on magnetic tape in the case when several programmes are broadcast in the same digital multiplex	Enregistrement sur bande magnétique de programmes de télévision lorsque plusieurs programmes sont diffusés dans le même multiplex numérique	Grabación de los programas de televisión en cinta magnética para su difusión en un mismo canal múltiplex digital	1995	BR/1995
BR.1217	Recording of pan-scan data of 16:9 recordings within the user bits of the longitudinal time code	Intégration des données de panoramage des enregistrements en 16:9 dans les bits utilisateur du code temporel longitudinal	Integración de los datos de barrido panorámico de grabaciones 16:9 en los bits de usuario del código horario longitudinal	1995	BR/1995
BR.1218	Recording of teletext on future digital recorder for consumer use	Enregistrement de données de télétexte sur les futurs magnétoscopes numériques grand public	Grabación de teletexto en los futuros magnetoscopios digitales de uso doméstico	1995	BR/1995
BR.1219	Handling and storage of cinematographic film recording	Manipulation et stockage des enregistrements sur film cinématographique	Manipulación y almacenamiento de grabaciones de películas cinematográficas	1995	BR/1995
BR.1220	Requirements for the generation, recording and presentation of HDTV programmes intended for release in the "electronic cinema"	Conditions de production, d'enregistrement et de présentation des programmes de TVHD destinés au «cinéma électronique»	Requisitos para la generación, grabación y presentación de programas de TVAD destinados a su distribución en «cine electrónico»	1995	BR/1995
BR.1287	Broadcasting of programmes on film with multichannel sound	Radiodiffusion de programmes sur film comportant un son multivoies	Radiodifusión de programas en película con sonido multicanal	1997	Pink - 10-11R/1005
BR.1288	Scanned area of 16 and 35 mm release film used for 4:3 television	Surface de balayage des copies d'exploitation de films 16 mm et 35 mm destinés à la télévision 4:3	Zona explorada de película en copia de distribución de 16 y 35 mm utilizada para los sistemas de televisión convencional 4:3	1997	Pink - 10-11R/1008

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BR.1289	Scanned area of 16 and 35 mm release film used for 16:9 television	Surface de balayage des copies d'exploitation de films 16 mm et 35 mm destinés à la télévision 16:9	Zona explorada de película en copia de distribución de 16 mm y 35 mm utilizada para los sistemas de televisión convencional 16:9	1997	Pink - 10-11R/1009
BR.1290	Use of television disk recording in broadcasters' operations	Utilisation d'enregistrements sur vidéodisque en radiodiffusion	Utilización de grabaciones de televisión en disco en las operaciones de los organismos de radiodifusión	1997	Pink - 10-11R/1011
BR.1291	Scanned area of super 16 mm film for production and post-production in 16:9 television systems	Surface de balayage du film super 16 mm pour applications de production et de post-production dans les systèmes de télévision 16:9	Área de barrido de la película super 16 mm para aplicaciones de producción y post-producción en sistemas de televisión 16:9	1997	Pink - 10-11R/1012
BR.1292	Engineering guidelines for television post-production	Directives techniques pour la post-production de télévision	Directrices técnicas para la postproducción de televisión	1997	Pink - 10-11R/1013
BS.48-2	Choice of frequency for sound-broadcasting in the Tropical Zone	Choix des fréquences pour la radiodiffusion sonore dans la Zone tropicale	Elección de frecuencias para la radiodifusión en la Zona Tropical	1986	BS/1994
BS.80-3	Transmitting antennas in HF broadcasting	Antennes d'émission en radiodiffusion (B.dam)	Antenas de emisión para radiodifusión en ondas decamétricas	1990	BS/1994
BS.139-3	Transmitting antennas for sound broadcasting in the Tropical Zone	Antennes d'émission pour la radiodiffusion sonore dans la Zone tropicale	Antenas transmisoras para la radiodifusión en la Zona Tropical	1990	BS/1994
BS.215-2	Maximum transmitter powers for broadcasting in the Tropical Zone	Puissances maximales des émetteurs de radiodiffusion sonore dans la Zone tropicale	Límites de potencia de los transmisores de radiodifusión sonora en la Zona Tropical	1982	BS/1994
BS.216-2	Protection ratio for sound broadcasting in the Tropical Zone	Rapport de protection pour la radiodiffusion sonore dans la Zone tropicale	Relación de protección para la radiodifusión sonora en la Zona Tropical	1982	BS/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BS.411-4	Fading allowances in HF broadcasting	Marges contre les évanouissements en radiodiffusion (B.dam)	Márgenes contra los desvanecimientos en radiodifusión (ondas decamétricas)	1990	BS/1994
BS.412-7	Planning standards for FM sound broadcasting at VHF	Normes de planification pour la radiodiffusion sonore à modulation de fréquence en ondes métriques	Normas para la planificación de la radiodifusión sonora con modulación de frecuencia en ondas métricas	1995	BS/1995
BS.415-2	Minimum performance specifications for low-cost sound-broadcasting receivers	Spécifications des caractéristiques minimales des récepteurs de radiodiffusion sonore à prix modique	Especificaciones mínimas de los receptores de radiodifusión sonora de precio módico	1986	BS/1994
BS.450-2	Transmission standards for FM sound broadcasting at VHF	Normes d'émission pour la radiodiffusion sonore à modulation de fréquence en ondes métriques	Normas de transmisión para radiodifusión sonora con modulación de frecuencia en ondas métricas	1995	BS/1995
BS.467	Technical characteristics to be checked for frequency-modulation stereophonic broadcasting. Pilot-tone system	Caractéristiques techniques des émissions de radiodiffusion stéréophonique à modulation de fréquence qu'il convient de contrôler. Système à fréquence pilote	Características técnicas de las transmisiones de radiodifusión estereofónica con modulación de frecuencia que han de ser controladas. Sistema de frecuencia piloto	1970	BS/1994
BS.468-4	Measurement of audio-frequency noise voltage level in sound broadcasting	Mesure du niveau de tension des bruits audiofréquence en radiodiffusion sonore	Medición del nivel de tensión del ruido de audiofrecuencia en radiodifusión sonora	1986	BS/1994
BS.498-2	Ionospheric cross-modulation in the LF and MF broadcasting bands	Transmodulation ionosphérique en radiodiffusion en ondes kilométriques (B.km) et hectométriques (B.hm)	Transmodulación ionosférica en las bandas de radiodifusión de ondas kilométricas y hectométricas	1990	BS/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BS.559-2	Objective measurement of radio-frequency protection ratios in LF, MF and HF broadcasting	Mesure objective des rapports de protection RF en radiodiffusion (B.km, B.hm et B.dam)	Medición objetiva de las relaciones de protección en radiofrecuencia en las bandas de radiodifusión por ondas kilométricas, hectométricas y decamétricas	1990	BS/1994
BS.560-4	Radio-frequency protection ratios in LF, MF, and HF broadcasting	Rapports de protection en radiofréquence pour la radiodiffusion en ondes kilométriques, hectométriques et décamétriques	Relaciones de protección en radiofrecuencia para la radiodifusión en ondas kilométricas, hectométricas y decamétricas	1997	Pink - 10/1005
BS.561-2	Definitions of radiation in LF, MF and HF broadcasting bands	Définitions du rayonnement en radiodiffusion (B.km, B.hm et B.dam)	Definiciones de la radiación en radiodifusión (ondas kilométricas, hectométricas y decamétricas)	1986	BS/1994
BS.562-3	Subjective assessment of sound quality	Evaluation subjective de la qualité du son	Evaluación subjetiva de la calidad del sonido	1990	BS/1994
BS.597-1	Channel spacing for sound broadcasting in band 7 (HF)	Espacement des canaux pour la radiodiffusion sonore dans la bande 7 (ondes décamétriques)	Separación entre canales para la radiodifusión sonora en la banda 7 (ondas decamétricas)	1986	BS/1994
BS.598-1	Factors influencing the limits of amplitude-modulation sound-broadcasting coverage in band 6 (MF)	Facteurs influençant la couverture en radiodiffusion sonore à modulation d'amplitude dans la bande 6 (ondes hectométriques)	Factores que influyen en los límites de la zona de cobertura en radiodifusión sonora con modulación de amplitud en la banda 6 (ondas hectométricas)	1990	BS/1994
BS.599	Directivity of antennas for the reception of sound broadcasting in band 8 (VHF)	Directivité des antennes de réception de radiodiffusion sonore dans la bande 8 (ondes métriques)	Directividad de las antenas de recepción en radiodifusión sonora en la banda 8 (ondas métricas)	1982	BS/1994
BS.638	Terms and definitions used in frequency planning for sound broadcasting	Termes et définitions utilisés dans la planification des fréquences pour la radiodiffusion sonore et télévisuelle	Términos y definiciones utilizados en la planificación de frecuencias para radiodifusión sonora	1986	BS/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BS.639	Necessary bandwidth of emission in LF, MF and HF broadcasting	Largeur de bande nécessaire à l'émission pour la radiodiffusion à ondes kilométriques, hectométriques et décamétriques	Anchura de banda necesaria para la emisión en radiodifusión (ondas kilométricas, hectométricas y decamétricas)	1986	BS/1994
BS.640-3	Single sideband (SSB) system for HF broadcasting	Système à bande latérale unique (BLU) en radiodiffusion à ondes décamétriques	Sistema de banda lateral única (BLU) para la radiodifusión en ondas decamétricas	1997	Pink - 10/1006
BS.641	Determination of radio-frequency protection ratios for frequency-modulated sound broadcasting	Détermination des rapports de protection RF en radiodiffusion sonore à modulation de fréquence	Determinación de la relación de protección en radiofrecuencia en la radiodifusión sonora con modulación de frecuencia	1986	BS/1994
BS.642-1	Limiters for high-quality sound-programme signals	Limiteurs pour signaux de programmes radiophoniques de haute qualité	Limitadores para las señales de programas radiofónicos de alta calidad	1990	BS/1994
BS.643-2	System for automatic tuning and other applications in FM radio receivers for use with the pilot-tone system	Système destiné à l'accord automatique ainsi qu'à d'autres fonctions dans les récepteurs de radiodiffusion MF et utilisable avec le système à fréquence pilote	Sistema para la sincronización automática y otras aplicaciones en los receptores radiofónicos con modulación de frecuencia para su utilización con el sistema de frecuencia piloto	1995	BS/1995
BS.644-1	Audio quality parameters for the performance of a high-quality sound-programme transmission chain	Caractéristiques de qualité en audiofréquence applicables à une chaîne de transmission radiophonique de haute qualité	Parámetros de calidad en audiofrecuencia de una cadena de transmisión radiofónica de alta calidad	1990	BS/1994
BS.645-2	Test signals and metering to be used on international sound-programme connections	Signaux d'essai et instruments de mesure pour les liaisons radiophoniques internationales	Señales de prueba y métodos de medida para los enlaces radiofónicos internacionales	1992	BS/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BS.646-1	Source encoding for digital sound signals in broadcasting studios	Codage à la source des signaux audionumériques dans les studios de radiodiffusion	Codificación en la fuente de las señales de sonido digitales en los estudios de producción de radiodifusión	1992	BS/1994
BS.647-2	A digital audio interface for broadcasting studios	Interface audionumérique pour les studios de radiodiffusion	Interfaz audio digital para los estudios de radiodifusión	1992	BS/1994
BS.702-1	Synchronization and multiple frequency use per programme in HF broadcasting	Synchronisation et utilisation de fréquences multiples par programme dans la radiodiffusion en ondes décamétriques	Sincronización y utilización de múltiples frecuencias por programa en la radiodifusión por ondas decamétricas	1992	BS/1994
BS.703	Characteristics of AM sound broadcasting reference receivers for planning purposes	Caractéristiques de récepteurs de référence de radiodiffusion sonore à modulation d'amplitude à des fins de planification	Características de los receptores de referencia de radiodifusión sonora con modulación de amplitud para fines de planificación	1990	BS/1994
BS.704	Characteristics of FM sound broadcasting reference receivers for planning purposes	Caractéristiques des récepteurs de référence de radiodiffusion sonore en modulation de fréquence à des fins de planification	Características de los receptores de referencia de radiodifusión sonora con modulación de frecuencia para fines de planificación	1990	BS/1994
BS.705-1	HF transmitting and receiving antennas characteristics and diagrams	Caractéristiques et diagrammes de rayonnement des antennes d'émission et de réception en ondes décamétriques	Características y diagramas de las antenas transmisoras y receptoras en ondas decamétricas	1995	Recs. 705 and 1195
BS.706-1	Data system in monophonic AM sound broadcasting (AMDS)	Système de diffusion de données en radiodiffusion sonore monophonique en modulation d'amplitude (AMDS)	Sistema de transmisión de datos en radiodifusión sonora monofónica con modulación de amplitud (AMDS)	1992	BS/1994
BS.707-2	Transmission of multi-sound in terrestrial television systems PAL B, G, H, and I, and SECAM L	Emission de plusieurs voies son dans les systèmes de télévision de Terre PAL B, G, H et I et SECAM L	Transmisión de varios canales de sonido en sistemas de televisión terrenales PAL B, G, H, I y SECAM L	1995	BS/1995

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BS.708	Determination of the electro-acoustical properties of studio monitor headphones	Détermination des propriétés électroacoustiques des casques de contrôle pour studio	Determinación de las características electroacústicas de los auriculares de control utilizados en estudios	1990	BS/1994
BS.773	Radio-frequency protection ratios required by FM sound broadcasting in the band between 87.5 MHz and 108 MHz against interference from D/SECAM television transmissions	Rapports de protection RF nécessaires pour la radiodiffusion sonore MF dans la bande 87,5 à 108 MHz, relatifs aux brouillages dus aux émissions de télévision D/SECAM	Relaciones de protección en radiofrecuencia para la radiodifusión sonora MF en la banda 87,5-108 MHz contra la interferencia procedente de emisiones de televisión D/SECAM	1992	BS/1994
BS.774-2	Service requirements for digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the VHF/UHF bands	Exigences de service pour la radiodiffusion sonore numérique à destination de récepteurs fixes, portatifs ou placés à bord de véhicules au moyen d'émetteurs de Terre en ondes métriques et décimétriques	Necesidades del servicio relativo a la radiodifusión sonora digital para receptores a bordo de vehículos, portátiles y fijos, mediante transmisores terrenales, en las bandas de ondas métricas y decimétricas	1995	BS/1995
BS.775-1	Multichannel stereophonic sound system with and without accompanying picture	Système de son stéréophonique multicanal avec ou sans image associée	Sistema de sonido estereofónico multicanal con y sin acompañamiento de imagen	1993	BS/1994
BS.776	Format for user data channel of the digital audio interface	Format de la voie de données d'utilisateur dans l'interface audionumérique	Formato para el canal de datos de usuario de la interfaz audio digital	1992	BS/1994
BS.1114-1	Systems for terrestrial digital sound broadcasting to vehicular, portable and fixed receivers in the frequency range 30 - 3 000 MHz	Systèmes de radiodiffusion sonore numérique de Terre à destination de récepteurs fixes, portatifs ou placés à bord de véhicules, fonctionnant dans la gamme de fréquences de 30-3 000 MHz	Sistemas de radiodifusión sonora digital terrenal para receptores de vehículos, portátiles y fijos en la gama de frecuencias 30-3 000 MHz	1995	BS/1995

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BS.1115	Low bit-rate audio coding	Codage audio à faible débit binaire	Codificación del sonido a baja velocidad binaria	1993	BS/1994
BS.1116-1	Methods for the subjective assessment of small impairments in audio systems including multichannel sound systems	Méthodes d'évaluation subjective des dégradations faibles dans les systèmes audio y compris les systèmes sonores multivoies	Métodos para la evaluación subjetiva de pequeñas degradaciones en los sistemas de audio incluyendo los sistemas de sonido multicanal	1997	Pink - 10/1007
BS.1194	System for multiplexing FM sound broadcasts with a sub-carrier data channel having a relatively large transmission capacity for stationary and mobile reception	Système de multiplexage de signaux de radiodiffusion sonore MF avec une voie de données sur sous-porteuse ayant une grande capacité de transmission pour réception fixe et mobile	Sistema de multiplexión de emisiones de radiodifusión sonora con modulación de frecuencia MF con canal de datos en subportadora y capacidad de transmisión relativamente elevada para recepción fija y móvil	1995	BS/1995
BS.1195	Transmitting antenna characteristics at VHF and UHF	Caractéristiques des antennes d'émission en ondes métriques et décimétriques	Características de antenas transmisoras en ondas métricas y decimétricas	1995	Recs. 705 and 1195
BS.1196	Audio coding for digital terrestrial television broadcasting	Codage audio pour la radiodiffusion de télévision numérique par voie de Terre	Codificación de audio para la radiodifusión de la televisión terrenal digital	1995	BS/1995
BS.1283	Subjective assessment of sound quality - a guide to existing Recommendations	Évaluation subjective de la qualité du son - guide des Recommandations existantes	Evaluación subjetiva de la calidad de sonido - Guía para las Recomendaciones existentes	1997	Pink - 10/1008
BS.1284	Methods for the subjective assessment of sound quality - general requirements	Méthodes d'évaluation subjective de la qualité du son - conditions générales à respecter	Métodos para la evaluación subjetiva de la calidad de sonido - Requisitos generales	1997	Pink - 10/1009

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BS.1285	Pre-selection methods for the subjective assessment of small impairments in audio systems	Méthodes de présélection pour l'évaluation subjective des dégradations faibles dans les systèmes audio	Métodos de preselección para la evaluación subjetiva de pequeñas degradaciones en los sistemas de audio	1997	Pink - 10/1010
BS.1286	Methods for the subjective assessment of audio systems with accompanying picture	Méthodes d'évaluation subjective des systèmes audio avec image d'accompagnement	Métodos para la evaluación subjetiva de los sistemas de audio con acompañamiento de imagen	1997	Pink - 10/1011
BT.266-1	Phase pre-correction of television transmitters	Précorrection de phase des émetteurs de télévision	Precorrección de fase de los transmisores de televisión	1992	BT/1994
BT.417-4	Minimum field strengths for which protection may be sought in planning a television service	Valeurs minimales du champ pour lesquelles on peut être amené à prévoir une protection lorsqu'on établit les plans d'un service de télévision	Intensidad de campo mínima que puede ser necesario proteger al establecer los planes de un servicio de televisión	1992	BT/1994
BT.419-3	Directivity and polarization discrimination of antennas in the reception of television broadcasting	Directivité et discrimination des polarisations des antennes de réception en radiodiffusion télévisuelle	Directividad y discriminación por polarización de las antenas para recepción en la radiodifusión de televisión	1992	BT/1994
BT.470-4	Television systems	Systèmes de télévision	Sistemas de televisión	1995	BT/1995
BT.471-1	Nomenclature and description of colour bar signals	Nomenclature et description des signaux de barre de couleur	Nomenclatura y descripción de las señales de barra de color	1986	BT/1994
BT.472-3	Video-frequency characteristics of a television system to be used for the international exchange of programmes between countries that have adopted 625-line colour or monochrome systems	Caractéristiques en vidéofréquence d'un système de télévision à utiliser pour l'échange international des programmes entre les pays qui ont adopté des systèmes en couleur ou monochromes à 625 lignes	Características en videofrecuencia de un sistema de televisión para intercambio internacional de programas entre países que han adoptado sistemas en blanco y negro o en color de 625 líneas	1990	BT/1994

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BT.500-7	Methodology for the subjective assessment of the quality of television pictures	Méthodologie d'évaluation subjective de la qualité des images de télévision	Metodología para la evaluación subjetiva de la calidad de las imágenes de televisión	1995	BT/1995
BT.565	Protection ratios for 625-line television against radionavigation transmitters operating in the shared bands between 582 and 606 MHz	Rapports de protection de la télévision à 625 lignes contre les émetteurs de radionavigation fonctionnant dans les bandes partagées entre 582 et 606 MHz	Relaciones de protección para la televisión de 625 líneas contra los transmisores de radionavegación que trabajan en la banda compartida comprendida entre 582 y 606 MHz	1978	BT/1994
BT.601-5	Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios	Paramètres de codage en studio de la télévision numérique pour des formats standards d'image 4:3 (normalisé) et 16:9 (écran panoramique)	Parámetros de codificación de televisión digital para estudios con formatos de imagen normal 4:3 de pantalla ancha 16:9	1995	BT/1995
BT.653-2	Teletext systems	Systèmes de télétexte	Sistemas de teletexto	1993	BT/1994
BT.654	Subjective quality of television pictures in relation to the main impairments of the analogue composite television signal	Qualité subjective des images de télévision en relation avec les principales dégradations du signal de télévision composite analogique	Calidad subjetiva de las imágenes de televisión en relación con las principales degradaciones de la señal de televisión compuesta analógica	1986	BT/1994
BT.655-4	Radio-frequency protection ratios for AM vestigial sideband terrestrial television systems	Rapports de protection en radiofréquence pour les systèmes de télévision de Terre à modulation d'amplitude à bande latérale résiduelle	Relaciones de protección en radiofrecuencia para sistemas de televisión terrenal con modulación de amplitud de banda lateral residual	1995	BT/1995
BT.656-3	Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601 [Part A]	Interfaces pour les signaux vidéo numériques en composantes dans les systèmes de télévision à 525 lignes et à 625 lignes fonctionnant au niveau 4:2:2 de la Recommandation UIT-R BT.601 [Partie A]	Interfaces para las señales de vídeo con componentes digitales en sistemas de televisión de 525 líneas y 625 líneas que funcionan en el nivel 4:2:2 de la Recomendación UIT-R BT.601 (Parte A)	1995	BT/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BT.709-2	Parameter values for the HDTV standards for production and international programme exchange	Valeurs des paramètres des normes de TVHD pour la production et l'échange international des programmes	Valores de los parámetros de la norma de TVAD para la producción y el intercambio internacional de programas	1995	BT/1995
BT.710-3	Subjective assessment methods for image quality in high-definition television	Méthodes d'évaluation subjective de la qualité d'image de télévision à haute définition	Métodos de evaluación subjetiva de la calidad de las imágenes en sistemas de televisión de alta definición	1997	Pink - 11/1020
BT.711-1	Synchronizing reference signals for the component digital studio	Signaux de synchronisation de référence pour studio numérique en composantes	Señales de sincronización de referencia para los estudios de televisión con componentes digitales	1990	BT/1994
BT.796	Parameters for enhanced compatible coding systems based on 625-line PAL and SECAM television systems	Caractéristiques des systèmes de codage améliorés compatibles fondés sur les systèmes de télévision PAL et SECAM 625 lignes	Parámetros para sistemas de codificación compatible mejorados basados en los sistemas de televisión PAL y SECAM de 625 líneas	1992	BT/1994
BT.797-1	Parameters for 4:3 enhanced television systems that are NTSC-compatible	Caractéristiques des systèmes de télévision améliorée de format 4:3 compatibles avec le NTSC	Parámetros de sistemas de televisión mejorada de formato 4:3 que son compatibles con el sistema NTSC	1993	BT/1994
BT.798-1	Digital terrestrial television broadcasting in the VHF/UHF bands	Radiodiffusion télévisuelle numérique de Terre dans les bandes d'ondes métriques et décimétriques	Radiodifusión terrenal de TV digital en las bandas de ondas métricas y decimétricas	1993	BT/1994
BT.799-2	Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:4:4 level of Recommendation ITU-R BT.601 [Part A]	Interfaces pour les signaux vidéo numériques en composantes dans les systèmes de télévision à 525 lignes et à 625 lignes fonctionnant au niveau 4:4:4 de la Recommandation UIT-R BT.601 [Partie A]	Interfaces para las señales de vídeo con componentes digitales en sistemas de televisión de 525 líneas y 625 líneas que funcionan en el nivel 4:4:4 de la Recomendación UIT-R BT.601 (Parte A)	1995	BT/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BT.800-2	User requirements for the transmission through contribution and primary distribution networks of digital television signals defined according to the 4:2:2 standard of Recommendation ITU-R BT.601 [Part A]	Besoins des usagers pour la transmission sur des réseaux de contribution et de distribution primaire des signaux de télévision numérique conformes à la norme 4:2:2 de la Recommandation UIT-R BT.601 [Partie A]	Requisitos de usuario para la transmisión por redes de contribución y de distribución primaria de señales digitales de televisión definidas conforme a la norma 4:2:2 de la Recomendación UIT-R BT.601 (Parte A)	1995	BT/1995
BT.801-1	Test signals for digitally encoded colour television signals conforming with Recommendations ITU-R BT.601 [Part A] and ITU.R BT.656	Signaux d'essai pour signaux de télévision couleur codés en numérique et conformes aux Recommandations UIT-R BT.601 [Partie A] et UIT-R BT.656	Señales de prueba para señales de televisión en color con codificación digital conformes a las Recomendaciones UIT-R BT.601 (Parte A) y UIT-R BT.656	1995	BT/1995
BT.802-1	Test pictures and sequences for subjective assessments of digital codecs conveying signals produced according to Recommendation ITU-R BT.601	Images et séquences d'essai pour l'évaluation subjective des codecs numériques véhiculant des signaux produits conformément à la Recommandation UIT-R BT.601	Imágenes y secuencias de prueba para las evaluaciones subjetivas de códecs digitales que cursan señales producidas conforme a la Recomendación UIT-R BT.601	1993	BT/1994
BT.803	The avoidance of interference generated by digital television studio equipment	Mesures visant à éviter les brouillages produits par l'équipement de studio de télévision numérique	Medidas para evitar la interferencia generada por los equipos de televisión digital de estudio	1992	BT/1994
BT.804	Characteristics of TV receivers essential for frequency planning with PAL/SECAM/NTSC television systems	Caractéristiques des récepteurs de télévision essentielles pour la planification des fréquences avec les systèmes de télévision PAL/SECAM/NTSC	Características de los receptores de televisión que resultan esenciales para la planificación de frecuencias de los sistemas de televisión PAL/SECAM/NTSC	1992	BT/1994
BT.805	Assessment of impairment caused to television reception by a wind turbine	Evaluation des dégradations de la réception de la télévision dues aux éoliennes	Efecto de la degradación causada a la recepción de televisión por una turbina eólica	1992	BT/1994

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BT.806	Common channel raster for the distribution of D-MAC, D2-MAC and HD-MAC signals in collective antenna and cable distribution systems	Gabarit de canal commun pour la distribution des signaux D-MAC, D2-MAC et HD-MAC sur les systèmes d'antennes collectives et de distribution par câble	Canalización común para la distribución de señales D-MAC, D2-MAC y HD-MAC en sistemas de antenas colectivas y de distribución por cable	1992	BT/1994
BT.807	Reference model for data broadcasting	Modèle de référence pour la radiodiffusion de données	Modelo de referencia para la radiodifusión de datos	1992	BT/1994
BT.808	The broadcasting of time and date information in coded form	Radiodiffusion d'informations codées d'heure et de date	Radiodifusión de información codificada de hora y fecha	1992	BT/1994
BT.809	Programme delivery control (PDC) system for video recording	Système de commande de messagerie de programmes (PDC) pour l'enregistrement vidéo	Sistema de control de entrega de programas (CEP) para grabaciones de vídeo	1992	BT/1994
BT.810	Conditional-access broadcasting systems	Systèmes de radiodiffusion à accès conditionnel	Sistemas de radiodifusión de acceso condicional	1992	BT/1994
BT.811-1	The subjective assessment of enhanced PAL and SECAM systems	Evaluation subjective des systèmes de télévision PAL et SECAM améliorés	Evaluación subjetiva de los sistemas PAL y SECAM mejorados	1993	BT/1994
BT.812	Subjective assessment of the quality of alphanumeric and graphic pictures in Teletext and similar services	Evaluation subjective de la qualité des images alphanumériques et graphiques en télétexte et dans des services similaires	Evaluación subjetiva de la calidad de las imágenes alfanuméricas y gráficas en servicios de teletexto y similares	1992	BT/1994
BT.813	Methods for objective picture quality assessment in relation to impairments from digital coding of television signals	Méthodes d'évaluation objective de la qualité de l'image en fonction des dégradations qui résultent du codage numérique des signaux de télévision	Métodos de evaluación de la calidad de la imagen en relación con las degradaciones debidas a la codificación digital de las señales de televisión	1992	BT/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BT.814-1	Specifications and alignment procedures for setting of brightness and contrast of displays	Spécifications et méthodes de réglage de la brillance et du contraste des dispositifs de visualisation	Especificaciones y procedimientos de ajuste para establecer el brillo y el contraste en las pantallas	1993	BT/1994
BT.815-1	Specification of a signal for measurement of the contrast ratio of displays	Spécification d'un signal de mesure du contraste des dispositifs de visualisation	Especificación de una señal para medir la relación de contraste de las pantallas	1993	BT/1994
BT.1117-2	Studio format parameters for enhanced 16:9 aspect ratio 625-line television systems (D-and D2-MAC, PALplus, enhanced SECAM)	Caractéristiques du format studio pour les systèmes de télévision améliorée à 625 lignes de format 16:9 (D-MAC et D2-MAC, PALplus, SECAM amélioré)	Parámetros del formato de estudio para los sistemas de televisión mejorada 16:9 de 625 líneas (D-MAC y D2-MAC, PALplus, SECAM mejorado)	1997	Pink - 11/1005
BT.1118-1	Enhanced compatible widescreen television based on conventional television systems	Télévision compatible améliorée à écran large utilisant des systèmes de télévision classiques	Televisión mejorada compatible de pantalla ancha basada en los sistemas de televisión convencionales	1997	Pink - 11/1006
BT.1119-1	Widescreen signalling for broadcasting (Signalling for widescreen and other enhanced television parameters)	Signalisation «écran large» pour la radiodiffusion (signalisation pour les caractéristiques «écran large» ou autres de télévision améliorée)	Señalización de pantalla ancha para radiodifusión. Señalización para pantalla ancha y otros parámetros de la televisión mejorada	1995	BT/1995
BT.1120	Digital interfaces for 1125/60/2:1 and 1250/50/2:1 HDTV studio signals	Interfaces numériques pour les signaux de TVHD en studio 1125/60/2:1 et 1250/50/2:1	Interfaces digitales para las señales de estudio de TVAD de los sistemas 1125/60/2:1 y 1250/50/2:1	1993	BT/1994
BT.1121-1	User requirements for the transmission through contribution and primary distribution network of digital HDTV signals	Besoins des usagers pour la transmission sur des réseaux de contribution ou de distribution primaire de signaux de TVHD numériques	Requisitos de usuario para la transmisión de señales digitales de televisión de alta definición a través de redes de contribución y de distribución primaria	1995	BT/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BT.1122-1	User requirements for emission and secondary distribution systems for SDTV, HDTV and hierarchical coding schemes	Besoins des usagers pour les systèmes d'émission et de distribution secondaire de TVDN, TVHD et les schémas de codage hiérarchique	Requisitos de usuario para los sistemas de emisión y de distribución secundaria con esquemas de codificación para televisión convencional, TVAD y televisión jerárquica	1995	BT/1995
BT.1123	Planning methods for 625-line terrestrial television in VHF/UHF bands	Méthodes de planification pour la télévision de Terre (systèmes à 625 lignes) dans les bandes métriques et décimétriques	Métodos de planificación para la televisión terrenal de 625 líneas en las bandas de ondas métricas (VHF) y decimétricas (UHF)	1993	BT/1994
BT.1124-1	Reference signals for ghost cancelling in television	Signaux de référence pour l'annulation d'images fantômes en télévision	Señales de referencia para la compensación de imágenes fantasma en la televisión	1995	BT/1995
BT.1125	Basic objectives for the planning and implementation of digital terrestrial television broadcasting systems	Objectifs fondamentaux de la planification et de la mise en œuvre des systèmes de radiodiffusion de télévision numérique de Terre	Objetivos básicos para la planificación y realización de sistemas de radiodifusión terrenal de televisión digital	1993	BT/1994
BT.1126	Data transmission protocols and transmission control scheme for data broadcasting systems using a data channel in satellite television broadcasting	Protocoles de transmission de données et schéma de contrôle de la transmission pour les systèmes de radiodiffusion de données utilisant un canal de données de radiodiffusion télévisuelle par satellite	Protocolos de transmisión de datos y métodos de control de la transmisión para los sistemas de radiodifusión de datos que utilizan un canal de datos de radiodifusión de televisión por satélite	1993	BT/1994
BT.1127	Relative quality requirements of television broadcast systems	Exigences de qualité relative des systèmes de radiodiffusion télévisuelle	Requisitos en materia de calidad relativa de los sistemas de televisión	1993	BT/1994
BT.1128-2	Subjective assessment of conventional television systems	Évaluation subjective des systèmes de télévision classiques	Evaluación subjetiva de los sistemas de televisión convencional	1997	Pink - 11/1019

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
BT.1129-1	Subjective assessment of standard definition digital television (SDTV) systems	Évaluation subjective des systèmes de télévision numérique à définition normale (TVDN)	Evaluación subjetiva de sistemas de televisión digital con definición normalizada (SDTV)	1995	BT/1995
BT.1197	Enhanced wide-screen PAL TV transmission system (the PALplus system)	Système PAL de télévision améliorée à écran large (système PALplus)	Sistema de transmisión de televisión PAL de pantalla ancha mejorada (sistema PALplus)	1995	BT/1995
BT.1198	Stereoscopic television based on R- and L-eye two channel signals	Télévision stéréoscopique basée sur deux voies œil droit et œil gauche	Televisión estereoscópica basada en dos señales de canal de ojo derecho y ojo izquierdo	1995	BT/1995
BT.1199	Use of bit-rate reduction in the HDTV studio environment	Utilisation de la réduction du débit binaire dans l'environnement d'un studio de TVHD	Empleo de reducción de la velocidad binaria en el entorno del estudio de televisión de alta definición	1995	BT/1995
BT.1200	Target standard for digital video systems for the studio and for international programme exchange	Norme ciblée relative aux systèmes vidéo numériques utilisés en studio et pour l'échange international de programmes	Norma objetivo para los sistemas de vídeo digitales destinados a los estudios y al intercambio internacional de programas	1995	BT/1995
BT.1201	Extremely high resolution imagery	Imagerie à ultra-haute résolution	Imágenes de muy alta resolución	1995	BT/1995
BT.1202	Displays for future television systems	Écrans pour les futurs systèmes de télévision	Pantallas para futuros sistemas de televisión	1995	BT/1995
BT.1203	User requirements for generic bit-rate reduction coding of digital TV signals (SDTV, EDTV and HDTV) for an end-to-end television system	Besoins des usagers en matière de systèmes génériques de codage à réduction de débit binaire des signaux de télévision numérique (TVDN, TVDA, TVHD) pour un système de télévision de bout en bout	Requisitos de usuario para la codificación genérica con reducción de velocidad binaria de señales digitales de televisión (SDTV, EDTV y TVAD) para un sistema de televisión de extremo a extremo	1995	BT/1995
BT.1204	Measuring methods for digital video equipment with analogue input/output	Méthodes de mesure pour des équipements vidéo numériques à entrée/sortie analogiques	Métodos de medición de equipos videodigitales con entrada/salida analógica	1995	BT/1995

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BT.1205	User requirements for the quality of baseband SDTV and HDTV signals when transmitted by digital satellite news gathering (SNG)	Besoins des usagers concernant la qualité des signaux de TVDN et de TVHD en bande de base transmis par des moyens de reportages d'actualités par satellite (RAS) numériques	Requisitos de usuario para la calidad de las señales de televisión de definición convencional y de alta definición en banda base transmitidas mediante periodismo electrónico por satélite digital (SNG)	1995	BT/1995
BT.1206	Spectrum shaping limits for digital terrestrial television broadcasting	Limites de mise en forme du spectre pour la radiodiffusion télévisuelle numérique de Terre	Límites de conformación del espectro para la radiodifusión de televisión terrenal	1995	BT/1995
BT.1207-1	Data access methods for digital terrestrial television broadcasting	Méthodes d'accès aux données pour la radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Métodos de acceso a las señales de radiodifusión de televisión terrenal digital	1997	Pink - 11/1012
BT.1208-1	Video coding for digital terrestrial television broadcasting	Codage vidéo pour la radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Codificación vídeo para la radiodifusión de televisión terrenal digital	1997	Pink - 11/1013
BT.1209-1	Service multiplex methods for digital terrestrial television broadcasting	Méthodes de multiplexage des services pour la radiodiffusion de télévision numérique par voie hertzienne de Terre	Métodos múltiplex de servicio para la radiodifusión de televisión terrenal digital	1997	Pink - 11/1009
BT.1210-1	Test materials to be used in subjective assessment	Images d'essai à utiliser pour les évaluations subjectives	Materiales de prueba a utilizar en las evaluaciones subjetivas	1997	Pink - 11/1021
BT.1298	Enhanced wide-screen NTSC TV transmission system	Système NTSC de transmission de télévision améliorée à écran large	Sistema de transmisión de televisión NTSC mejorada de pantalla ancha	1997	Pink - 11/1007

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BT.1299	The basic elements of a worldwide common family of systems for digital terrestrial television broadcasting	Éléments fondamentaux d'une famille universelle de systèmes de radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Elementos básicos de una familia mundial común de sistemas de radiodifusión de televisión terrenal digital	1997	Pink - 11/1008
BT.1300	Service multiplex, transport, and identification methods for digital terrestrial television broadcasting	Méthodes de multiplexage, de transport et d'identification des services pour la radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Métodos múltiplex de servicio, transporte e identificación para la radiodifusión de televisión digital terrenal	1997	Pink - 11/1010
BT.1301	Data services in digital terrestrial television broadcasting	Services de données en radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Servicios de datos en la radiodifusión terrenal de televisión digital	1997	Pink - 11/1011
BT.1302	Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601 (Part B)	Interfaces pour les signaux vidéo numériques en composantes dans les systèmes de télévision à 525 lignes et à 625 lignes fonctionnant au niveau 4:2:2 de la Recommandation UIT-R BT.601 (Partie B)	Interfaces para señales de vídeo de componente digital en sistemas de televisión de 525 líneas y 625 líneas que funcionan con el nivel 4:2:2 de la Recomendación UIT-R BT.601 (Parte B)	1997	Pink - 11/1014
BT.1303	Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:4:4 level of Recommendation ITU-R BT.601 (Part B)	Interfaces pour les signaux vidéo numériques en composantes dans les systèmes de télévision à 525 lignes et à 625 lignes fonctionnant au niveau 4:4:4 de la Recommandation UIT-R BT.601 (Partie B)	Interfaces para las señales de vídeo con componentes digitales en sistemas de televisión de 525 líneas y 625 líneas que funcionan en el nivel 4:4:4 de la Recomendación UIT-R BT.601 (Parte B)	1997	Pink - 11/1015
BT.1304	Checksum for error detection and status information in interfaces conforming with Recommendations ITU-R BT.656 and ITU-R BT.799	Contrôle de parité pour la détection des erreurs et les informations d'état dans des interfaces conformes aux Recommandations UIT-R BT.656 et UIT-R BT.799	Suma de control para detección de errores e información sobre el estado en interfaces conformes a las Recomendaciones UIT-R BT.656 y UIT-R BT.799	1997	Pink - 11/1016

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BT.1305	Digital audio and auxiliary data as ancillary data signals in interfaces conforming to Recommendations ITU-R BT.656 and ITU-R BT.799	Données numériques audio et auxiliaires en tant que signaux de données auxiliaires dans les interfaces conformes aux Recommandations UIT-R BT.656 et UIT-R BT.799	Señales de audio digital y de datos auxiliares consideradas como señales de datos complementarias en interfaces que se ajustan a las Recomendaciones UIT-R BT.656 y UIT-R BT.799	1997	Pink - 11/1017
BT.1306	Error-correction, data framing, modulation and emission methods for digital terrestrial television broadcasting	Méthodes de correction d'erreur, de mise en trame des données, de modulation et de diffusion pour la radiodiffusion télévisuelle numérique par voie hertzienne de Terre	Métodos de corrección de errores, de configuración de trama de datos, de modulación y de emisión para la radiodifusión de televisión terrenal digital	1997	Pink - 11/1018
F.106-1	Voice-frequency telegraphy on radio circuits	Télégraphie harmonique sur circuits radioélectriques	Telegrafía armónica en circuitos radioeléctricos	1970	Vol. III/1990
F.162-3	Use of directional transmitting antennas in the fixed service operating in bands below about 30 MHz	Emploi d'antennes à effet directif dans le service fixe fonctionnant dans les bandes de fréquences inférieures à 30 MHz environ	Utilización de antenas transmisoras directivas en el servicio fijo que funcionan en las bandas de frecuencias por debajo de unos 30 MHz	1992	F Part 2/1994
F.240-6	Signal-to-interference protection ratios for various classes of emission in the fixed service below about 30 MHz	Rapport de protection signal/brouillage pour diverses classes d'émission dans le service fixe sur les fréquences inférieures à 30 MHz environ	Relaciones de protección señal/interferencia para las distintas clases de emisión en el servicio fijo por debajo de unos 30 MHz	1992	F Part 2/1994
F.246-3	Frequency-shift keying	Modulation par déplacement de fréquence	Manipulación por desplazamiento de frecuencia	1974	Vol. III/1990
F.268-1	Interconnection at audio frequencies of radio-relay systems for telephony	Interconnexion aux audiofréquences des faisceaux hertziens de téléphonie	Interconexión en las frecuencias vocales de sistemas de relevadores radioeléctricos para telefonía	1970	Vol. IX/1990

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F.270-2	Interconnection at video signal frequencies of radio-relay systems for television	Interconnexion aux fréquences vidéo des faisceaux hertziens de télévision	Interconexión en las frecuencias de video de los sistemas de relevadores radioeléctricos para televisión	1978	Vol. IX/1990
F.275-3	Pre-emphasis characteristic for frequency modulation radio-relay systems for telephony using frequency-division multiplex	Caractéristique de préaccentuation pour les faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence et modulation de fréquence (MRF-MF)	Características de preacentuación en los sistemas de relevadores radioeléctricos de modulación de frecuencia para telefonía con multiplaje por distribución de frecuencia	1982	Vol. IX/1990
F.276-2	Frequency deviation and the sense of modulation for analogue radio-relay systems for television	Excursion de fréquence et sens de modulation pour les faisceaux hertziens analogiques de télévision	Excursión de frecuencia y sentido de modulación en los sistemas de relevadores radioeléctricos analógicos de televisión	1974	Vol. IX/1990
F.283-5	Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens analogiques ou numériques de faible et moyenne capacités utilisant la bande des 2 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos analógicos o digitales de baja y media capacidad que funcionan en la banda de 2 GHz	1990	F Part 1/1994
F.290-3	Maintenance measurements on radio-relay systems for telephony using frequency-division multiplex	Mesures à effectuer pour la maintenance des faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Mediciones a efectuar para el mantenimiento de los sistemas de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia	1978	Vol. IX/1990
F.302-3	Limitation of interference from trans-horizon radio-relay systems	Limitation des brouillages dus aux faisceaux hertziens transhorizon	Limitación de las interferencias causadas por los sistemas de radioenlaces transhorizonte	1997	Blue - 9/BL/12

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F.305	Stand-by arrangements for radio-relay systems for television and telephony	Dispositifs de secours pour les faisceaux hertziens de télévision et de téléphonie	Dispositivos de reserva de los sistemas de relevadores radioeléctricos para telefonía y televisión	1959	Vol. IX/1990
F.306	Procedure for the international connection of radio-relay systems with different characteristics	Procédure à suivre pour effectuer les interconnexions internationales de faisceaux hertziens de caractéristiques différentes	Procedimiento para la interconexión internacional de sistemas de relevadores radioeléctricos de características distintas	1959	Vol. IX/1990
F.335-2	Use of radio links in international telephone circuits	Liaisons radiotéléphoniques dans les circuits téléphoniques internationaux	Enlaces radiotelefónicos en los circuitos telefónicos internacionales	1970	Vol. III/1990
F.338-2	Bandwidth required at the output of a telegraph or telephone receiver	Largeur de bande nécessaire à la sortie d'un récepteur télégraphique ou téléphonique	Anchura de banda necesaria a la salida de un receptor telegráfico o telefónico	1970	Vol. III/1990
F.339-6	Bandwidths, signal-to-noise ratios and fading allowances in complete systems	Largeurs de bande, rapports signal/bruit et marges contre les évanouissements dans l'ensemble du circuit	Anchuras de banda, relaciones señal/ruido y márgenes para el desvanecimiento en sistemas completos	1986	F Part 2/1994
F.342-2	Automatic error-correcting system for telegraph signals transmitted over radio circuits	Système de correction automatique des erreurs pour signaux télégraphiques transmis par circuits radioélectriques	Sistema de corrección automática de errores para señales telegráficas transmitidas por circuitos radioeléctricos	1970	F Part 2/1994
F.345	Telegraph distortion	Distorsion télégraphique	Distorsión telegráfica	1963	F Part 2/1994
F.347	Classification of multi-channel radiotelegraph systems for long-range circuits operating at frequencies below about 30 MHz and the designation of the channels in these systems	Classification des systèmes radiotélégraphiques à plusieurs voies pour liaisons à grande distance employant des fréquences inférieures à 30 MHz environ et désignation des voies dans ces systèmes	Clasificación de los sistemas radiotelegráficos multicanales para circuitos de larga distancia que emplean frecuencias inferiores a unos 30 MHz y designación de los canales en estos sistemas	1963	Vol. III/1990

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F.348-4	Arrangement of channels in multichannel single-sideband and independent-sideband transmitters for long-range circuits operating at frequencies below about 30 MHz	Disposition des voies des émetteurs à bande latérale unique et à bandes latérales indépendantes à plusieurs voies pour liaisons à grande distance employant des fréquences inférieures à 30 MHz environ	Disposición de los canales en los transmisores multicanales de banda lateral única y de bandas laterales independientes para circuitos a larga distancia, que trabajan en frecuencias inferiores a 30 MHz aproximadamente	1990	F Part 2/1994
F.349-4	Frequency stability required for systems operating in the HF fixed service to make the use of automatic frequency control superfluous	Stabilité de fréquence à exiger des systèmes fonctionnant dans le service fixe en ondes décamétriques pour rendre inutile la commande automatique de fréquence	Estabilidad de frecuencia necesaria en los sistemas que funcionan en el servicio fijo en ondas decamétricas para evitar el empleo del control automático de frecuencia	1986	Vol. III/1990
F.380-4	Interconnection at baseband frequencies of radio-relay systems for telephony using frequency-division multiplex	Interconnexion aux fréquences de la bande de base des faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Interconexión en las frecuencias de la banda de base de sistemas de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia	1986	Vol. IX/1990
F.381-2	Conditions relating to line regulating and other pilots and to limits for the residues of signals outside the baseband in the interconnection of radio-relay and line systems for telephony	Conditions relatives aux ondes pilotes de régulation de ligne et aux autres ondes pilotes, et à la limitation des résidus de signaux à l'extérieur de la bande de base, dans l'interconnexion des FH et des systèmes sur fil pour la téléphonie	Condiciones relativas a las señales piloto de regulación de línea y demás señales piloto y a la limitación de las señales residuales fuera de la banda de base en la interconexión de sistemas de relevadores radioeléctricos y de sistemas de líneas para la telefonía	1970	Vol. IX/1990
F.382-7	Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans les bandes des 2 et 4 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en las bandas de 2 y 4 GHz	1997	Blue - 9/BL/26

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F.383-5	Radio-frequency channel arrangements for high capacity radio-relay systems operating in the lower 6 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens de grande capacité, fonctionnant dans la partie inférieure de la bande des 6 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos de alta capacidad que funcionan en la parte inferior de la banda de 6 GHz	1992	F Part 1/1994
F.384-6	Radio-frequency channel arrangements for medium and high capacity analogue or digital radio-relay systems operating in the upper 6 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens analogiques ou numériques de moyenne et grande capacités fonctionnant dans la partie supérieure de la bande des 6 GHz	Disposición de radiocanales para sistemas de radioenlaces analógicos o digitales de media y gran capacidad o digitales de gran capacidad que funcionan en la parte superior de la banda de 6 GHz	1995	F Part 1/1995
F.385-6	Radio-frequency channel arrangements for radio-relay systems operating in the 7 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 7 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 7 GHz	1993	F Part 1/1994
F.386-5	Radio-frequency channel arrangements for medium and high capacity analogue or digital radio-relay systems operating in the 8 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens analogiques ou numériques de capacité moyenne et élevée fonctionnant dans la bande des 8 GHz	Disposición de radiocanales para sistemas de radioenlaces analógicos o digitales de capacidad media o alta que funcionan en la banda de 8 GHz	1997	Blue - 9/BL/29
F.387-7	Radio-frequency channel arrangements for radio-relay systems operating in the 11 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 11 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 11 GHz	1995	F Part 1/1995
F.388	Radio-frequency channel arrangements for trans-horizon radio-relay systems	Disposition des canaux radioélectriques pour les faisceaux hertziens transhorizon	Disposición de los radiocanales para los sistemas de relevadores radioeléctricos transhorizonte	1963	Vol. IX/1990

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F.389-2	Preferred characteristics of auxiliary radio-relay systems operating in the 2, 4, 6 or 11 GHz bands	Caractéristiques préférées des faisceaux hertziens auxiliaires fonctionnant dans les bandes des 2, 4, 6 ou 11 GHz	Características preferidas de los sistemas de relevadores radioeléctricos auxiliares que trabajan en las bandas de 2, 4, 6 ó 11 GHz	1974	Vol. IX/1990
F.390-4	Definitions of terms and references concerning hypothetical reference circuits and hypothetical reference digital paths for radio-relay systems	Définitions des termes et références concernant les circuits fictifs de référence et les conduits numériques fictifs de référence pour les faisceaux hertziens	Definición de términos y referencias relativos a circuitos ficticios de referencia y trayectos digitales ficticios de referencia para sistemas de relevadores radioeléctricos	1982	F Part 1/1994
F.391	Hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex with a capacity of 12 to 60 telephone channels	Circuit fictif de référence pour faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence ayant une capacité de 12 à 60 voies téléphoniques	Circuito ficticio de referencia para sistemas de relevadores radioeléctricos de telefonía con multiplaje por distribución de frecuencia con una capacidad de 12 a 60 canales telefónicos	1963	Vol. IX/1990
F.392	Hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex with a capacity of more than 60 telephone channels	Circuit fictif de référence pour faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence ayant une capacité supérieure à 60 voies téléphoniques	Circuito ficticio de referencia para sistemas de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia con capacidad superior a 60 canales telefónicos	1963	F Part 1/1994
F.393-4	Allowable noise power in the hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex	Puissance de bruit admissible sur le circuit fictif de référence, pour les faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Potencia de ruido admisible en el circuito ficticio de referencia de sistemas de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia	1982	F Part 1/1994

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F.395-2	Noise in the radio portion of circuits to be established over real radio-relay links for FDM telephony	Bruit dans la partie radioélectrique de circuits à établir sur des liaisons réelles utilisant des faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Ruido en la sección radioeléctrica de circuitos que se establezcan por enlaces reales de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia	1978	Vol. IX/1990
F.396-1	Hypothetical reference circuit for trans-horizon radio-relay systems for telephony using frequency-division multiplex	Circuit fictif de référence pour faisceaux hertziens transhorizon de téléphonie à multiplexage par répartition en fréquence	Circuito ficticio de referencia para sistemas de relevadores radioeléctricos transhorizonte de telefonía con multiplaje por distribución de frecuencia	1966	Vol. IX/1990
F.397-3	Allowable noise power in the hypothetical reference circuit of trans-horizon radio-relay systems for telephony using frequency-division multiplex	Puissance de bruit admissible sur le circuit fictif de référence pour faisceaux hertziens transhorizon de téléphonie à multiplexage par répartition en fréquence	Potencia de ruido admisible en el circuito ficticio de referencia de sistemas de relevadores radioeléctricos transhorizonte para transmisión de telefonía con multiplaje por distribución de frecuencia	1978	Vol. IX/1990
F.398-3	Measurements of noise in actual traffic over radio-relay systems for telephony using frequency-division multiplex	Mesure du bruit en exploitation réelle sur les faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Mediciones de sistemas de relevadores radioeléctricos para telefonía con multiplaje por distribución de frecuencia en condiciones de explotación real	1974	Vol. IX/1990
F.399-3	Measurement of noise using a continuous uniform spectrum signal on frequency-division multiplex telephony radio-relay systems	Mesure du bruit à l'aide d'un signal à spectre continu uniforme sur les faisceaux hertziens de téléphonie à multiplexage par répartition en fréquence	Medición del ruido por medio de una señal de espectro continuo y uniforme en los sistemas de relevadores radioeléctricos para telefonía que utilizan multiplaje por distribución de frecuencia	1978	Vol. IX/1990

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F.400-2	Service channels to be provided for the operation and maintenance of radio-relay systems	Voies de service à prévoir pour l'exploitation et la maintenance des faisceaux hertziens	Tipos de canales de servicio que han de preverse para la explotación y el mantenimiento de los sistemas de relevadores radioeléctricos	1970	Vol. IX/1990
F.401-2	Frequencies and deviations of continuity pilots for frequency modulation radio-relay systems for television and telephony	Fréquences et excursions de fréquence des ondes pilotes de continuité pour les faisceaux hertziens de télévision et de téléphonie à modulation de fréquence	Frecuencias y excursiones de frecuencia de las señales piloto de continuidad en los sistemas de relevadores radioeléctricos de modulación de frecuencia para televisión y telefonía	1970	Vol. IX/1990
F.402-2	The preferred characteristics of a single sound channel simultaneously transmitted with a television signal on an analogue radio-relay system	Caractéristiques préférées pour la voie son transmise simultanément avec un signal de télévision sur un faisceau hertzien analogique	Características preferidas de un canal único de sonido transmitido simultáneamente con una señal de televisión por un sistema de relevadores radioeléctricos analógico	1978	Vol. IX/1990
F.403-3	Intermediate-frequency characteristics for the interconnection of analogue radio-relay systems	Caractéristiques aux fréquences intermédiaires pour l'interconnexion de faisceaux hertziens analogiques	Características de frecuencia intermedia para la interconexión de sistemas de relevadores radioeléctricos analógicos	1978	Vol. IX/1990
F.404-2	Frequency deviation for analogue radio-relay systems for telephony using frequency-division multiplex	Excursion de fréquence pour les faisceaux hertziens analogiques de téléphonie à multiplexage par répartition en fréquence	Excursión de frecuencia en los sistemas de relevadores radioeléctricos analógicos para telefonía con multiplaje por distribución de frecuencia	1970	Vol. IX/1990
F.405-1	Pre-emphasis characteristics for frequency modulation radio-relay systems for television	Caractéristiques de préaccentuation pour les faisceaux hertziens de télévision à modulation de fréquence	Características de preacentuación de los sistemas de relevadores radioeléctricos de modulación de frecuencia para televisión	1970	Vol. IX/1990

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F.436-4	Arrangement of voice-frequency, frequency-shift telegraph channels over HF radio circuits	Disposition des voies de télégraphie harmonique à modulation par déplacement de fréquence sur les circuits radioélectriques à ondes décamétriques	Disposición de los canales de telegrafía armónica con modulación por desplazamiento de frecuencia en circuitos radioeléctricos en ondas decamétricas	1995	F Part 2/1995
F.444-3	Preferred characteristics for multi-line switching arrangements of analogue radio-relay systems	Caractéristiques préférées pour les dispositifs de commutation à plusieurs canaux des faisceaux hertziens analogiques	Características preferidas para los dispositivos de conmutación de varios radiocanales en los sistemas de relevadores radioeléctricos analógicos	1982	Vol. IX/1990
F.454-1	Pilot carrier level for HF single-sideband and independent-sideband reduced-carrier systems	Niveau de la porteuse pilote pour les systèmes à bande latérale unique et à bandes latérales indépendantes à porteuse réduite	Nivel de la portadora piloto en los sistemas de banda lateral única y de bandas laterales independientes con portadora reducida	1978	Vol. III/1990
F.455-2	Improved transmission system for HF radiotelephone circuits	Système de transmission amélioré pour circuits radiotéléphoniques sur ondes décamétriques	Sistema perfeccionado de transmisión para circuitos radiotelefónicos en ondas decamétricas	1992	RF/1992
F.463-1	Limits for the residues of signals outside the baseband of radio-relay systems for television	Limitation des résidus de signaux à l'extérieur de la bande de base des faisceaux hertziens de télévision	Limitación de los residuos de las señales fuera de la banda de base de sistemas de relevadores radioeléctricos para televisión	1978	Vol. IX/1990
F.480	Semi-automatic operation on HF radiotelephone circuits. Devices for remote connection to an automatic exchange by radiotelephone circuits	Exploitation semi-automatique sur les circuits radiotéléphoniques à ondes décamétriques. Dispositifs de raccordement distant à un central automatique par circuit radiotéléphonique	Explotación semiautomática en los circuitos radiotelefónicos en ondas decamétricas. Dispositivos de conexión a distancia de una central automática por circuito radiotelefónico	1974	Vol. III/1990

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F.497-5	Radio-frequency channel arrangements for radio-relay systems operating in the 13 GHz frequency band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 13 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 13 GHz	1995	F Part 1/1995
F.518-1	Single-channel simplex ARQ telegraph system	Système télégraphique ARQ simplex à une seule voie	Sistema telegráfico ARQ símplex de un solo canal	1993	F Part 2/1994
F.519	Single-channel duplex ARQ telegraph system	Système télégraphique ARQ duplex à une seule voie	Sistema telegráfico ARQ dúplex de un solo canal	1978	F Part 2/1994
F.520-2	Use of high frequency ionospheric channel simulators	Utilisation de simulateurs de canal ionosphérique en ondes décamétriques	Empleo de simuladores de canales ionosféricos en ondas decamétricas	1992	F Part 2/1994
F.555-1	Permissible noise in the hypothetical reference circuit of radio-relay systems for television	Bruit admissible sur le circuit fictif de référence des faisceaux hertziens de télévision	Ruido admisible en el circuito ficticio de referencia de sistemas de radioenlaces para televisión	1997	Blue - 9/BL/10
F.556-1	Hypothetical reference digital path for radio-relay systems which may form part of an integrated services digital network with a capacity above the second hierarchical level	Conduit numérique fictif de référence pour les faisceaux hertziens pouvant faire partie d'un réseau numérique à intégration de services - Systèmes ayant une capacité supérieure au deuxième niveau hiérarchique	Trayecto digital ficticio de referencia para los sistemas de relevadores radioeléctricos que pueden formar parte de una red digital de servicios integrados con una capacidad superior al segundo nivel jerárquico	1986	F Part 1/1994
F.557-4	Availability objective for radio-relay systems over a hypothetical reference circuit and a hypothetical reference digital path	Objectif de disponibilité d'un circuit fictif de référence et d'un conduit numérique fictif de référence pour les faisceaux hertziens	Objetivo de disponibilidad en sistemas de relevadores radioeléctricos para un circuito ficticio de referencia y un trayecto digital ficticio de referencia	1997	Blue - 9/BL/24
F.592-2	Terminology used for radio-relay systems	Terminologie utilisée dans les faisceaux hertziens	Terminología relativa a los sistemas de relevadores radioeléctricos	1990	F Part 1/1994

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F.593	Noise in real circuits of multi-channel trans-horizon FM radio-relay systems of less than 2500 km	Bruit dans les circuits réels de faisceaux hertziens transhorizon multivoies à modulation de fréquence de longueur inférieure à 2500 km	Ruido en los circuitos reales de los sistemas de relevadores radioeléctricos transhorizonte multicanales con MF de longitud inferior a 2500 km	1982	Vol. IX/1990
F.594-4	Error performance objectives of the hypothetical reference digital path for radio-relay systems providing connections at a bit rate below the primary rate and forming part or all of the high grade portion of an integrated services digital network	Objectifs de qualité en matière d'erreur du conduit numérique fictif de référence, pour les faisceaux hertziens assurant des communications à un débit binaire inférieur au débit primaire et constituant tout ou partie de la portion à qualité élevée d'un réseau numérique à intégration de services	Objetivos de característica de error del trayecto digital ficticio de referencia para sistemas de radioenlaces que proporcionan conexiones a una velocidad binaria inferior a la velocidad primaria y que forma parte o constituye todo el tramo de grado alto de una red digital de servicios integrados	1997	Blue - 9/BL/17
F.595-5	Radio-frequency channel arrangements for radio-relay systems operating in the 18 GHz frequency band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande de fréquence des 18 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 18 GHz	1997	Blue - 9/BL/30
F.596-1	Interconnection of digital radio-relay systems	Interconnexion de faisceaux hertziens numériques	Interconexión de sistemas de relevadores radioeléctricos digitales	1993	F Part 1/1994
F.612	Measurement of reciprocal mixing in HF communication receivers in the fixed service	Mesures du mélange réciproque dans les récepteurs de trafic à ondes décamétriques du service fixe	Medición de la mezcla recíproca en receptores de comunicaciones por ondas decamétricas del servicio fijo	1986	F Part 2/1994
F.613	The use of ionospheric channel sounding systems operating in the fixed service at frequencies below about 30 MHz	Emploi des systèmes à sondage des voies ionosphériques fonctionnant dans le service fixe à des fréquences inférieures à environ 30 MHz	Utilización de sistemas de sondeo de los canales ionosféricos del servicio fijo explotados en frecuencias inferiores a unos 30 MHz	1986	F Part 2/1994

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F.634-4	Error performance objectives for real digital radio-relay links forming part of the high-grade portion of international digital connections at a bit rate below the primary rate within an integrated services digital network	Objectifs de qualité en matière d'erreur pour les liaisons réelles par faisceaux hertziens numériques faisant partie de la portion à qualité élevée de communications numériques internationales à un débit binaire inférieur au débit primaire dans un réseau numérique à intégration de services	Objetivos en materia de características de error para radioenlaces digitales reales que forman parte de la porción de grado alto de calidad de conexiones internacionales digitales a una velocidad binaria inferior a la velocidad primaria dentro de una red digital de servicios integrados	1997	Blue - 9/BL/18
F.635-4	Radio-frequency channel arrangements based on a homogeneous pattern for radio-relay systems operating in the 4 GHz band	Disposition des canaux radioélectriques fondée sur un plan homogène pour les faisceaux hertziens fonctionnant dans la bande des 4 GHz	Disposición de radiocanales basada en un plan homogéneo para sistemas de radioenlaces que funcionan en la banda de 4 GHz	1997	Blue - 9/BL/27
F.636-3	Radio-frequency channel arrangements for radio-relay systems operating in the 15 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 15 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 15 GHz	1993	F Part 1/1994
F.637-2	Radio-frequency channel arrangements for radio-relay systems operating in the 23 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande de fréquences des 23 GHz	Disposición de radiocanales para sistemas de radioenlaces que funcionan en la banda de 23 GHz	1993	F Part 1/1994
F.695	Availability objectives for real digital radio-relay links forming part of a high-grade circuit within an integrated services digital network	Objectifs de disponibilité pour les liaisons réelles par faisceaux hertziens numériques faisant partie d'un circuit à qualité élevée dans un réseau numérique à intégration de services	Objetivos de disponibilidad para enlaces de relevadores radioeléctricos digitales reales que forman parte de un circuito de "grado alto" de calidad dentro de una red digital de servicios integrados	1990	F Part 1/1994

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F.696-2	Error performance and availability objectives for hypothetical reference digital sections forming part or all of the medium-grade portion of an ISDN connection at a bit rate below the primary rate utilizing digital radio-relay systems	Objectifs de qualité en matière d'erreur et de disponibilité pour des sections numériques fictives de référence formant une fraction ou la totalité de la partie à qualité moyenne d'une communication RNIS à un débit binaire inférieur au débit primaire et utilisant des faisceaux hertziens numériques	Objetivos de característica de error y de disponibilidad para secciones digitales y ficticias de referencia que constituyen un tramo o la totalidad de la parte de grado medio de una conexión de la RDSI a una velocidad binaria inferior a la velocidad primaria que utilizan los sistemas de radioenlace digitales	1997	Blue - 9/BL/19
F.697-2	Error performance and availability objectives for the local-grade portion at each end of an ISDN connection at a bit rate below the primary rate utilizing digital radio-relay systems	Objectifs de qualité en matière d'erreur et de disponibilité pour la section de qualité locale à chaque extrémité d'une communication RNIS à un débit binaire inférieur au débit primaire utilisant des faisceaux hertziens numériques	Objetivos de característica de errores y de disponibilidad para el tramo de grado local en cada extremo de una conexión de RDSI a una velocidad binaria inferior a la velocidad primaria que utiliza sistemas de relevadores radioeléctricos digitales	1997	Blue - 9/BL/20
F.698-2	Preferred frequency bands for trans-horizon radio-relay systems	Bandes de fréquences préférées pour les faisceaux hertziens transhorizon	Bandas de frecuencias preferidas para los sistemas de relevadores radioeléctricos transhorizonte	1993	F Part 1/1994
F.699-4	Reference radiation patterns for line-of-sight radio-relay system antennas for use in coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	Diagrammes de rayonnement de référence pour antennes de faisceaux hertziens en visibilité directe à utiliser pour les études de coordination et l'évaluation du brouillage dans la gamme de fréquences comprise entre 1 et environ 40 GHz	Diagramas de radiación de referencia de antenas de sistemas de radioenlaces con visibilidad directa para utilizarlos en los estudios de coordinación y en la evaluación de la interferencia en la gama de frecuencias de 1 GHz a unos 40 GHz	1997	Blue - 9/BL/13

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F.700-2	Error performance and availability measurement algorithm for digital radio-relay links at the system bit rate interface	Algorithme de mesure de la qualité en matière d'erreur et de la disponibilité pour les liaisons faisceaux hertziens numériques à l'interface fontionnant au débit binaire du système	Algoritmo para medir la característica de error y la disponibilidad de los radioenlaces de sistemas de relevadores radioeléctricos digitales en la interfaz a la velocidad binaria del sistema	1993	F Part 1/1994
F.701-2	Radio-frequency channel arrangements for analogue and digital point-to-multipoint radio systems operating in frequency bands in the range 1.350 to 2.690 GHz (1.5, 1.8, 2.0, 2.2, 2.4 and 2.6 GHz)	Dispositions des canaux radioélectriques pour les systèmes analogiques et numériques point à multipoint, fonctionnant dans des bandes de fréquences comprises entre 1,350 et 2,690 GHz (1,5; 1,8; 2,0; 2,2; 2,4 et 2,6 GHz)	Disposiciones de radiocanales para sistemas radioeléctricos analógicos y digitales punto a multipunto que funcionan en bandas de frecuencias de la gama 1,350 a 2,690 GHz (1,5; 1,8; 2,0; 2,2; 2,4 y 2,6 GHz)	1997	Blue - 9/BL/34
F.745	CCIR Recommendations for analogue radio-relay systems	Recommandations du CCIR relatives aux faisceaux hertziens analogiques	Recomendaciones del CCIR relativas a los sistemas de relevadores radioeléctricos analógicos	1991	F Part 1/1994
F.746-3	Radio-frequency channel arrangements for radio-relay systems	Disposition des canaux radioélectriques pour les faisceaux hertziens	Disposición de radiocanales para sistemas de radioenlaces	1997	Blue - 9/BL/11
F.747	Radio-frequency channel arrangements for radio-relay systems operating in the 10 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fontionnant dans la bande des 10 GHz	Disposición de radiocanales para sistemas de radioenlaces que funcionan en la banda de 10 GHz	1992	F Part 1/1994
F.748-2	Radio-frequency channel arrangements for radio-relay systems operating in the 25, 26 and 28 GHz bands	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans les bandes de fréquences des 25, 26 et 28 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en las bandas 25, 26 y 28 GHz	1995	F Part 1/1995

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F.749-1	Radio-frequency channel arrangements for radio-relay systems in the 38 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 38 GHz	Disposiciones de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 38 GHz	1993	F Part 1/1994
F.750-3	Architectures and functional aspects of radio-relay systems for SDH-based networks	Architectures et caractéristiques fonctionnelles des faisceaux hertziens pour réseaux utilisant la hiérarchie numérique synchrone	Arquitecturas y aspectos funcionales de los sistemas de radioenlaces para las redes basadas en la jerarquía digital síncrona	1997	Blue - 9/BL/31
F.751-2	Transmission characteristics and performance requirements of radio-relay systems for SDH-based networks	Caractéristiques de transmission et spécifications en matière de qualité des faisceaux hertziens pour réseaux utilisant la hiérarchie numérique synchrone (SDH)	Características de transmisión y requisitos de calidad de funcionamiento de los sistemas de relevadores radioeléctricos para las redes basadas en la jerarquía digital síncrona	1997	Blue - 9/BL/32
F.752-1	Diversity techniques for radio-relay systems	Techniques de diversité pour les faisceaux hertziens	Técnicas de diversidad para sistemas de relevadores radioeléctricos	1993	F Part 1/1994
F.753	Preferred methods and characteristics for the supervision and protection of digital radio-relay systems	Méthodes et caractéristiques préférées pour la surveillance et la protection des faisceaux hertziens numériques	Métodos y características preferibles para la supervisión y protección de sistemas de relevadores radioeléctricos digitales	1992	F Part 1/1994
F.754	Radio-relay systems in bands 8 and 9 for the provision of telephone trunk connections in rural areas	Faisceaux hertziens fonctionnant dans les bandes 8 et 9, destinés à assurer des communications téléphoniques interurbaines dans les zones rurales	Sistemas de relevadores radioeléctricos en las bandas 8 y 9 para la provisión de conexiones interurbanas telefónicas en las zonas rurales	1992	F Part 1/1994
F.755-1	Point-to-multipoint systems used in the fixed service	Systèmes point à multipoint utilisés dans le service fixe	Sistemas punto a multipunto utilizados en el servicio fijo	1993	F Part 1/1994

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F.756	TDMA point-to-multipoint systems used as radio concentrators	Systèmes AMRT point à multipoint utilisés comme concentrateurs radioélectriques	Sistemas AMDT punto a multipunto utilizados como concentradores radioeléctricos	1992	F Part 1/1994
F.757-1	Basic system requirements and performance objectives for fixed wireless local loop applications using cellular type mobile technologies	Caractéristiques de base et objectifs de qualité pour les applications des boucles locales hertziennes fixes mettant en œuvre des technologies mobiles de type cellulaire	Requisitos básicos de sistemas y objetivos de calidad de funcionamiento para aplicaciones fijas de bucle local inalámbrico que utilizan tecnologías móviles de tipo celular	1997	Blue - 9/BL/35
F.758-1	Considerations in the development of criteria for sharing between the terrestrial fixed service and other services	Considérations relatives à la mise au point de critères de partage entre le service fixe de terre et d'autres services	Consideraciones relativas a la elaboración de criterios para la compartición entre el servicio fijo terrenal y otros servicios	1997	Blue - 9/BL/14
F.759	The use of frequencies in the band 500 to 3 000 MHz for radio-relay systems	Utilisation des fréquences dans la bande 500-3 000 MHz pour les faisceaux hertziens	Utilización de frecuencias en la banda de 500 a 3 000 MHz para sistemas de relevadores radioeléctricos	1992	F Part 1/1994
F.760-1	Protection of terrestrial line-of-sight radio-relay systems against interference from the broadcasting-satellite service in the bands near 20 GHz	Protection des faisceaux hertziens de Terre en visibilité directe contre les brouillages causés par le service de radiodiffusion par satellite dans les bandes au voisinage de 20 GHz	Protección de los sistemas de relevadores radioeléctricos terrenales con visibilidad directa contra las interferencias causadas por el servicio de radiodifusión por satélite en las bandas cerca de 20 GHz	1993	F Part 1/1994
F.761	Frequency sharing between the fixed service and passive sensors in the band 18.6 to 18.8 GHz	Partage des fréquences entre le service fixe et les capteurs passifs dans la bande 18,6-18,8 GHz	Compartición de frecuencias entre sistemas del servicio fijo y los sensores pasivos en la banda 18,6-18,8 GHz	1992	F Part 1/1994

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F.762-2	Main characteristics of remote control and monitoring systems for HF receiving and transmitting stations	Caractéristiques principales des systèmes de télécommande et télésurveillance pour stations d'émission et de réception en ondes décamétriques	Características principales de los sistemas de telemando y televigilancia para estaciones receptoras y transmisoras en ondas decamétricas	1995	F Part 2/1995
F.763-3	Data transmission over HF circuits using phase-shift keying	Transmission de données sur les circuits à ondes décamétriques utilisant la modulation par déplacement de phase	Transmisión de datos por circuitos en ondas decamétricas que utilizan modulación por desplazamiento de fase	1997	Blue - 9/BL/42
F.764-1	Minimum requirements for HF radio systems using a packet transmission protocol	Caractéristiques minimales des systèmes radioélectriques à ondes décamétriques utilisant un protocole de transmission par paquets	Requisitos mínimos de los sistemas radioeléctricos en ondas decamétricas que utilizan un protocolo de transmisión por paquetes	1993	F Part 2/1994
F.1092-1	Error performance objectives for constant bit rate digital path at or above the primary rate carried by digital radio-relay systems which may form part of the international portion of a 27 500 km hypothetical reference path	Objectifs de qualité en matière d'erreur pour les conduits numériques à débit binaire constant égal ou supérieur au débit primaire utilisant des faisceaux hertziens numériques pouvant faire partie de la section internationale d'un conduit fictif de référence de 27 500 km	Objetivos de característica de error de los trayectos digitales de velocidad binaria constante igual o superior a la velocidad primaria en sistemas de relevadores radioélectricos digitales que pueden formar parte del tramo internacional de un trayecto ficticio de referencia de 27 500 km	1997	Blue - 9/BL/21
F.1093-1	Effects of multipath propagation on the design and operation of line-of-sight digital radio-relay systems	Effets de la propagation par trajets multiples sur la conception et le fonctionnement des faisceaux hertziens numériques en visibilité directe	Efectos de la propagación por trayectos múltiples en el diseño y funcionamiento de los sistemas de radioenlaces digitales con visibilidad directa	1997	Blue - 9/BL/23

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F.1094-1	Maximum allowable error performance and availability degradations to digital radio-relay systems arising from interference from emissions and radiations from other sources	Dégradations maximales admissibles de la qualité en matière d'erreur et de disponibilité pour les faisceaux hertziens numériques, dues aux brouillages provenant d'émissions et de rayonnements d'autres sources	Valores máximos admisibles de las degradaciones de la característica de error y de la disponibilidad en los sistemas de radioenlaces digitales provocadas por la interferencia procedente de emisiones y radiaciones de otras fuentes	1995	F Part 1/1995
F.1095	A procedure for determining coordination area between radio-relay stations of the fixed service	Procédure de détermination de la zone de coordination entre des stations hertziennes du service fixe	Procedimiento para determinar la zona de coordinación entre estaciones de radioenlaces del servicio fijo	1993	F Part 1/1994
F.1096	Methods of calculating line-of-sight interference into radio-relay systems to account for terrain scattering	Méthodes de calcul du brouillage en visibilité directe des faisceaux hertziens compte tenu de la diffusion par le terrain	Métodos de cálculo de la interferencia con visibilidad directa causada a sistemas de relevadores radioeléctricos que han de utilizarse para tener en cuenta la dispersión en el terreno	1993	F Part 1/1994
F.1097	Interference mitigation options to enhance compatibility between radar systems and digital radio-relay systems	Possibilités d'atténuation des brouillages pour améliorer la compatibilité entre les systèmes radar et les faisceaux hertziens numériques	Posibilidades de reducción de la interferencia para aumentar la compatibilidad entre los sistemas de radar y los sistemas de radioenlaces digitales	1993	F Part 1/1994
F.1098-1	Radio-frequency channel arrangements for radio-relay systems in the 1 900-2 300 MHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande 1 900-2 300 MHz	Disposiciones de radiocanales para sistemas de radioenlaces en la banda 1 900-2 300 MHz	1995	F Part 1/1995

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F.1099-2	Radio-frequency channel arrangements for high-capacity digital radio-relay systems in the 5 GHz (4 400-5 000 MHz) band	Dispositions des canaux radioélectriques pour les faisceaux hertziens numériques de grande capacité fonctionnant dans la bande des 5 GHz (4 400-5 000 MHz)	Disposiciones de radiocanales para sistemas de radioenlaces digitales de gran capacidad en la banda de 5 GHz (4 400-5 000 MHz)	1997	Blue - 9/BL/28
F.1100	Radio-frequency channel arrangements for radio-relay systems operating in the 55 GHz band	Disposition des canaux radioélectriques pour les faisceaux hertziens fonctionnant dans la bande des 55 GHz	Disposición de radiocanales para sistemas de relevadores radioeléctricos que funcionan en la banda de 55 GHz	1993	F Part 1/1994
F.1101	Characteristics of digital radio-relay systems below about 17 GHz	Caractéristiques des faisceaux hertziens numériques fonctionnant à des fréquences inférieures à 17 GHz environ	Características de los sistemas de relevadores radioeléctricos digitales por debajo de unos 17 GHz approximadamente	1993	F Part 1/1994
F.1102	Characteristics of radio-relay systems operating in frequency bands above about 17 GHz	Caractéristiques des faisceaux hertziens numériques fonctionnant dans les bandes de fréquences supérieures à 17 GHz environ	Características de los sistemas de relevadores radioeléctricos digitales en las bandas de frecuencias superiores a unos 17 GHz	1993	F Part 1/1994
F.1103	Radio-relay systems operating in bands 8 and 9 for the provision of subscriber telephone connections in rural areas	Faisceaux hertziens de raccordement des abonnés des zones rurales au service téléphonique, fonctionnant dans les bandes 8 et 9	Sistemas de relevadores radioeléctricos en las bandas 8 y 9 utilizados para establecer conexiones telefónicas de abonado en zonas rurales	1993	F Part 1/1994
F.1104	Requirements for point-to-multipoint radio systems used in the local grade portion of an ISDN connection	Caractéristiques des systèmes radioélectriques point à multipoint utilisés pour la connexion RNIS dans la portion de qualité locale du réseau	Requisitos para los sistemas punto a multipunto utilizados en la parte de "grado local" de una conexión RDSI	1993	F Part 1/1994
F.1105	Transportable fixed radiocommunications equipment for relief operations	Equipements transportables pour les radiocommunications fixes destinées aux opérations de secours	Equipo transportable de radiocomunicaciones fijas para operaciones de socorro	1993	F Part 1/1994

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F.1106	Effects of propagation on the design and operation of trans-horizon radio-relay systems	Influence de la propagation sur la conception et le fonctionnement des faisceaux hertziens transhorizon	Efectos de la propagación en el diseño y explotación de sistemas de relevadores radioeléctricos transhorizonte	1993	F Part 1/1994
F.1107	Probabilistic analysis for calculating interference into the fixed service from satellites occupying the geostationary orbit	Méthodes probabilistes permettant de calculer les brouillages causés au service fixe par des satellites en orbite géostationnaire	Análisis probabilístico para calcular la interferencia al servicio fijo causada por satélites que ocupan la órbita geoestacionaria	1993	F Part 1/1994
F.1108-2	Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands	Détermination des critères nécessaires à la protection des récepteurs du service fixe des émissions de stations spatiales opérant sur des orbites non géostationnaires dans des bandes de fréquences partagées	Determinación de los criterios para proteger los receptores del servicio fijo de las emisiones procedentes de estaciones espaciales situadas en órbitas de satélites no geoestacionarios y que funcionan en bandas de frecuencias compartidas	1997	Blue - 9/BL/40
F.1109	ITU-Recommendations relating to systems in the fixed service operating at frequencies below about 30 MHz which are not reprinted	Recommandations UIT-R relatives aux systèmes du service fixe fonctionnant à des fréquences inférieures à 30 MHz environ qui ne seront pas rééditées	Recomendaciones del UIT-R que no se vuelven a publicar relacionadas con sistemas del servicio fijo que funcionan en frecuencias por debajo de unos 30 MHz	1993	F Part 2/1994
F.1110-2	Adaptive radio systems for frequencies below about 30 MHz	Systèmes radioélectriques adaptatifs pour des fréquences inférieures à 30 MHz environ	Sistemas radioeléctricos adaptables para frecuencias inferiores a unos 30 MHz	1997	Blue - 9/BL/43
F.1111-1	Improved Lincompex system for HF radiotelephone circuits	Système Lincompex amélioré pour circuits radiotéléphoniques sur ondes décamétriques	Sistema Lincompex perfeccionado para circuitos radiotelefónicos en ondas decamétricas	1995	F Part 2/1995

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F.1112-1	Digitized speech transmissions for systems operating below about 30 MHz	Transmission de signaux vocaux numérisés sur des systèmes fonctionnant à des fréquences inférieures à 30 MHz environ	Transmisión de señales vocales digitalizadas en sistemas que funcionan por debajo de unos 30 MHz	1995	F Part 2/1995
F.1113	Radio systems employing meteor-burst propagation	Systèmes radioélectriques utilisant la propagation par impulsions météoriques	Sistemas radioeléctricos que emplean propagación por impulsos meteóricos	1993	F Part 2/1994
F.1189-1	Error-performance objectives for constant bit rate digital paths at or above the primary rate carried by digital radio-relay systems which may form part or all of the national portion of a 27 500 km hypothetical reference path	Objectifs en matière de caractéristique d'erreur pour les conduits numériques à débit binaire constant égal ou supérieur au débit primaire acheminé par des faisceaux hertziens numériques pouvant constituer tout ou partie de la section nationale d'un conduit fictif de référence de 27 500 km	Objetivos de característica de error para los trayectos digitales de velocidad binaria constante que funcionan a velocidad primaria o superior establecidos por sistemas de radioenlaces digitales que pueden constituir una parte o la totalidad del tramo nacional de un trayecto ficticio de referencia de 27 500 km	1997	Blue - 9/BL/22
F.1190	Protection criteria for digital radio-relay systems to ensure compatibility with radar systems in the radiodetermination service	Critères de protection applicables aux faisceaux hertziens numériques propres à assurer la compatibilité électromagnétique avec les systèmes radar du service de radiorepérage	Criterios de protección en sistemas de radioenlaces digitales para asegurar la compatibilidad con los sistemas de radar en el servicio de radiodeterminación	1995	F Part 1/1995
F.1191-1	Bandwidths and unwanted emissions of digital radio-relay systems	Largeurs de bande et rayonnements non désirés des faisceaux hertziens numériques	Anchuras de banda y emisiones no deseadas de los sistemas de relevadores radioeléctricos	1997	Blue - 9/BL/33
F.1192	Traffic capacity of automatically controlled radio systems and networks in the HF fixed service	Capacité d'écoulement du trafic des systèmes et réseaux radioélectriques à commande automatique dans le service fixe en ondes décamétriques	Capacidad de tráfico de los sistemas radioeléctricos controlados automáticamente y de las redes del servicio fijo por ondas decamétricas	1995	F Part 2/1995

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F.1241	Performance degradation due to interference from other services sharing the same frequency bands on a primary basis with digital radio-relay systems operating at or above the primary rate and which may form part of the international portion of a 27 500 km hypothetical reference path	Dégradation de la qualité de fonctionnement due au brouillage causé par d'autres services partageant les mêmes bandes de fréquences à titre primaire avec les faisceaux hertziens numériques fonctionnant à un débit égal ou supérieur au débit primaire et pouvant faire partie de la section internationale d'un conduit fictif de référence de 27 500 km	Degradación de la calidad de funcionamiento debida a la interferencia causada por otros servicios que comparten las mismas bandas de frecuencias a título primario con sistemas de relevadores radioeléctricos digitales que funcionan a velocidad primaria o superior y que pueden formar parte de la porción internacional de un trayecto ficticio de referencia de 27 500 km	1997	Blue - 9/BL/1
F.1242	Radio-frequency channel arrangements for digital radio systems operating in the range 1 350 MHz to 1 530 MHz	Disposition des canaux radioélectriques pour les faisceaux hertziens numériques fonctionnant dans la gamme de fréquences 1 350-1 530 MHz	Disposición de radiocanales para los sistemas radioeléctricos digitales que funcionan en la gama 1 350-1 530 MHz	1997	Blue - 9/BL/2
F.1243	Radio-frequency channel arrangements for digital radio systems operating in the range 2 290-2 670 MHz	Disposition des canaux radioélectriques pour les faisceaux hertziens numériques fonctionnant dans la gamme de fréquences 2 290-2 670 MHz	Disposiciones de radiocanales para los sistemas radioeléctricos digitales que funcionan en la gama 2 290-2 670 MHz	1997	Blue - 9/BL/3
F.1244	Radio local area networks (RLANs)	Réseaux locaux hertziens (RLAN)	Redes radioeléctricas de área local (RLAN)	1997	Blue - 9/BL/4

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F.1245	Mathematical model of average radiation patterns for line-of-sight point-to-point radio-relay system antennas for use in certain coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	Modèle mathématique de diagrammes moyens de rayonnement pour antennes de faisceaux hertziens en visibilité directe entre points fixes, à utiliser dans certaines études de coordination et pour l'évaluation du brouillage dans la gamme de fréquences comprise entre 1 et environ 40 GHz	Modelo matemático de diagramas de radiación media para antenas de sistemas de relevadores radioeléctricos punto a punto con visibilidad directa para aplicarlo en ciertos estudios de coordinación y enla evaluación de la interferencia en la gama de frecuencias de 1 GHz a unos 40 GHz	1997	Blue - 9/BL/5
F.1246	Reference bandwidth of receiving stations in the fixed service to be used in coordination of frequency assignments with transmitting space stations in the mobile-satellite service in the 1-3 GHz range	Largeur de bande de référence des stations de réception du service fixe, à utiliser pour la coordination des assignations de fréquences avec les stations spatiales d'émission du service mobile par satellite dans la gamme 1-3 GHz	Anchura de banda de referencia de las estaciones receptoras del servicio fijo para la coordinación de asignaciones de frecuencias con las estaciones espaciales transmisoras del servicio móvil por satélite en la gama 1-3 GHz	1997	Blue - 9/BL/6
F.1247	Technical and operational characteristics of systems in the fixed service to facilitate sharing with the space research, space operation and Earth exploration-satellite services operating in the bands 2 025-2 110 MHz and 2 200-2 290 MHz	Caractéristiques techniques et opérationnelles des systèmes du service fixe propres à faciliter le partage avec les services de recherche spatiale, d'exploitation spatiale et d'exploration de la Terre par satellite fonctionnant dans les bandes 2 025-2 110 MHz et 2 200-2 290 MHz	Características técnicas y operacionales de los sistemas del servicio fijo para facilitar la compartición con los servicios de investigación espacial, operaciones espaciales y exploración de la Tierra por satélite que funcionan en las bandas 2 025-2 110 MHz y 2 200-2 290 MHz	1997	Blue - 9/BL/7
F.1248	Limiting interference to satellites in the space science services from the emissions of trans-horizon radio-relay systems in the bands 2 025-2 110 MHz and 2 200-2 290 MHz	Limitation des brouillages causés aux satellites des services scientifiques spatiaux par les émissions des faisceaux hertziens transhorizon dans les bandes 2 025-2 110 MHz et 2 200-2 290 MHz	Limitación de la interferencia causada a los satélites científicos espaciales por las emisiones de los sistemas de radioenlaces transhorizonte en las bandas 2 025-2 110 MHz y 2 200-2 290 MHz	1997	Blue - 9/BL/8

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F.1249	Maximum equivalent isotropically radiated power of transmitting stations in the fixed service operating in the frequency band 25.25-27.5 GHz shared with the inter-satellite service	Puissance isotrope rayonnée équivalente maximale des stations d'émission du service fixe fonctionnant dans la bande de fréquences 25,25-27,5 GHz en partage avec le service intersatellites	Potencia isótropa radiada equivalente máxima de las estaciones de transmisión del servicio fijo que funcionan en la banda de frecuencias de 25,25-27,5 GHz compartida con el servicio entre satélites	1997	Blue - 9/BL/9
F.1330	Performance limits for bringing into service of the parts of international PDH and SDH paths and sections implemented by digital radio-relay systems	Limites de qualité de fonctionnement pour la mise en service de certaines parties des conduits et sections PDH et SDH internationaux mis en œuvre par des faisceaux hertziens numériques	Límites de calidad de funcionamiento para la puesta en servicio de las partes de trayectos y secciones internacionales de transmisión de jerarquía digital plesiócrona y síncrona implementados por sistemas de radioenlaces digitales	1997	Blue - 9/BL/16
F.1331	Performance degradation due to interference from other services sharing the same frequency bands on a primary basis with analogue radio-relay systems for television	Dégradation de la qualité de fonctionnement des faisceaux hertziens analogiques de télévision due aux brouillages causés par d'autres services utilisant en partage et à titre primaire les mêmes bandes de fréquences	Degradación de la calidad de funcionamiento debido a la interferencia ocasionada por otros servicios que comparten las mismas bandas de frecuencia a título primario con los sistemas de radioenlaces analógicos para televisión	1997	Blue - 9/BL/15
F.1332	Radio-frequency signals transported through optical fibres	Utilisation de fibres optiques pour le transport de signaux à fréquence radioélectrique	Señales radioeléctricas transportadas por fibras ópticas	1997	Blue - 9/BL/25
F.1333	Estimation of the actual elevation angle from a station in the fixed service towards a space station taking into account atmospheric refraction	Evaluation de l'angle d'élévation effectif d'une station spatiale par rapport à une station du service fixe, compte tenu de la réfraction dans l'atmosphère	Estimación del ángulo de elevación real de una estación del servicio fijo hacia una estación espacial teniendo en cuenta la refracción atmosférica	1997	Blue - 9/BL/36

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F.1334	Protection criteria for systems in the fixed service sharing the same frequency bands in the 1 to 3 GHz range with the land mobile service	Critères de protection des systèmes du service fixe utilisant en partage avec le service terrestre mobile les mêmes bandes de fréquences dans la gamme des 1 à 3 GHz	Criterios de protección para sistemas del servicio fijo que comparten las mismas bandas de frecuencias en la gama de 1 a 3 GHz con el servicio móvil terrestre	1997	Blue - 9/BL/37
F.1335	Technical and operational considerations in the phased transitional approach for bands shared between the mobile-satellite service and the fixed service at 2 GHz	Méthode permettant le transfert progressif des assignations dans les bandes utilisées en partage entre le service mobile par satellite et le service fixe dans la bande des 2 GHz: considérations d'ordres technique et opérationnel	Consideraciones técnicas y operacionales relativas a la transición gradual de las bandas compartidas entre el servicio móvil por satélite y el servicio fijo en 2 GHz	1997	Blue - 9/BL/38
F.1336	Reference radiation patterns of omnidirectional and other antennas in point-to-multipoint systems for use in sharing studies	Diagrammes de rayonnement de référence des antennes équidirectives et autres antennes des systèmes du type point-à-multipoint, à utiliser pour les études de partage	Diagramas de radiación de referencia de antenas omnidireccionales y otros tipos de antenas de sistemas de punto a multipunto para su utilización en estudios de compartición	1997	Blue - 9/BL/39
F.1337	Frequency management of adaptive HF radio systems and networks using FMCW oblique-incidence sounding	Gestion des fréquences pour les systèmes et réseaux de radiocommunication adaptatifs à ondes décamétriques utilisant le sondage sous incidence oblique par ondes entretenues modulées en fréquence	Gestión de frecuencias de sistemas radioeléctricos y redes en ondas decamétricas adaptables que utilizan sondeo con incidencia oblicua mediante ondas continuas moduladas en frecuencia	1997	Blue - 9/BL/41

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F.1338	Threshold levels to determine the need to coordinate between particular systems in the broadcasting-satellite service (sound) in the geostationary-satellite orbit for space-to-Earth transmissions and the fixed service in the band 1 452-1 492 MHz	Seuils pour déterminer la nécessité de procéder à une coordination entre des systèmes particuliers du service de radiodiffusion par satellite (sonore), utilisant l'orbite des satellites géostationnaires pour des émissions dans le sens espace vers Terre et le service fixe dans la bande 1 452-1 492 MHz	Umbrales para determinar la necesidad de coordinación entre determinados sistemas del servicio de radiodifusión (sonido) en la órbita de los satélites geoestacionarios para las transmisiones espacio-Tierra y el servicio fijo en la banda 1 452-1 492 MHz	1997	Pink - 9/1005
IS.847-1	Determination of the coordination area of an earth station operating with a geostationary space station and using the same frequency band as a system in a terrestrial service	Détermination de la zone de coordination d'une station terrienne opérant avec une station spatiale géostationnaire dans une bande de fréquences partagée avec un service de Terre	Determinación de la zona de coordinación de una estación terrena que funciona con una estación espacial geoestacionaria y utiliza la misma banda de frecuencias que un sistema de un servicio terrenal	1993	IS/1994
IS.848-1	Determination of the coordination area of a transmitting earth station using the same frequency band as receiving earth stations in bidirectionally allocated frequency bands	Détermination de la zone de coordination d'une station terrienne d'émission utilisant la même bande de fréquences que des stations terriennes de réception dans des bandes de fréquences attribuées dans les deux sens	Determinación de la zona de coordinación de una estación terrena transmisora que utiliza la misma banda de frecuencias que estaciones terrenas receptoras en bandas de frecuencia atribuidas con carácter bidireccional	1993	IS/1994
IS.849-1	Determination of coordination area for earth stations operating with non-geostationary spacecraft in bands shared with terrestrial services	Détermination de la zone de coordination pour les stations terriennes opérant avec des engins spatiaux non géostationnaires dans les bandes partagées avec des services de Terre	Determinación de la zona de coordinación para estaciones terrenas que funcionan con vehículos espaciales no geoestacionarios en bandas compartidas con los servicios terrenales	1993	IS/1994

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IS.850-1	Coordination areas using predetermined coordination distances	Zones de coordination établies d'après des distances de coordination prédéterminées	Zonas de coordinación con distancias de coordinación predeterminadas	1995	IS/1995
IS.851-1	Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands	Partage entre le service de radiodiffusion et les services fixe et/ou mobile dans les bandes d'ondes métriques et décimétriques	Compartición entre el servicio de radiodifusión y los servicios fijo y/o móvil en las bandas de ondas métricas y decimétricas	1993	IS/1994
IS.1009-1	Compatibility between the sound-broadcasting service in the band of about 87-108 MHz and the aeronautical services in the band 108-137 MHz	Compatibilité entre le service de radiodiffusion sonore dans la bande d'environ 87-108 MHz et les services aéronautiques dans la bande 108-137 MHz	Compatibilidad entre el servicio de radiodifusión sonora en la banda de aproximadamente 87-108 MHz y los servicios aeronáuticos en la banda 108-137 MHz	1995	IS/1995
IS.1140	Test procedures for measuring aeronautical receiver characteristics used for determining compatibility between the sound-broadcasting service in the band of about 87-108 MHz and the aeronautical services in the band 108-118 MHz	Procédures d'essai pour la mesure des caractéristiques des récepteurs du service de radionavigation aéronautique servant à déterminer la compatibilité entre le service de radiodiffusion sonore dans la bande des 87-108 MHz et les services aéronautiques dans la bande 108-118 MHz	Procedimientos de prueba utilizados en las medidas de las características de los receptores aeronáuticos que sirven para determinar la compatibilidad entre el servicio de radiodifusión sonora en la banda de unos 87-108 MHz y los servicios aeronáuticos en la banda 108-118 MHz	1995	IS/1995
M.218-2	Prevention of interference to radio reception on board ships	Elimination des brouillages à la réception à bord des navires	Eliminación de las interferencias en la recepción a bordo de los barcos	1990	M Part 3/1994
M.219-1	Alarm signal for use on the maritime radiotelephony distress frequency of 2 182 kHz	Signal d'alarme à utiliser sur la fréquence de détresse du service maritime radiotéléphonique de 2 182 kHz	Señal de alarma para uso en la frecuencia de socorro de 2 182 kHz del servicio marítimo radiotelefónico	1966	M Part 3/1994

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M.257-3	Sequential single frequency selective-calling system for use in the maritime mobile service	Système d'appel sélectif séquentiel à fréquence unique à utiliser dans le service mobile maritime	Sistema de llamada selectiva secuencial de una sola frecuencia para el servicio móvil marítimo	1995	M Part 3/1995
M.428-3	Direction-finding and/or homing in the 2 MHz band on board ships	Radiogoniométrie et/ou radioralliement dans la bande des 2 MHz à bord des navires	Radiogoniometría y radio-recalada en la banda de 2 MHz a bordo de los barcos	1990	M Part 3/1994
M.441-1	Signal-to-interference ratios and minimum field strengths required in the aeronautical mobile (R) service above 30 MHz	Rapports de protection signal/brouillage et valeurs de champ minimales nécessaires dans le service mobile aéronautique (R) au-dessus de 30 MHz	Relaciones de protección señal/interferencia e intensidades de campo mínimas necesarias en el servicio móvil aeronáutico (R) por encima de 30 MHz	1982	M Part 3/1994
M.476-5	Direct-printing telegraph equipment in the maritime mobile service	Equipements télégraphiques à impression directe dans le service mobile maritime	Equipos telegráficos de impresión directa en el servicio móvil marítimo	1995	M Part 3/1995
M.478-5	Technical characteristics of equipment and principles governing the allocation of frequency channels between 25 and 3 000 MHz for the FM land mobile service	Caractéristiques techniques des équipements et principes à suivre pour l'assignation des voies entre 25 et 3 000 MHz pour le service mobile terrestre à modulation de fréquence	Características técnicas de los equipos y principios para la asignación de canales a las estaciones del servicio móvil terrestre con modulación de frecuencia entre 25 y 3 000 MHz	1995	M Part 1/1995
M.488-1	Equivalent powers of double-sideband and single-sideband radio telephone emissions in the maritime mobile service	Puissances équivalentes des émissions radiotéléphoniques à double bande latérale et à bande latérale unique dans le service mobile maritime	Potencias equivalentes de las emisiones radiotelefónicas en doble banda lateral y en banda lateral única en el servicio móvil marítimo	1990	M Part 3/1994

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M.489-2	Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz	Caractéristiques techniques des appareils radiotéléphoniques utilisés par le service mobile maritime fonctionnant en ondes métriques avec un espacement de 25 kHz entre voies adjacentes	Características técnicas de los equipos de radiotelefonía de ondas métricas utilizados en el servicio móvil marítimo con una separación de 25 kHz entre canales adyacentes	1995	M Part 3/1995
M.490	The introduction of direct-printing telegraph equipment in the maritime mobile service. Equivalence of terms	Mise en œuvre d'équipements télégraphiques à impression directe dans le service mobile maritime. Equivalence des termes	Introducción de equipo telegráfico de impresión directa en el servicio móvil marítimo. Equivalencia entre los términos	1974	M Part 3/1994
M.491-1	Translation between an identity number and identities for direct-printing telegraphy in the maritime mobile service	Conversion entre un numéro d'identité de station et des identités pour la télégraphie à impression directe dans le service mobile maritime	Traducción de un número de identidad en señales de identidad para la telegrafía de impresión directa en el servicio móvil marítimo	1986	M Part 3/1994
M.492-6	Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service	Procédures d'exploitation des équipements télégraphiques à impression directe dans le service mobile maritime	Procedimientos de explotación para la utilización de equipos telegráficos de impresión directa en el servicio móvil marítimo	1995	M Part 3/1995
M.493-9	Digital selective-calling system for use in the maritime mobile service	Système d'appel sélectif numérique à utiliser dans le service mobile maritime	Sistema de llamada selectiva digital para el servicio móvil marítimo	1997	Pink - 8/1009
M.496-3	Limits of power flux-density of radionavigation transmitters to protect space station receivers in the fixed-satellite service in the 14 GHz band	Limites de la puissance surfacique des émetteurs de radionavigation pour assurer la protection des récepteurs des stations spatiales du service fixe par satellite dans la bande des 14 GHz	Límites de densidad de flujo de potencia de los transmisores de radionavegación para asegurar la protección de los receptores de estaciones espaciales del servicio fijo por satélite en la banda de 14 GHz	1992	M Part 4/1994

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M.539-3	Technical and operational characteristics of international radio-paging systems	Caractéristiques techniques et d'exploitation des systèmes internationaux de radiorecherche	Características técnicas y de explotación de los sistemas internacionales de radiobúsqueda	1993	M Part 1/1994
M.540-2	Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships	Caractéristiques techniques et d'exploitation d'un système automatique de télégraphie à impression directe pour la diffusion aux navires d'avertissements concernant la navigation et la météorologie et d'informations urgentes	Características técnicas y de explotación de un sistema automático de telegrafía de impresión directa para la difusión a los barcos de avisos a los navegantes y de avisos meteorológicos, así como de información de urgencia	1990	M Part 3/1994
M.541-8	Operational procedures for the use of digital selective-calling (DSC) equipment in the maritime mobile service	Procédures d'exploitation des systèmes d'appel sélectif numérique (ASN) à l'usage du service mobile maritime	Procedimientos de explotación para la utilización de equipos de llamada selectiva digital en el servicio móvil marítimo	1997	Pink - 8/1010
M.542-1	On-board communications by means of portable radiotelephone equipment	Communications à bord des navires effectuées au moyen d'appareils portatifs de radiotéléphonie	Comunicaciones a bordo de los barcos por medio de equipo radiotelefónico portátil	1982	M Part 3/1994
M.546-2	Hypothetical telephone reference circuit in the aeronautical, land and maritime mobile-satellite services	Circuit téléphonique fictif de référence pour les services mobiles aéronautique, terrestre et maritime par satellite	Circuito telefónico ficticio de referencia para sistemas de los servicios móviles aeronaútico, terrestre y marítimo por satélite	1990	M Part 5/1994
M.547	Noise objectives in the hypothetical reference circuit for systems in the maritime mobile-satellite service	Objectifs de bruit dans le circuit fictif de référence pour les systèmes du service mobile maritime par satellite	Objetivos de ruido en el circuito ficticio de referencia para los sistemas del servicio móvil marítimo por satélite	1978	M Part 5/1994

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M.548	Overall transmission characteristics of telephone circuits in the maritime mobile-satellite service	Caractéristiques globales de transmission des circuits téléphoniques dans le service mobile maritime par satellite	Características globales de transmisión de los circuitos telefónicos del servicio móvil marítimo por satélite	1978	M Part 5/1994
M.549-1	Side tone reference equivalent of handset used on board a ship in the maritime mobile-satellite service and in automated VHF/UHF maritime mobile radiotelephone systems	Equivalent de référence de l'effet local du combiné utilisé à bord d'un navire dans le service mobile maritime par satellite et dans les systèmes radiotéléphoniques automatiques sur ondes métriques/décimétriques du service mobile maritime	Equivalente de referencia del efecto local del microteléfono utilizado a bordo de un barco en el servicio móvil marítimo por satélite y en los sistemas radiotelefónicos automáticos del servicio móvil marítimo en ondas métricas y decimétricas	1982	M Part 5/1994
M.550-1	Use of echo suppressors in the maritime mobile-satellite service	Utilisation de suppresseurs d'écho dans le service mobile maritime par satellite	Utilización de los supresores de eco en el servicio móvil marítimo por satélite	1986	M Part 5/1994
M.552	Quality objectives for 50-baud start-stop telegraph transmission in the maritime mobile-satellite service	Objectifs de qualité des transmissions télégraphiques arythmiques à 50 bauds dans le service mobile maritime par satellite	Objetivos de calidad para la transmisión de telegrafía arrítmica a 50 baudios en el servicio móvil marítimo por satélite	1978	M Part 5/1994
M.553	Interface requirements for 50-baud start-stop telegraph transmission in the maritime mobile-satellite service	Conditions à remplir par les équipements de jonction pour les transmissions télégraphiques arythmiques à 50 bauds dans le service mobile maritime par satellite	Requisitos de interfaz para la transmisión de telegrafía arrítmica a 50 baudios en el servicio móvil marítimo por satélite	1978	M Part 5/1994
M.584-1	Standard codes and formats for international radio paging	Codes et formats normalisés pour l'appel unilatéral international sans transmission de parole (radiorecherche et radiomessagerie)	Códigos y formatos normalizados para radiobúsqueda internacional	1986	M Part 1/1994

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M.585-2	Assignment and use of maritime mobile service identities	Assignations et utilisation des identités dans le service mobile maritime	Asignación y uso de identidades del servicio móvil marítimo	1990	M Part 3/1994
M.586-1	Automated VHF/UHF maritime mobile telephone system	Système radiotéléphonique automatique sur ondes métriques/décimétriques pour le service mobile maritime	Sistemas telefónicos automáticos para el servicio móvil marítimo en ondas métricas y decimétricas	1986	M Part 3/1994
M.587-1	Coast station identities and initiation of location registration in an automated VHF/UHF maritime mobile telephone system	Identités de stations côtières et demande d'enregistrement de la position dans un système mobile maritime téléphonique à ondes métriques/décimétriques	Identidades de estaciones costeras e inicio del registro de posición en un sistema telefónico automático móvil marítimo en ondas métricas/decimétricas	1986	M Part 3/1994
M.588	Characteristics of maritime radio beacons (Region 1)	Caractéristiques des radiophares maritimes (Région 1)	Características de los radiofaros marítimos (Región 1)	1982	M Part 4/1994
M.589-2	Interference to radionavigation services from other services in the frequency bands between 70 kHz and 130 kHz	Brouillage des services de radionavigation par d'autres services dans les bandes de fréquences comprises entre 70 et 130 kHz	Interferencia causada a los servicios de radionavegación por otros servicios en las bandas de frecuencias comprendidas entre 70 y 130 kHz	1992	M Part 4/1994
M.622	Technical and operational characteristics of analogue cellular systems for public land mobile telephone use	Caractéristiques techniques et d'exploitation de systèmes cellulaires analogiques pour le service téléphonique public mobile terrestre	Características técnicas y de explotación de los sistemas celulares analógicos del servicio móvil terrestre para telefonía de uso público	1986	M Part 1/1994
M.623	Data transmission bit rates and modulation techniques in the land mobile service	Débit binaire de transmission de données et techniques de modulation dans le service mobile terrestre	Velocidades binarias de transmisión de datos y métodos de modulación en el servicio móvil terrestre	1986	M Part 1/1994

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M.624	Public land mobile communication systems location registration	Systèmes mobiles terrestres publics de télécommunication - Enregistrement des positions	Registro de la posición en los sistemas de comunicaciones móviles terrestres de uso público	1986	M Part 1/1994
M.625-3	Direct-printing telegraph equipment employing automatic identification in the maritime mobile service	Equipements télégraphiques à impression directe utilisant l'identification automatique dans le service mobile maritime	Equipos telegráficos de impresión directa que emplean la identificación automática en el servicio móvil marítimo	1995	M Part 3/1995
M.626	Evaluation of the quality of digital channels in the maritime mobile service	Evaluation de la qualité des voies numériques dans le service mobile maritime	Evaluación de la calidad de los radiocanales digitales en el servicio móvil marítimo	1986	M Part 3/1994
M.627-1	Technical characteristics for HF maritime radio equipment using narrow-band phase-shift keying (NBPSK) telegraphy	Caractéristiques techniques des équipements de radiocommunications maritimes dans la bande des ondes décamétriques utilisés pour la télégraphie à modulation par déplacement de phase à bande étroite (MDPBE)	Características técnicas de los equipos de radiocomunicaciones marítimas en ondas decamétricas utilizados para telegrafía con modulación por desplazamiento de fase de banda estrecha (MDPBE)	1995	M Part 3/1995
M.628-3	Technical characteristics for search and rescue radar transponders	Caractéristiques techniques des répondeurs radar de recherche et de sauvetage	Características técnicas de los respondedores de radar de búsqueda y salvamento	1993	M Part 4/1994
M.629	Use of the radionavigation service of the frequency bands 2 900-3 100 MHz, 5 470-5 650 MHz, 9 200-9 300 MHz, 9 300-9 500 MHz and 9 500-9 800 MHz	Utilisation par le service de radionavigation des bandes de fréquences 2 900-3 100 MHz, 5 470-5 650 MHz, 9 200-9 300 MHz, 9 300-9 500 MHz et 9 500-9 800 MHz	Utilización para el servicio de radionavegación de las bandas de frecuencias 2 900-3 100 MHz, 5 470-5 650 MHz, 9 200-9 300 MHz, 9 300-9 500 MHz y 9 500-9 800 MHz	1986	M Part 4/1994

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M.630	Main characteristics of two frequency shipborne interrogator transponders (SIT)	Principales caractéristiques des interrogateurs-répondeurs de navire (SIT) à deux fréquences	Principales características de los interrogadores-respondedores (IRB) de dos frecuencias instalados a bordo de barcos	1986	M Part 4/1994
M.631-1	Use of hyperbolic maritime radionavigation systems in the band 283.5-315 kHz	Utilisation de systèmes de radionavigation maritime hyperboliques dans la bande 283,5-315 kHz	Utilización de los sistemas hiperbólicos de radionavegación marítima en la banda 283,5-315 kHz	1992	M Part 4/1994
M.632-3	Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through geostationary satellites in the 1.6 GHz band	Caractéristiques d'émission d'un système de radiobalises de localisation des sinistres par satellite (RLS par satellite) fonctionnant par l'intermédiaire de satellites géostationnaires dans la bande des 1,6 GHz	Características de transmisión de un sistema de radiobalizas de localización de siniestros por satélite (RLS por satélite) que funciona con satélites geoestacionarios en la banda de 1,6 GHz	1997	M Part 5/1997
M.633-1	Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band	Caractéristiques de transmission d'un système de radiobalises de localisation des sinistres par satellite (RLS par satellite) fonctionnant par l'intermédiaire d'un système à satellites sur orbite polaire basse dans la bande des 406 MHz	Características de transmisión de un sistema de radiobalizas de localización de siniestros por satélite (RLS por satélite) que utiliza un sistema de satélites de órbita polar baja en la banda de 406 MHz	1990	M Part 5/1994
M.687-2	Future public land mobile telecommunication systems (FPLMTS)	Futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1997	M Part 2/1997

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M.688	Technical characteristics for a high frequency direct-printing telegraph system for promulgation of high seas and NAVTEX-type maritime safety information	Caractéristiques techniques d'un système de télégraphie à impression directe, dans la bande des ondes décamétriques, pour la diffusion d'informations concernant la sécurité maritime en haute mer et du type NAVTEX	Características técnicas y de explotación de un sistema de telegrafía de impresión directa en ondas decamétricas para la difusión de información a los barcos en alta mar y de comunicaciones de seguridad marítima de tipo NAVTEX	1990	M Part 3/1994
M.689-2	International maritime VHF radiotelephone system with automatic facilities based on DSC signalling format	Système international maritime de radiotéléphonie en ondes métriques doté de fonctions automatiques et utilisant un format de signalisation ASN	Sistema radiotelefónico marítimo internacional en ondas métricas con facilidades automáticas basadas en el formato de señalización de la llamada selectiva digital	1993	M Part 3/1994
M.690-1	Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz	Caractéristiques techniques des radiobalises de localisation des sinistres (RLS) fonctionnant sur les fréquences porteuses 121,5 MHz et 243 MHz	Características técnicas de las radiobalizas de localización de siniestros (RLS) que funcionan con frecuencias portadoras de 121,5 MHz y 243 MHz	1995	M Part 4/1995
M.691-1	Technical characteristics and compatibility criteria of maritime radiolocation systems operating in the medium frequency band and using spread-spectrum techniques	Caractéristiques techniques et critères de compatibilité des systèmes de radiorepérage maritime fonctionnant dans la bande des ondes hectométriques et utilisant les techniques d'étalement du spectre	Características técnicas y criterios de compatibilidad de los sistemas de radiolocalización marítima que funcionan en la banda de ondas hectométricas y que utilizan técnicas de ensanchamiento del espectro	1992	M Part 4/1994
M.692	Narrow-band direct-printing telegraph equipment using a single-frequency channel	Utilisation d'un équipement télégraphique à impression directe à bande étroite sur une voie radioélectrique à une seule fréquence	Equipos telegráficos de impresión directa de banda estrecha que utilizan un canal de una sola frecuencia	1990	M Part 3/1994

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M.693	Technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling (DSC VHF EPIRB)	Caractéristiques techniques des radiobalises de localisation des sinistres à ondes métriques avec appel sélectif numérique (RLS à ondes métriques avec ASN)	Características técnicas de las radiobalizas de localización de siniestros en ondas métricas que utilizan llamada selectiva digital (RLS en ondas métricas con LLSD)	1990	M Part 4/1994
M.694	Reference radiation pattern for ship earth station antennas	Diagramme de rayonnement de référence pour les antennes de station terrienne de navire	Diagrama de radiación de referencia para antenas de estaciones terrenas de barco	1990	M Part 5/1994
M.816-1	Framework for services supported on International Mobile Telecommunications-2000 (IMT-2000)	Cadre de description des services assurés par les télécommunications mobiles internationales-2000 (IMT-2000)	Marco para los servicios que prestarán las Telecomunicaciones Móviles Internacionales-2000 (IMT-2000)	1997	Pink - 8/1030
M.817	Future public land mobile telecommunication systems (FPLMTS). Network architectures	Futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT). Architectures de réseau	Futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT). Arquitecturas de red	1992	M Part 2/1994
M.818-1	Satellite operation within future public land mobile telecommunication systems (FPLMTS)	Utilisation des satellites dans les futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Funcionamiento por satélite en los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1993	M Part 2/1994
M.819-2	Future public land mobile telecommunication systems (FPLMTS) for developing countries	Futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT) au service des pays en développement	Futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT) para los países en desarrollo	1997	M Part 2/1997
M.820	Use of 9-digit identities for narrow-band direct-printing telegraphy in the maritime mobile service	Utilisation d'identités à neuf chiffres pour la télégraphie à impression directe à bande étroite dans le service mobile maritime	Utilización de identidades de nueve cifras para la telegrafía de impresión directa en banda estrecha en el servicio móvil marítimo	1992	M Part 3/1994

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M.821-1	Optional expansion of the digital selective-calling system for use in the maritime mobile service	Extension facultative du système d'appel sélectif numérique à utiliser dans le service mobile maritime	Ampliación opcional del sistema de llamada selectiva digital para el servicio móvil marítimo	1997	M Part 3/1997
M.822-1	Calling-channel loading for digital selective calling (DSC) for the maritime mobile service	Charge des voies d'appel du système d'appel sélectif numérique (ASN) pour le service mobile maritime	Carga en el canal de llamada para la llamada selectiva digital (LLSD) en el servicio móvil marítimo	1993	M Part 3/1994
M.823-2	Technical characteristics of differential transmissions for Global Navigation Satellite Systems (GNSS) from maritime radio beacons in the frequency band 283.5-315 kHz in Region 1 and 285-325 kHz in Regions 2 and 3	Caractéristiques techniques de la transmission de données en mode différentiel pour les systèmes mondiaux de navigation par satellite (GNSS) à partir de radiophares maritimes dans les bandes de fréquences 283,5-315 kHz (Région 1) et 285-325 kHz (Régions 2 et 3)	Características técnicas de las transmisiones diferenciales efectuadas para sistemas mundiales de navegación por satélite desde radiofaros marítimos en la banda de frecuencias 283,5-315 kHz en la Región 1 y 285-325 kHz en las Regiones 2 y 3	1997	Pink - 8/1014
M.824-2	Technical parameters of radar beacons (RACONS)	Caractéristiques techniques des balises radar (RACONS)	Características técnicas de las balizas de radar (Racones)	1995	M Part 4/1995
M.825-2	Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification	Caractéristiques d'un système de répondeurs fonctionnant avec des techniques d'appel sélectif numérique à utiliser dans les systèmes de contrôle du trafic maritime et d'identification navire-navire	Características de un sistema transpondedor que utiliza técnicas de llamada selectiva digital para servicios de tráfico de barcos y para la identificación barco-barco	1997	Pink - 8/1015
M.826	Transmission of information for updating electronic chart display and information systems (ECDIS)	Transmission d'informations pour la mise à jour des systèmes de visualisation des cartes électroniques et d'information (SVCEI)	Transmisión de información para la actualización de los sistemas de visualización de cartas náuticas electrónicas e información	1992	M Part 4/1994

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M.827	Hypothetical reference digital path for systems in the mobile-satellite service using feeder links	Conduit numérique fictif de référence pour les systèmes du service mobile par satellite utilisant des liaisons de connexion	Trayecto digital ficticio de referencia para sistemas que utilizan transmisión digital en el servicio móvil por satélite	1992	M Part 5/1994
M.828-1	Definition of availability for communication circuits in the mobile-satellite service (MSS)	Définition de la disponibilité des circuits de communication du service mobile par satellite (SMS)	Definición de disponibilidad para los circuitos de comunicación del servicio móvil por satélite (SMS)	1993	M Part 5/1994
M.829-1	Frequency sharing in the 1 660-1 660.5 MHz band between the mobile-satellite service and the radioastronomy service	Partage des fréquences dans la bande 1 660-1 660,5 MHz entre le service mobile par satellite et le service de radioastronomie	Compartición de frecuencias en la banda 1 660-1 660,5 MHz entre el servicio móvil por satélite y el servicio de radioastronomía	1993	M Part 5/1994
M.830	Operational procedures for mobile-satellite networks or systems in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz which are used for distress and safety purposes as specified for GMDSS	Procédures d'exploitation pour les réseaux ou systèmes mobiles à satellites dans les bandes de fréquences 1 530-1 544 MHz et 1 626,5-1 645,5 MHz utilisées pour les opérations de détresse et de sécurité (comme spécifié pour le SMDSM)	Procedimientos de explotación para las redes o los sistemas móviles por satélite en las bandas 1 530-1 544 MHz y 1 626,5-1 645,5 MHz utilizados con fines de socorro y seguridad especificados para el Sistema Mundial de Socorro y Seguridad Marítimos (SMSSM)	1992	M Part 5/1994
M.831	Frequency sharing between services in the band 4-30 MHz	Partage des fréquences entre services fonctionnant dans la bande 4-30 MHz	Compartición de frecuencias entre servicios en las bandas entre 4 y 30 MHz	1992	M Part 3/1994
M.1032	Technical and operational characteristics of land mobile systems using multi-channel access techniques without a central controller	Caractéristiques techniques et d'exploitation des systèmes mobiles terrestres faisant appel à des techniques d'accès multivoies sans unité d'échange centrale	Características técnicas y de explotación de los sistemas móviles terrestres que utilizan técnicas de acceso multicanal sin controlador central	1993	M Part 1/1994

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M.1033-1	Technical and operational characteristics of cordless telephones and cordless telecommunication systems	Caractéristiques techniques et d'exploitation des téléphones sans cordon et des systèmes de télécommunication sans cordon	Características técnicas y de explotación de los teléfonos sin cordón y sistemas de telecomunicaciones sin hilos	1997	M Part 1/1997
M.1034-1	Requirements for the radio interface(s) for future public land mobile telecommunication systems (FPLMTS)	Exigences imposées à la ou aux interfaces radioélectriques des futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Requisitos de las interfaces radioeléctricas para los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1997	M Part 2/1997
M.1035	Framework for the radio interface(s) and radio subsystem functionality for Future Public Land Mobile Telecommunication Systems (FPLMTS)	Cadre de description de la ou des interfaces radioélectriques et fonctionnalité des sous-systèmes radioélectriques pour les futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Marco general para el estudio de la funcionalidad de las interfaces radioeléctricas y del subsistema radioeléctrico en los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1993	M Part 2/1994
M.1036	Spectrum considerations for implementation of Future Public Land Mobile Telecommunication Systems (FPLMTS) in the bands 1 885-2 025 MHz and 2 110-2 200 MHz	Considérations relatives au spectre pour la mise en œuvre des futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT) dans les bandes 1 885-2 025 MHz et 2 110-2 200 MHz	Consideraciones sobre el espectro para la implantación de los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT) en las bandas 1 885-2 025 MHz y 2 110-2 200 MHz	1993	M Part 2/1994
M.1037	Bit error performance objectives for aeronautical mobile-satellite (R) service (AMS(R)S) radio link	Objectifs en matière de caractéristiques d'erreur sur les bits applicables aux liaisons radioélectriques du service mobile aéronautique (R) par satellite (SMA(R)S)	Objetivos en materia de característica de bits erróneos para los radioenlaces del servicio móvil aeronáutico (R) por satélite (SMA(R)S)	1993	M Part 5/1994

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M.1038	Efficient use of the geostationary-satellite orbit and spectrum in the 1-3 GHz frequency range by mobile-satellite systems	Utilisation efficace de l'orbite des satellites géostationnaires et du spectre dans la gamme de fréquences 1-3 GHz par les systèmes mobiles par satellite	Utilización eficaz de la órbita de los satélites geoestacionarios y del espectro en la gama de frecuencias 1-3 GHz por los sistemas del servicio móvil por satélite	1993	M Part 5/1994
M.1039-1	Co-frequency sharing between stations in the mobile service below 1 GHz and FDMA non-geostationary-satellite orbit (non-GSO) mobile Earth stations	Partage de mêmes fréquences entre stations du service mobile et stations terriennes mobiles AMRF utilisant des orbites autres que celle des satellites géostationnaires dans les bandes de fréquences au-dessous de 1 GHz	Compartición de frecuencias entre estaciones del servicio móvil por debajo de 1 GHz y estaciones terrenas móviles que utilizan acceso múltiple por distribución de frecuencia (AMDF) con satélites en órbita no geoestacionaria (no-OSG)	1997	M Part 5/1997
M.1040	Public mobile telecommunication service with aircraft using the bands 1 670-1 675 MHz and 1 800-1 805 MHz	Service mobile public de télécommunication avec les aéronefs dans les bandes 1 670-1 675 MHz et 1 800-1 805 MHz	Servicio público de telecomunicaciones móviles con aeronaves utilizando las bandas 1 670-1 675 MHz y 1 800-1 805 MHz	1993	M Part 3/1994
M.1041	Future amateur radio systems (FARS)	Futurs systèmes de radiocommunication d'amateur	Futuros sistemas de radiocomunicaciones de aficionados	1993	M Part 6/1994
M.1042	Disaster communications in the amateur and amateur-satellite services	Services d'amateur et d'amateur par satellite: communications en cas de catastrophe naturelle	Comunicaciones de los servicios de aficionados y aficionados por satélite en situaciones de catástrofe	1993	M Part 6/1994
M.1043	Use of the amateur and amateur-satellite services in developing countries	Utilisation des services d'amateur et d'amateur par satellite dans les pays en développement	Utilización de los servicios de aficionados y de aficionados por satélite en los países en desarrollo	1993	M Part 6/1994
M.1044	Frequency sharing criteria in the amateur and amateur-satellite services	Critères de partage des fréquences dans les services d'amateur et d'amateur par satellite	Criterios de compartición de frecuencias en los servicios de aficionados y de aficionados por satélite	1993	M Part 6/1994

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M.1072	Interference due to intermodulation products in the land mobile service between 25 and 3 000 MHz	Brouillages dus aux produits d'intermodulation dans le service mobile terrestre entre 25 et 3 000 MHz	Interferencias debidas a productos de intermodulación en el servicio móvil terrestre entre 25 y 3 000 MHz	1993	M Part 1/1994
M.1073-1	Digital cellular land mobile telecommunication systems	Systèmes mobiles terrestres cellulaires numériques de télécommunication	Sistemas celulares digitales de telecomunicaciones móviles terrestres	1997	M Part 1/1997
M.1074	Integration of public mobile radiocommunication systems	Intégration des systèmes de radiocommunication mobiles publics	Integración de los sistemas públicos de radiocomunicaciones del servicio móvil	1993	M Part 1/1994
M.1075	Leaky feeder systems in the land mobile services	Systèmes à lignes d'alimentation à fuites dans les services mobiles terrestres	Sistemas de alimentador con fugas en los servicios móviles terrestres	1993	M Part 1/1994
M.1076	Wireless communication systems for persons with impaired hearing	Systèmes de communication sans fil pour les malentendants	Sistemas de comunicación inalámbricos para personas con audición deficiente	1993	M Part 1/1994
M.1077	Multi-transmitter radio systems using quasi-synchronous (simulcast) transmission for analogue speech	Systèmes de radiocommunication multiémetteurs monofréquence à transmission quasi synchrone pour les signaux vocaux analogiques («Simulcast»)	Sistemas radioeléctricos de múltiples transmisores que utilizan transmisión cuasisíncrona para señales vocales analógicas	1993	M Part 1/1994
M.1078	Security principles for future public land mobile telecommunication systems (FPLMTS)	Principes de sécurité pour les futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Principios de seguridad para los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1993	M Part 2/1994

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M.1079	Speech and voiceband data performance requirements for future public land mobile telecommunication systems (FPLMTS)	Exigences imposées à la qualité de la parole et des données dans la bande vocale pour les futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Requisitos de comportamiento en cuanto a las señales vocales y los datos en banda vocal para los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1993	M Part 2/1994
M.1080	Digital selective calling system enhancement for multiple equipment installations	Amélioration du système d'appel sélectif numérique pour des installations à équipements multiples	Mejora del sistema de llamada selectiva digital en las instalaciones con múltiples equipos	1993	M Part 3/1994
M.1081	Automatic HF facsimile and data system for maritime mobile users	Transmission automatique de données et de télécopie en ondes décamétriques dans le service mobile maritime	Sistema automático de facsímil y datos en ondas decamétricas para los usuarios móviles marítimos	1993	M Part 3/1994
M.1082-1	International maritime MF/HF radiotelephone system with automatic facilities based on DSC signalling format	Système international automatisé de radiotéléphonie maritime en ondes hectométriques et décamétriques utilisant un format de signalisation ASN	Sistema radiotelefónico marítimo internacional en ondas hectométricas y decamétricas con facilidades automáticas basadas en el formato de señalización de llamada selectiva digital	1997	Pink - 8/1011
M.1083	Interworking of maritime radiotelephone systems	Interfonctionnement des systèmes de radiotéléphonie maritimes	Interfuncionamiento de los sistemas telefónicos marítimos	1993	M Part 3/1994
M.1084-2	Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	Solutions interimaires pour améliorer l'efficacité de l'utilisation de la bande 156-174 MHz par les stations du service mobile maritime	Soluciones provisionales para la utilización más eficaz de la banda 156-174 MHz por las estaciones del servicio móvil marítimo	1997	Pink - 8/1012
M.1085-1	Technical and operational characteristics of wind profiler radars for bands in the vicinity of 400 MHz	Caractéristiques techniques et d'exploitation des radars profileurs de vent dans les bandes situées au voisinage de 400 MHz	Características técnicas y de explotación de los radares perfiladores de viento en bandas próximas a 400 MHz	1997	M Part 4/1997

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M.1086	Determination of the need for coordination between geostationary mobile satellite networks sharing the same frequency bands	Détermination de la nécessité de la coordination entre réseaux à satellite géostationnaire du service mobile utilisant en partage les mêmes bandes de fréquences	Determinación de la necesidad de coordinación entre redes de satélites geoestacionarios del servicio móvil que comparten las mismas bandas de frecuencias	1993	M Part 5/1994
M.1087	Methods for evaluating sharing between systems in the land mobile service and spread-spectrum leo systems in the MSS below 1 GHz	Méthodes d'évaluation des possibilités de partage entre systèmes du service mobile et systèmes en orbite terrestre basse (LEO) à étalement de spectre du SMS en dessous de 1 GHz	Métodos para evaluar la compartición entre sistemas del servicio móvil terrestre y sistemas del servicio móvil por satélite con satélites en órbita baja que utilizan técnicas de espectro ensanchado por debajo de 1 GHz	1993	M Part 5/1994
M.1088	Considerations for sharing with systems of other services operating in the bands allocated to the radionavigation satellite service	Principes de partage avec les systèmes d'autres services exploités dans les bandes attribuées au service de radionavigation par satellite	Consideraciones relativas a la compartición con sistemas de otros servicios que funcionan en las bandas atribuidas al servicio de radionavegación por satélite	1993	M Part 5/1994
M.1089	Technical considerations for the coordination of mobile-satellite systems supporting AMS(R)S	Considérations techniques en vue de la coordination des systèmes mobiles par satellite assurant le service mobile aéronautique (R) par satellite	Consideraciones técnicas relativas a la coordinación de sistemas móviles por satélite que sustentan el servicio móvil aeronaútico (R) por satélite	1993	M Part 5/1994
M.1090	Frequency plans for satellite transmission of SCPC carriers using non-linear transponders in the mobile-satellite service	Plans de fréquences pour l'émission de porteuses monovoie, au moyen d'un répéteur non linéaire dans le service mobile par satellite	Planes de frecuencias para la transmisión por satélite de portadoras de un solo canal mediante transpondedores no lineales en el servicio móvil por satélite	1993	M Part 5/1994

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M.1091	Reference off-axis radiation patterns for mobile earth station antennas operating in the land mobile-satellite service in the frequency range 1 to 3 GHz	Diagrammes de rayonnement hors axe de référence pour antennes de stations terriennes mobiles exploitées dans le cadre du service mobile terrestre par satellite dans la gamme de fréquences 1 à 3 GHz	Diagramas de radiación de referencia fuera del eje para antenas de estaciones terrenas que funcionan en el servicio móvil terrestre por satélite en la gama de frecuencias 1 a 3 GHz	1993	M Part 5/1994
M.1141-1	Sharing in the 1-3 GHz frequency range between non-geostationary space stations operating in the mobile-satellite service and stations in the fixed service	Partage dans la gamme 1-3 GHz, entre les stations spatiales non géostationnaires du service mobile par satellite et stations du service fixe	Compartición en la gama 1-3 GHz entre las estaciones espaciales no geoestacionarias que operan en el servicio móvil por satélite y las estaciones del servicio fijo	1997	Pink - 8/1024
M.1142-1	Sharing in the 1-3 GHz frequency range between geostationary space stations operating in the mobile-satellite service and stations in the fixed service	Partage dans la gamme 1-3 GHz entre les stations spatiales géostationnaires du service mobile par satellite et les stations du service fixe	Compartición en la gama de frecuencias 1-3 GHz entre las estaciones espaciales geoestacionarias del servicio móvil por satélite y las estaciones del servicio fijo	1997	Pink - 8/1025
M.1143-1	System specific methodology for coordination of non-geostationary space stations (space-to-Earth) operating in the mobile-satellite service with the fixed service	Méthode systémique de coordination des stations spatiales non géostationnaires (espace-Terre) du service mobile par satellite avec les systèmes du service fixe	Metodología específica de sistema para la coordinación de estaciones espaciales no geoestacionarias (espacio-Tierra) del servicio móvil por satélite con el servicio fijo	1997	Pink - 8/1026
M.1167	Framework for the satellite component of future public land mobile telecommunication systems (FPLMTS)	Cadre de description de l'élément satellite des futurs systèmes mobiles terrestres publics de télécommunications (FSMTPT)	Marco general sobre la componente de satélite de los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1995	M Part 2/1995
M.1168	Framework of future public land mobile telecommunication systems management (FPLMTS)	Cadre de description de la gestion des futurs systèmes mobiles terrestres publics de télécommunications (FSMTPT)	Marco general para la gestión de los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1995	M Part 2/1995

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M.1169	Hours of service of ship stations	Vacations des stations de navire	Horas de funcionamiento de las estaciones de barco	1995	M Part 3/1995
M.1170	Morse telegraphy procedures in the maritime mobile service	Procédures radiotélégraphiques Morse dans le service mobile maritime	Procedimientos de radiotelegrafía Morse en el servicio móvil marítimo	1995	M Part 3/1995
M.1171	Radiotelephony procedures in the maritime mobile service	Procédures radiotéléphoniques dans le service mobile maritime	Procedimientos de radiotelefonía en el servicio móvil marítimo	1995	M Part 3/1995
M.1172	Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service	Abréviations et signaux divers à employer dans les radiocommunications du service mobile maritime	Abreviaturas y señales diversas que habrán de utilizarse para las radiocomunicaciones en el servicio móvil marítimo	1995	M Part 3/1995
M.1173	Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz	Caractéristiques techniques des émetteurs à bande latérale unique utilisés dans le service mobile maritime pour la radiotéléphonie dans les bandes comprises entre 1 606,5 kHz (1 605 kHz Région 2) et 4 000 kHz et entre 4 000 kHz et 27 500 kHz	Características técnicas de los transmisores de banda lateral única utilizados para la radiotelefonía en el servicio móvil marítimo, en las bandas comprendidas entre 1 606,5 kHz (1 605 kHz en la Región 2) y 4 000 kHz y entre 4 000 kHz y 27 500 kHz	1995	M Part 3/1995
M.1174	Characteristics of equipment used for on-board communications in the bands between 450 and 470 MHz	Caractéristiques des appareils utilisés pour les communications de bord dans les bandes de fréquences comprises entre 450 et 470 MHz	Características de los equipos utilizados para las comunicaciones a bordo en las bandas de frecuencias comprendidas entre 450 y 470 MHz	1995	M Part 3/1995
M.1175	Automatic receiving equipment for radiotelegraph and radiotelephone alarm signals	Appareils automatiques destinés à la réception des signaux d'alarme radiotélégraphique et radiotéléphonique	Equipo automático de recepción de las señales de alarma radiotelegráfica y radiotelefónica	1995	M Part 3/1995

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M.1176	Technical parameters of radar target enhancers	Caractéristiques techniques des renforceurs d'échos radar	Parámetros técnicos de los dispositivos de mejora de los blancos radar	1995	M Part 4/1995
M.1177-1	Techniques for measurement of spurious emissions of radar systems	Techniques à utiliser pour la mesure des rayonnements non essentiels des systèmes radar	Técnicas para la medición de emisiones no esenciales en los sistemas de radar	1997	Pink - 8/1016
M.1178	Use of the maritime radionavigation band 283.5-315 kHz (Region 1) and 285-325 kHz (Regions 2 and 3)	Utilisation de la bande attribuée au service de radionavigation maritime 283,5-315 kHz (Région 1) et 285-325 kHz (Régions 2 et 3)	Utilización de la banda de radionavegación marítima (283,5-315 kHz en la Región 1 y 285-325 kHz en las Regiones 2 y 3)	1995	M Part 4/1995
M.1179	Procedures for determining the interference coupling mechanisms and mitigation options for systems operating in bands adjacent to and in harmonic relationship with radar stations in the radiodetermination service	Procédures pour la détermination des mécanismes de brouillage par couplage et possibilités d'atténuation des brouillages pour les systèmes fonctionnant dans des bandes adjacentes ou en relation harmonique avec celles des stations radars du service de radiorepérage	Procedimientos para determinar los mecanismos de acoplamiento de la interferencia y posibilidades de reducción de la misma en sistemas que funcionan en bandas adyacentes a las de las estaciones de radar del servicio de radiodeterminación y en relación armónica con ellas	1995	M Part 4/1995
M.1180	Availability of communication circuits in the aeronautical mobile-satellite (R) services (AMS(R)S)	Disponibilité des circuits de communication des services mobiles aéronautiques (R) par satellite (SMA(R)S)	Disponibilidad de los circuitos de comunicación en los servicios móviles aeronáuticos por satélite (R) SMAS(R)	1995	M Part 5/1995

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M.1181	Minimum performance objectives for narrow-band digital channels using geostationary satellites to serve transportable and vehicular mobile earth stations in the 1-3 GHz range, not forming part of the ISDN	Objectifs minimaux de qualité applicables aux canaux numériques à bande étroite utilisant des satellites géostationnaires pour desservir des stations terriennes mobiles transportables et montées sur véhicule, dans la gamme de fréquences 1-3 GHz, ne faisant pas partie du réseau RNIS	Objetivos mínimos de entidad de los canales digitales de banda estrecha que utilizan satélites geoestacionarios para dar servicio a estaciones terrenas móviles portátiles y de vehículos en la gama 1-3 GHz y que no forman parte de la RDSI	1995	M Part 5/1995
M.1182	Integration of terrestrial and satellite mobile communication systems	Intégration des systèmes de communication mobiles de Terre et par satellite	Integración de los sistemas de comunicaciones móviles terrenales y por satélite	1995	M Part 5/1995
M.1183	Permissible levels of interference in a digital channel of a geostationary network in mobile-satellite service in 1-3 GHz caused by other networks of this service and fixed-satellite service	Niveaux admissibles de brouillage dans un canal numérique d'un réseau du service mobile par satellite géostationnaire dans la bande 1-3 GHz causé par d'autres réseaux de ce service et du service fixe par satellite	Niveles de interferencia permisibles en un canal digital de una red de satélites geoestacionarios del servicio móvil por satélite en 1-3 GHz producidos por otras redes de este servicio y del servicio fijo por satélite	1995	M Part 5/1995
M.1184	Technical characteristics of mobile satellite systems in the 1-3 GHz range for use in developing criteria for sharing between the mobile-satellite service (MSS) and other services using common frequencies	Caractéristiques techniques des systèmes mobiles par satellite dans la gamme 1-3 GHz à utiliser pour élaborer des critères de partage entre le service mobile par satellite et d'autres services utilisant des fréquences communes	Características técnicas de los sistemas móviles por satélite en la banda 1-3 GHz para su utilización en el desarrollo de criterios para la compartición para el servicio móvil por satélite (SMS) y otros servicios que utilizan frecuencias comunes	1995	M Part 5/1995

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M.1185-1	Method for determining coordination distance between ground based mobile earth stations and terrestrial stations operating in the 148.0-149.9 MHz band	Méthode de détermination de la distance de coordination entre stations terriennes mobiles au sol et stations de Terre fonctionnant dans la bande 148,0-149,9 MHz	Método para determinar la distancia de coordinación entre estaciones terrenas móviles terrestres y estaciones terrenales que funcionan en la banda 148,0-149,9 MHz	1997	Pink - 8/1019
M.1186	Technical considerations for the coordination between MSS networks utilizing code division multiple access (CDMA) and other spread spectrum techniques in the 1-3 GHz band	Considérations techniques pour la coordination entre les réseaux du service mobile par satellite utilisant l'accès multiple par répartition en code (AMRC) et d'autres techniques d'étalement du spectre dans la bande 1-3 GHz	Consideraciones técnicas para la coordinación entre las redes del servicio móvil por satélite (SMS) que utilizan el acceso múltiple por división de código (AMDC) y otras técnicas de espectro ensanchadas en la banda de 1-3 GHz	1995	M Part 5/1995
M.1187	A method for the calculation of the potentially affected region for a mobile-satellite service (MSS) network in the 1-3 GHz range using circular orbits	Méthode de calcul de la région pouvant être affectée dans le cas d'un réseau du service mobile par satellite utilisant des orbites circulaires dans la bande 1-3 GHz	Método de cálculo de la región potencialmente afectado para una red del servicio móvil por satélite (SMS) que funcione en la gama de 1-3 GHz y utilice órbitas circulares	1995	M Part 5/1995
M.1188	Impact of propagation on the design of non-GSO mobile-satellite systems not employing satellite diversity which provide service to handheld equipment	Influence de la propagation sur la conception des systèmes à satellites mobiles non géostationnaires qui n'utilisent pas la diversité de satellite et qui assurent un service à des équipements portables	Influencia de la propagación en el diseño en sistemas del servicio móvil por satélite con satélites no geoestacionarios que no utilizan diversidad de satélites y proporcionan servicio a equipos portátiles	1995	M Part 5/1995
M.1221	Technical and operational requirements for cellular multimode mobile radio stations	Prescriptions techniques et opérationnelles applicables aux stations de radiocommunication mobiles multimode cellulaires	Requisitos técnicos y de explotación de las estaciones de radiocomunicaciones móviles multimodo celulares	1997	M Part 1/1997

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M.1222	Transmission of data messages on shared private land mobile radio channels	Transmission de messages de données sur des canaux radioélectriques mobiles terrestres privés et utilisés en partage	Transmisión de mensajes de datos en canales compartidos de canales radioeléctricos móviles terrestres privados	1997	M Part 1/1997
M.1223	Evaluation of security mechanisms for IMT-2000	Évaluation des mécanismes de sécurité pour les IMT-2000	Evaluación de los mecanismos de seguridad para las IMT-2000	1997	M Part 2/1997
M.1224	Vocabulary of terms for future public land mobile telecommunication systems (FPLMTS)	Terminologie des futurs systèmes mobiles terrestres publics de télécommunication (FSMTPT)	Vocabulario de términos de los futuros sistemas públicos de telecomunicaciones móviles terrestres (FSPTMT)	1997	M Part 2/1997
M.1225	Guidelines for evaluation of radio transmission technologies for IMT-2000	Directives d'évaluation des technologies de transmission radioélectrique pour les IMT-2000	Pautas de evaluación de las tecnologías de transmisión radioeléctrica para las IMT-2000	1997	M Part 2/1997
M.1226	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz	Caractéristiques techniques et d'exploitation des radars profileurs de vent dans les bandes situées au voisinage de 50 MHz	Características técnicas y de explotación de los radares perfiladores de viento en bandas próximas a 50 MHz	1997	M Part 4/1997
M.1227	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 1 000 MHz	Caractéristiques techniques et d'exploitation des radars profileurs de vent dans les bandes situées au voisinage de 1 000 MHz	Características técnicas y de explotación de los radares perfiladores de viento en bandas próximas a 1 000 MHz	1997	M Part 4/1997
M.1228	Methodology for determining performance objectives for narrow-band channels in mobile satellite systems using geostationary satellites not forming part of the ISDN	Méthode de détermination des objectifs de qualité de fonctionnement des canaux à bande étroite des systèmes mobiles par satellite utilisant des satellites géostationnaires et ne faisant pas partie du RNIS	Metodología para determinar los objetivos de calidad de funcionamiento de los canales de banda estrecha en los sistemas móviles por satélite que utilizan satélites no geoestacionarios y que no forman parte de la RDSI	1997	M Part 5/1997

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M.1229	Performance objectives for the digital aeronautical mobile-satellite service (AMSS) channels operating in the bands 1 525 to 1 559 MHz and 1 626.5 to 1 660.5 MHz not forming part of the ISDN	Objectifs de qualité de fonctionnement applicables aux canaux numériques du service mobile aéronautique par satellite (SMAS) exploités entre 1 525 et 1 559 MHz et entre 1 626,5 et 1 660,5 MHz et ne faisant pas partie du RNIS	Objetivos de calidad de funcionamiento para los canales digitales del servicio móvil aeronáutico por satélite (SMAS) que funcionan en las bandas de 1 525 a 1 559 MHz y de 1 626,5 a 1 660,5 MHz y que no forman parte de la RDSI	1997	M Part 5/1997
M.1230	Performance objectives for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band	Objectifs de qualité de fonctionnement applicables aux liaisons espace-Terre exploitées dans le service mobile par satellite avec des satellites non géostationnaires dans la bande 137-138 MHz	Objetivos de calidad de los enlaces espacio-Tierra que funcionan en el servicio móvil por satélite con satélites no geoestacionarios en la banda 137-138 MHz	1997	M Part 5/1997
M.1231	Interference criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band	Critères de brouillage applicables aux liaisons espace-Terre exploitées dans le service mobile par satellite avec des satellites non géostationnaires dans la bande 137-138 MHz	Criterios de interferencia para enlaces espacio-Tierra que funcionan en el servicio móvil por satélite con satélites no geoestacionarios (no OSG) en la banda 137-138 MHz	1997	M Part 5/1997
M.1232	Sharing criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band	Critères de partage applicables aux liaisons espace-Terre exploitées dans le service mobile par satellite avec des satellites non géostationnaires dans la bande 137-138 MHz	Criterios de compartición para enlaces espacio-Tierra que funcionan en el servicio móvil por satélite con satélites no geoestacionarios (no OSG) en la banda 137-138 MHz	1997	M Part 5/1997

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M.1233	Technical considerations for sharing satellite network resources between the mobile-satellite service (MSS) (other than the aeronautical mobile-satellite (R service (AMS(R)S)) and AMS(R)S	Considérations techniques applicables au partage des ressources des réseaux à satellites entre le service mobile par satellite (SMS) (à l'exception du service mobile aéronautique (R) par satellite (SMA(R)S)) et le SMA(R)S	Consideraciones técnicas para la compartición de recursos de la red por satélite entre el servicio móvil por satélite (SMS) (distinto al servicio móvil aeronáutico (R) por satélite (SMA(R)S)) y el SMA(R)S	1997	M Part 5/1997
M.1234	Permissible level of interference in a digital channel of a geostationary satellite network in the aeronautical mobile-satellite (R) service (AMS(R)S) in the bands 1 545 to 1 555 MHz and 1 646.5 to 1 656.5 MHz and its associated feeder links caused by other networks of this service and the fixed-satellite service	Niveau admissible de brouillage occasionné, dans un canal numérique de réseau à satellite géostationnaire du service mobile aéronautique (R) par satellite (SMA(R)S) dans les bandes 1 545-1 555 MHz et1 646,5-1 656,5 MHz et dans les liaisons de connexion associées, par d'autres réseaux de ce service ou du service fixe par satellite	Nivel admisible de interferencia en un canal digital de una red de satélite geoestacionario del servicio móvil aeronáutico (R) por satélite en las bandas 1 545-1 555 MHz y 1 646,5-1 656,5 MHz y sus enlaces de conexión asociados, causado por otras redes de dicho servicio y del servicio fijo por satélite	1997	M Part 5/1997
M.1307	Automatic determination of location and guidance in the land mobile services	Détermination automatique de position et guidage automatique dans les services mobiles terrestres	Determinación automática de las posiciones y sistemas de guía en el servicio móvil terrestre	1997	Pink - 8/1005
M.1308	Evolution of land mobile systems towards IMT-2000	Évolution des systèmes mobiles terrestres vers les IMT-2000	Evolución de los sistemas móviles terrestres hacia las IMT-2000	1997	Pink - 8/1006
M.1309	Digitally coded speech in the land mobile service	Parole codée numériquement dans le service mobile terrestre	Voz codificada digitalmente en el servicio móvil terrestre	1997	Pink - 8/1007
M.1310	Transport information and control systems (TICS) - objectives and requirements	Systèmes de gestion et d'information des transports (TICS) - objectifs et besoins	Sistemas de información y control para transportes (TICS) objetivos y necesidades	1997	Pink - 8/1008

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M.1311	Framework for modularity and radio commonality within IMT-2000	Cadre de description de la modularité et de la communauté de conception radioélectrique au sein des systèmes IMT-2000	Marco para la modularidad y los elementos radioeléctricos comunes en las IMT-2000	1997	Pink - 8/1031
M.1312	A long-term solution for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	Solution à long terme pour améliorer l'efficacité d'utilisation de la bande 156-174 MHz par les stations du service mobile maritime	Una solución a largo plazo para mejorar la eficacia de la utilización de la banda 156-174 MHz por estaciones del servicio móvil marítimo	1997	Pink - 8/1013
M.1313	Technical characteristics of maritime radionavigation radars	Caractéristiques techniques des radars du service de radionavigation maritime	Características técnicas de los radares de radionavegación marítima	1997	Pink - 8/1017
M.1314	Reduction of spurious emissions of radar systems operating in the 3 GHz and 5 GHz bands	Réduction des rayonnements non essentiels émis par les systèmes radar fonctionnant dans les bandes des 3 GHz et des 5 GHz	Reducción de las emisiones no esenciales de los sistemas de radar que funcionan en las bandas de 3 y 5 GHz	1997	Pink - 8/1018
M.1315	Methodology for evaluating interference from narrow-band mobile-satellite networks to spread-spectrum direct-sequence mobile-satellite networks operating with space stations in low-Earth orbit at frequencies below 1 GHz	Méthodologie d'évaluation du brouillage des réseaux mobiles à satellite à étalement du spectre en séquence directe utilisant des stations spatiales sur orbite terrestre basse par les réseaux mobiles à satellite à bande étroite à des fréquences inférieures à 1 GHz	Metodología para la evaluación de interferencias causadas por las redes móviles de satélite de banda estrecha a redes móviles de satélite de secuencia directa y espectro ensanchado que funcionan con estaciones espaciales en órbitas bajas en frecuencias inferiores a 1 GHz	1997	Pink - 8/1020
M.1316	Principles and a methodology for frequency sharing in the 1 610.6-1 613.8 and 1 660-1 660.5 MHz bands between the mobile-satellite service (Earth-to-space) and the radio astronomy service	Principes et méthodes de partage de fréquences dans les bandes 1 610,6-1 613,8 et 1 660-1 660,5 MHz entre le service mobile par satellite (Terre vers espace) et le service de radioastronomie	Principios y metodología de la compartición de frecuencias en las bandas 1 610,6-1 613,8 MHz y 1 660-1 660,5 MHz entre el servicio móvil por satélite (Tierra-espacio) y el servicio de radioastronomía	1997	Pink - 8/1021

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M.1317	Considerations for sharing between systems of other services operating in bands allocated to the radionavigation-satellite and aeronautical radionavigation services and the global navigation satellite system (GLONASS-M)	Considérations de partage de fréquences entre systèmes d'autres services exploités dans les bandes attribuées au service de radionavigation par satellite et au service de radionavigation aéronautique et au système mondial de navigation par satellite (GLONASS-M)	Consideraciones para la compartición entre sistemas de otros servicios que operan en las bandas asignadas a los servicios de radionavegación por satélite y a los servicios aeronáuticos de radionavegación y el sistema mundial de navegación por satélite (GLONASS-M)	1997	Pink - 8/1022
M.1318	Interference protection evaluation model for the radionavigation-satellite service in the 1 559-1 610 MHz band	Modèle d'évaluation de la protection contre les brouillages du service de radionavigation par satellite dans la bande 1 559-1 610 MHz	Modelo de evaluación de la protección contra las interferencias para el servicio de radionavegación por satélite en la banda 1 559-1 610 MHz	1997	Pink - 8/1023
M.1319	The basis of a methodology to assess the impact of interference from a TDMA/FDMA non-GSO MSS satellite system operating in the 2 GHz range on the performance of line-of-sight fixed service receivers	Principe d'une méthodologie d'évaluation de l'impact du brouillage d'un système à satellite du SMS/non OSG fonctionnant dans la bande des 2 GHz sur la qualité de fonctionnement de récepteurs du service fixe en visibilité directe	Base de una metodología para evaluar la repercusión de la interferencia causada por un sistema de satélites del SMS no OSG con AMDT/AMDF que funciona en la gama de 2 GHz sobre la calidad de funcionamiento de los receptores del servicio fijo con visibilidad directa	1997	Pink - 8/1027
P.310-9	Definitions of terms relating to propagation in non-ionized media	Définitions des termes relatifs à la propagation dans les milieux non ionisés	Definición de términos relativos a la propagación en medios no ionizados	1993	PN/1994
P.311-8	Acquisition, presentation and analysis of data in studies of tropospheric propagation	Acquisition, présentation et analyse des données dans les études relatives à la propagation troposphérique	Recopilación, presentación y análisis de los datos obtenidos mediante estudios relativos a la propagación troposférica	1997	Blue - 3/BL/7

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P.313-8	Exchange of information for short-term forecasts and transmission of ionospheric disturbance warnings	Echange de renseignements en vue des prévisions à court terme et transmission des avertissements de perturbations ionosphériques	Intercambio de observaciones para predicciones a corto plazo y transmisión de avisos de perturbaciones ionosféricas	1995	P/1995
P.341-4	The concept of transmission loss for radio links	Notion d'affaiblissement de transmission pour les liaisons radioélectriques	Noción de pérdidas de transmisión en los enlaces radioeléctricos	1995	P/1995
P.368-7	Ground-wave propagation curves for frequencies between 10 kHz and 30 MHz	Courbes de propagation de l'onde de sol entre 10 kHz et 30 MHz	Curvas de propagación por onda de superficie para frecuencias comprendidas entre 10 kHz y 30 MHz	1992	PN/1994
P.369-6	Reference atmosphere for refraction	Atmosphère de référence pour la réfraction	Atmósfera de referencia para la refracción	1993	PN/1994
P.370-7	VHF and UHF propagation curves for the frequency range from 30 MHz to 1000 MHz. Broadcasting services	Courbes de propagation en ondes métriques et décimétriques dans la gamme des fréquences comprises entre 30 et 1000 MHz. Services de radiodiffusion	Curvas de propagación en ondas métricas y decimétricas para la gama de frecuencias comprendidas entre 30 y 1000 MHz. Servicios de radiodifusión	1995	P/1995
P.371-7	Choice of indices for long-term ionospheric predictions	Choix d'indices pour les prévisions ionosphériques à long terme	Elección de índices para las predicciones ionosféricas a largo plazo	1995	P/1995
P.372-6	Radio noise	Bruit radioélectrique	Ruido radioeléctrico	1993	PI/1994
P.373-7	Definitions of maximum and minimum transmission frequencies	Définition des fréquences maximales et minimales de transmission	Definición de las frecuencias máximas y mínimas de transmisión	1995	P/1995

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P.434-6	ITU-R reference ionospheric characteristics and methods of basic MUF, operational MUF and ray-path prediction	Caractéristiques ionosphériques de référence de l'UIT-R et méthodes de prévision des MUF de référence et d'exploitation et du trajet des rayons	Características ionosféricas de referencia del UIT-R y métodos de predicción de la MUF básica, de la MUF operacional (o MUF de explotación) y trayecto del rayo	1995	P/1995
P.452-8	Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0.7 GHz	Méthode de prévision pour évaluer les brouillages hyperfréquences entre stations situées à la surface de la Terre à des fréquences supérieures à 0,7 GHz environ	Procedimiento de predicción para evaluar la interferencia en microondas entre estaciones situadas en la superficie de la Tierra a frecuencias superiores a unos 0,7 GHz	1997	Blue - 3/BL/13
P.453-6	The radio refractive index: its formula and refractivity data	Indice de réfraction radioélectrique : formules et données de réfractivité	Índice de refracción radioeléctrica: fórmula y datos sobre la refractivdad	1997	Blue - 3/BL/5
P.525-2	Calculation of free-space attenuation	Calcul de la propagation en espace libre	Cálculo de la atenuación en el espacio libre	1993	PN/1994
P.526-5	Propagation by diffraction	Propagation par diffraction	Propagación por difracción	1997	Blue - 3/BL/25
P.527-3	Electrical characteristics of the surface of the Earth	Caractéristiques électriques du sol	Características eléctricas de la superficie de la Tierra	1992	PN/1994
P.528-2	Propagation curves for aeronautical mobile and radionavigation services using the VHF, UHF and SHF bands	Courbes de propagation dans les bandes d'ondes métriques, décimétriques et centimétriques pour le service mobile aéronautique et le service de radionavigation aéronautique	Curvas de propagación para los servicios móvil aeronaútico y de radionavegación aeronaútica que utilizan las bandas de ondas métricas, decimétricas y centimétricas	1986	PN/1994
P.529-2	Prediction methods for the terrestrial land mobile service in the VHF and UHF bands	Méthodes de prévision de la propagation pour le service mobile terrestre de Terre dans les bandes des ondes métriques et décimétriques	Métodos de predicción requeridos para el servicio móvil terrestre terrenal en las bandas de ondas métricas y decimétricas	1995	P/1995

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P.530-7	Propagation data and prediction methods required for the design of terrestrial line-of-sight systems	Données de propagation et méthodes de prévision nécessaires pour la conception de faisceaux hertziens à visibilité directe de Terre	Datos de propagación y métodos de predicción necesarios para el diseño de sistemas terrenales con visibilidad directa	1997	Blue - 3/BL/12
P.531-4	Ionospheric propagation data and prediction methods required for the design of satellite services and systems	Données de propagation ionosphérique et méthodes de prévision requises pour la conception de services et de systèmes à satellites	Datos de propagación ionosférica y métodos de predicción requeridos para el diseño de servicios y sistemas de satélites	1997	Blue - 3/BL/9
P.532-1	Ionospheric effects and operational considerations associated with artificial modification of the ionosphere and the radio-wave channel	Effets ionosphériques et problèmes d'exploitation liés à la modification artificielle de l'ionosphère et du canal radioélectrique	Efectos ionosféricos y consideraciones de explotación en relación con la modificación artificial de la ionosfera y del canal de ondas radioeléctricas	1992	PI/1994
P.533-5	HF propagation prediction method	Méthode pour la prévision de la propagation des ondes décamétriques	Método para la predicción de la propagación de las ondas decamétricas	1995	P/1995
P.534-3	Method for calculating sporadic-E field strength	Méthode de calcul du champ en présence d'ionisation sporadique de la région E	Método para calcular la intensidad de campo en presencia de la capa E esporádica	1990	PI/1994
P.581-2	The concept of "worst month"	Notion de mois le plus défavorable	Noción de "mes más desfavorable"	1990	PN/1994
P.616	Propagation data for terrestrial maritime mobile services operating at frequencies above 30 MHz	Données sur la propagation nécessaires pour les services mobiles maritimes de Terre fonctionnant à des fréquences supérieures à 30 MHz	Datos de propagación para servicios móviles marítimos terrenales que funcionan a frecuencias superiores a 30 MHz	1986	PN/1994
P.617-1	Propagation prediction techniques and data required for the design of trans-horizon radio-relay systems	Techniques de prévision de la propagation et données de propagation nécessaires pour la conception des faisceaux hertziens transhorizon	Datos de propagación y métodos de predicción necesarios para el diseño de sistemas de radioenlaces transhorizonte	1992	PN/1994

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P.618-5	Propagation data and prediction methods required for the design of Earth-space telecommunication systems	Données de propagation et méthodes de prévision nécessaires pour la conception de systèmes de télécommunication Terre-espace	Datos de propagación y métodos de predicción necesarios para el diseño de sistemas de telecomunicación Tierra-espacio	1997	Blue - 3/BL/8
P.619-1	Propagation data required for the evaluation of interference between stations in space and those on the surface of the Earth	Données sur la propagation nécessaires à l'évaluation des brouillages entre des stations dans l'espace et des stations situées à la surface de la Terre	Datos de propagación necesarios para evaluar la interferencia entre estaciones en el espacio y estaciones sobre la superficie de la Tierra	1992	PN/1994
P.620-3	Propagation data required for the evaluation of coordination distances in the frequency range 0.85-60 GHz	Données sur la propagation nécessaires au calcul des distances de coordination dans la gamme de fréquences 0,85-60 GHz	Datos de propagación necesarios para evaluar las distancias de coordinación en la banda de frecuencias 0,85-60 GHz	1997	Blue - 3/BL/14
P.676-3	Attenuation by atmospheric gases	Affaiblissement dû aux gaz de l'atmosphère	Atenuación debida a los gases atmosféricos	1997	Blue - 3/BL/10
P.678-1	Characterization of the natural variability of propagation phenomena	Caractérisation de la variabilité naturelle des phénomènes de propagation	Caracterización de la variabilidad natural de los fenómenos de propagación	1992	PN/1994
P.679-1	Propagation data required for the design of broadcasting-satellite systems	Données de propagation nécessaires pour la conception des systèmes de radiodiffusion par satellite	Datos de propagación necesarios para el diseño de sistemas de radiodifusión por satélite	1992	PN/1994
P.680-2	Propagation data required for the design of Earth-space maritime mobile telecommunication systems	Données de propagation nécessaires pour la conception de systèmes de télécommunication mobiles maritimes Terre-espace	Datos de propagación necesarios para el diseño de sistemas de telecomunicación móviles marítimos Tierra-espacio	1997	Blue - 3/BL/22
P.681-3	Propagation data required for the design of Earth-space land mobile telecommunication systems	Données de propagation nécessaires pour la conception de systèmes de télécommunication mobiles terrestres Terre-espace	Datos de propagación necesarios para el diseño de sistemas de telecomunicaciones móviles terrestres Tierra-espacio	1997	Blue - 3/BL/23

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P.682-1	Propagation data required for the design of Earth-space aeronautical mobile telecommunication systems	Données de propagation nécessaires pour la conception de systèmes de télécommunication aéronautiques mobiles Terre-espace	Datos de propagación necesarios para el diseño de sistemas de telecomunicación móviles aeronáuticas Tierra-espacio	1992	PN/1994
P.684-1	Prediction of field strength at frequencies below about 500 kHz	Prévision du champ aux fréquences inférieures à 500 kHz environ	Predicción de la intensidad de campo en frecuencias por debajo de unos 500 kHz	1993	PI/1994
P.832-1	World atlas of ground conductivities - Part 1	Atlas mondial de la conductivité du sol - Partie 1	Atlas mundial de la conductividad del suelo - Parte 1	1997	Blue - 3/BL/20
P.833-1	Attenuation in vegetation	Affaiblissement dû à la végétation	Atenuación debida a la vegetación	1993	PN/1994
P.834-2	Effects of tropospheric refraction on radiowave propagation	Effets de la réfraction troposphérique sur la propagation des ondes radioélectriques	Efectos de la refracción troposférica sobre la propagación de las ondas radioeléctricas	1997	Blue - 3/BL/26
P.835-2	Reference standard atmospheres	Atmosphère de référence pour l'affaiblissement dû aux gaz	Atmósferas normalizadas de referencia para la atenuación debida a los gases	1997	Blue - 3/BL/21
P.836-1	Water vapour: surface density and total columnar content	Vapeur d'eau: concentration à la surface de la Terre et contenu total d'une colonne d'air	Vapor de agua: densidad en la superficie y contenido de columna total	1997	Blue - 3/BL/11
P.837-1	Characteristics of precipitation for propagation modelling	Caractéristiques des précipitations pour la modélisation de la propagation	Características de la precipitación para establecer modelos de propagación	1993	PN/1994
P.838	Specific attenuation model for rain for use in prediction methods	Modèle d'affaiblissement linéique dû à la pluie destiné aux méthodes de prévision	Modelo de la atenuación específica debida a la lluvia para los métodos de predicción	1992	PN/1994
P.839-1	Rain height model for prediction methods	Modèle d'altitude de pluie pour les méthodes de prévision	Modelo de estimación de la altura de la lluvia, para utilizar en los métodos de predicción	1997	Blue - 3/BL/18

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P.840-2	Attenuation due to clouds and fog	Affaiblissement dû aux nuages et au brouillard	Atenuación debida a las nubes y a la niebla	1997	Blue - 3/BL/24
P.841	Conversion of annual statistics to worst-months statistics	Conversion des statistiques annuelles en statistiques pour le mois le plus défavorable	Conversión de las estadísticas anuales en estadísticas del mes más desfavorable	1992	PN/1994
P.842-1	Computation of reliability and compatibility of HF radio systems	Calcul de la fiabilité et de la compatibilité des systèmes radioélectriques en ondes décamétriques	Cálculo de la fiabilidad y la compatibilidad de los sistemas radioeléctricos en ondas decamétricas	1992	PI/1994
P.843-1	Communication by meteor-burst propagation	Communications utilisant la propagation par impulsions météoriques	Comunicaciones mediante la propagación por impulsos meteóricos	1997	Blue - 3/BL/16
P.844-1	Ionospheric factors affecting frequency sharing in the VHF and UHF bands (30 MHz-3 GHz)	Facteurs ionosphériques qui affectent le partage des fréquences dans les bandes des ondes métriques et décimétriques (30 MHz-3 GHz)	Factores ionosféricos que afectan a la compartición de frecuencias en las bandas de ondas métricas y decimétricas (30 MHz-3 GHz)	1993	PI/1994
P.845-3	Hf field-strength measurement	Mesure du champ des ondes décamétriques	Medición de la intensidad de campo en ondas decamétricas	1997	Blue - 3/BL/15
P.846-1	Measurements of ionospheric and related characteristics	Mesures de caractéristiques ionosphériques et de caractéristiques associées	Mediciones de las características ionosféricas y otras afines	1995	P/1995
P.1057	Probability distributions relevant to radio-wave propagation modelling	Modélisation de la propagation des ondes radioélectriques: distributions de probabilité	Distribuciones de probabilidad para establecer modelos de propagación de las ondas radioeléctricas	1993	PN/1994
P.1058-1	Digital topographic databases for propagation studies	Bases de données topographiques numériques pour les études de propagation	Bases de datos topográficas digitales para estudios de propagación	1997	Blue - 3/BL/4

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P.1060	Propagation factors affecting frequency sharing in HF terrestrial systems	Facteurs de propagation influant sur le partage des fréquences entre systèmes de Terre en ondes décamétriques	Factores de propagación que afectan a la compartición de frecuencias en sistemas terrenales en ondas decamétricas	1993	PI/1994
P.1144	Guide to the application of the propagation methods of Study Group 3	Guide pour l'application des méthodes de prévision de la propagation de la Commission d'études 3 des radiocommunications	Guía para la aplicación de los métodos de propagación de la Comisión de Estudio 3 de Radiocomunicaciones	1995	P/1995
P.1145	Propagation data for the terrestrial land mobile service in the VHF and UHF bands	Données de propagation pour le service mobile terrestre dans les bandes d'ondes métriques et décimétriques	Datos de propagación para el servicio móvil terrestre terrenal en las bandas de ondas métricas y decimétricas	1995	P/1995
P.1146	The prediction of field strength for land mobile and terrestrial broadcasting services in the frequency range from 1 to 3 GHz	Prévision du champ pour les services mobile terrestre et de radiodiffusion de Terre dans la gamme de fréquences 1 à 3 GHz	Predicción de la intensidad de campo para los servicios móvil terrestre y de radiodifusión Terrenal en la banda de frecuencias de 1 a 3 GHz	1995	P/1995
P.1147	Prediction of sky-wave field strength at frequencies between about 150 and 1 700 kHz	Prévision du champ de l'onde ionosphérique pour les fréquences comprises entre 150 kHz et 1 700 kHz environ	Predicción de la intensidad de campo de la onda ionosférica en frecuencias comprendidas entre 150 y 1 700 kHz aproximadamente	1995	P/1995
P.1148-1	Standardized procedure for comparing predicted and observed HF sky-wave signal intensities and the presentation of such comparisons	Procédure normalisée de comparaison des valeurs prévues et observées des intensités des signaux transmis par l'onde ionosphérique dans la gamme des ondes décamétriques et présentation de ces comparaisons	Procedimiento normalizado para comparar las intensidades predichas y observadas de la señal de onda ionosférica en ondas decamétricas y presentación de esta comparación	1997	Blue - 3/BL/6

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P.1238	Propagation data and prediction models for the planning of indoor Radiocommunication systems and radio local area networks in the frequency range 900 MHz to 100 GHz	Données de propagation et modèles de prévision pour la planification de systèmes de radiocommunication destinés à fonctionner à l'intérieur de bâtiments et de réseaux locaux d'entreprise hertziens fonctionnant à des fréquences comprises entre 900 MHz et 100 GHz	Datos de propagación y modelos de predicción para la planificación de sistemas de radiocomunicaciones de interiores y redes de radiocomunicaciones de área local en la gama de frecuencias de 900 MHz a 100 GHz	1997	Blue - 3/BL/1
P.1239	ITU-R Reference ionospheric characteristics	Caractéristiques ionosphériques de référence de l'UIT-R	Características ionosféricas de referencia del UIT-R	1997	Blue - 3/BL/2
P.1240	ITU-R Methods of basic MUF, operational MUF and ray-path prediction	Méthodes de prévision des MUF de référence et d'exploitation et du trajet des rayons de l'UIT-R	Métodos del UIT-R para la predicción de la MUF básica, de la MUF operacional (o MUF de explotación) y trayecto del rayo	1997	Blue - 3/BL/3
P.1321	Propagation factors affecting systems using digital modulation techniques at LF and MF	Facteurs de propagation qui influent sur les systèmes utilisant des techniques de modulation numérique dans les bandes d'ondes kilométriques et hectométriques	Factores de propagación que afectan a los sistemas con técnicas de modulación digital en ondas kilométricas y hectométricas	1997	Blue - 3/BL/17
P.1322	Radiometric estimation of atmospheric attenuation	Évaluation de l'affaiblissement dû à l'atmosphère à partir de mesures radiométriques	Estimación radiométrica de la atenuación atmosférica	1997	Blue - 3/BL/19
RA.314-8	Preferred frequency bands for radioastronomical measurements	Bandes de fréquences préférées pour les mesures en radioastronomie	Bandas de frecuencias preferidas para las mediciones radioastronómicas	1992	RA/1994
RA.479-4	Protection of frequencies for radioastronomical measurements in the shielded zone of the Moon	Protection des fréquences à utiliser pour des mesures de radioastronomie dans la zone tranquille de la Lune	Protección de las frecuencias para mediciones de radioastronomía en la zona oculta de la Luna	1995	RA/1995

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RA.517-2	Protection of the radioastronomy service from transmitters in adjacent bands	Protection du service de radioastronomie contre les émetteurs fonctionnant dans les bandes adjacentes	Protección del servicio de radioastronomía contra los transmisores que trabajan en las bandas adyacentes	1992	RA/1994
RA.611-2	Protection of the radioastronomy service from spurious emissions	Protection du service de radioastronomie contre les rayonnements non essentiels	Protección del servicio de radioastronomía contra las emisiones no esenciales	1992	RA/1994
RA.769-1	Protection criteria used for radioastronomical measurements	Critères de protection applicables aux mesures en radioastronomie	Criterios de protección para las mediciones radioastronómicas	1995	RA/1995
RA.1031-1	Protection of the radioastronomy service in frequency bands shared with other services	Protection du service de radioastronomie dans les bandes de fréquences utilisées en partage avec d'autres services	Protección del servicio de radioastronomía en las bandas de frecuencias compartidas con otros servicios	1995	RA/1995
RA.1237	Protection of the radio astronomy service from unwanted emissions resulting from applications of wideband digital modulation	Protection du service de radioastronomie contre les rayonnements non désirés produits par des systèmes à modulation numérique à large bande	Protección del servicio de radioastronomía contra las emisiones no deseadas, provocadas por aplicaciones de la modulación digital de banda ancha	1997	Blue - 7/BL/2
RA.1272	Protection of radio astronomy measurements above 60 GHz from ground based interference	Protection des mesures de radioastronomie au-dessus de 60 GHz contre les brouillages d'origine terrestre	Protección de las mediciones radioastronómicas por encima de 60 GHz contra interferencias causadas por equipos situados en tierra	1997	Pink - 7/1005
S.352-4	Hypothetical reference circuit for systems using analogue transmission in the fixed-satellite service	Circuit fictif de référence pour les systèmes utilisant la transmission analogique dans le service fixe par satellite	Circuito ficticio de referencia para los sistemas que utilizan la transmisión analógica en el servicio fijo por satélite	1982	S/1994

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S.353-8	Allowable noise power in the hypothetical reference circuit for frequency-division multiplex telephony in the fixed-satellite service	Puissance de bruit admissible dans le circuit fictif de référence pour la téléphonie à multiplexage par répartition en fréquence dans le service fixe par satellite	Potencia de ruido admisible en el circuito ficticio de referencia para la telefonía con multiplaje por distribución de frecuencia en el servicio fijo por satélite	1993	S/1994
S.354-2	Video bandwidth and permissible noise level in the hypothetical reference circuit for the fixed-satellite service	Largeur de la bande vidéofréquence et niveau de bruit admissible dans le circuit fictif de référence pour le service fixe par satellite	Anchura de banda de vídeo y nivel de ruido admisible en el circuito ficticio de referencia para el servicio fijo por satélite	1974	S/1994
S.446-4	Carrier energy dispersal for systems employing angle modulation by analogue signals or digital modulation in the fixed-satellite service	Dispersion de l'énergie de la porteuse pour des systèmes employant une modulation angulaire par des signaux analogiques ou une modulation numérique dans le service fixe par satellite	Dispersión de la energía de la portadora para los sistemas que emplean modulación angular y señales analógicas o modulación digital en el servicio fijo por satélite	1993	S/1994
S.464-2	Pre-emphasis characteristics for frequency-modulation systems for frequency-division multiplex telephony in the fixed-satellite service	Caractéristiques de préaccentuation pour les systèmes à modulation de fréquence pour la téléphonie à multiplexage par répartition en fréquence dans le service fixe par satellite	Características de preacentuación para los sistemas con modulación de frecuencia para telefonía con multiplaje por distribución de frecuencia en el servicio fijo por satélite	1992	S/1994
S.465-5	Reference earth-station radiation pattern for use in coordination and interference assessment in the frequency range from 2 to about 30 GHz	Diagramme de rayonnement de référence de station terrienne, à utiliser pour la coordination et pour l'évaluation des brouillages dans la gamme des fréquences comprises entre 2 et environ 30 GHz	Diagrama de radiación de referencia de estación terrena para utilizar en la coordinación y evaluación de las interferencias, en la gama de frecuencias comprendidas entre 2 y unos 30 GHz	1993	S/1994

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S.466-6	Maximum permissible level of interference in a telephone channel of a geostationary-satellite network in the fixed-satellite service employing frequency modulation with frequency-division multiplex, caused by other networks of this service	Niveau maximal admissible du brouillage, dans une voie téléphonique d'un réseau à satellite géostationnaire du service fixe par satellite utilisant la modulation de fréquence avec multiplexage en fréquence, produit par d'autres réseaux de ce service	Nivel máximo admisible de la interferencia, en un canal telefónico de una red de satélites geoestacionarios del servicio fijo por satélite que utilice la modulación de frecuencia con multiplaje por distribución de frecuencia, producida por otras redes de este servicio	1992	S/1994
S.481-2	Measurement of noise in actual traffic for systems in the fixed-satellite service for telephony using frequency-division multiplex	Mesures de bruit en cours de trafic pour les systèmes du service fixe par satellite pour la téléphonie à multiplexage par répartition en fréquence	Mediciones de ruido en tráfico real para sistemas del servicio fijo por satélite para telefonía con multiplaje por distribución de frecuencia	1986	S/1994
S.482-2	Measurement of performance by means of a signal of a uniform spectrum for systems using frequency-division multiplex telephony in the fixed-satellite service	Mesure de la qualité à l'aide d'un signal à spectre continu uniforme, pour les systèmes qui utilisent la téléphonie à multiplexage par répartition en fréquence dans le service fixe par satellite	Medición de la calidad de funcionamiento mediante una señal de espectro continuo uniforme en sistemas para telefonía con multiplaje por distribución de frecuencia en el servicio fijo por satélite	1986	S/1994
S.483-3	Maximum permissible level of interference in a television channel of a geostationary-satellite network in the fixed- satellite service employing frequency modulation, caused by other networks of this service	Niveau maximal admissible du brouillage, dans un canal de télévision d'un réseau à satellite géostationnaire du service fixe par satellite utilisant la modulation de fréquence, produit par d'autres réseaux de ce service	Nivel máximo admisible de la interferencia causada en un canal de televisión de una red de satélites geoestacionarios del servicio fijo por satélite con modulación de frecuencia, por otras redes de este servicio	1997	Blue - 4/BL/10

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S.484-3	Station-keeping in longitude of geostationary satellites in the fixed-satellite service	Maintien en position en longitude des satellites géostationnaires du service fixe par satellite	Mantenimiento de la posición en longitud de los satélites geoestacionarios del servicio fijo por satélite	1992	S/1994
S.521-3	Hypothetical reference digital path for systems using digital transmission in the fixed-satellite service	Conduit numérique fictif de référence pour les systèmes utilisant la transmission numérique dans le service fixe par satellite	Trayecto digital ficticio de referencia para los sistemas del servicio fijo por satélite que utilizan la transmisión digital	1997	Blue - 4/BL/12
S.522-5	Allowable bit error ratios at the output of the hypothetical reference digital path for systems in the fixed-satellite service using pulse-code modulation for telephony	Valeurs admissibles du taux d'erreur binaire à la sortie du conduit numérique fictif de référence des systèmes du service fixe par satellite utilisant la modulation par impulsions et codage pour la téléphonie	Valores admisibles de la proporción de bits erróneos a la salida del trayecto digital ficticio de referencia en los sistemas del servicio fijo por satélite que utilizan la modulación por impulsos codificados para telefonía	1993	S/1994
S.523-4	Maximum permissible levels of interference in a geostationary-satellite network in the fixed-satellite service using 8 bit PCM encoded telephony, caused by other networks of this service	Niveaux maximaux admissibles du brouillage dans un réseau à satellite géostationnaire du service fixe par satellite utilisant la téléphonie à codage MIC à 8 bits, produit par d'autres réseaux de ce service	Niveles máximos admisibles de la interferencia producida en una red de satélites geoestacionarios del servicio fijo por satélite, utilizada para telefonía con codificación MIC de 8 bits, por otras redes de este servicio	1992	S/1994
S.524-5	Maximum permissible levels of off-axis e.i.r.p density from earth stations in the fixed-satellite service transmitting in the 6 and 14 GHz frequency bands	Niveaux maximaux admissibles de la densité de p.i.r.e. hors axe rayonnée par les stations terriennes du service fixe par satellite fonctionnant dans les bandes de fréquences des 6 GHz et des 14 GHz	Niveles máximos admisibles de la densidad de la p.i.r.e. fuera del eje, de las estaciones terrenas del servicio fijo por satélite que funcionan en las bandas de frecuencias de 6 GHz y de 14 GHz	1993	S/1994

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S.579-4	Availability objectives for a hypothetical reference circuit and a hypothetical reference digital path when used for telephony using pulse-code modulation, or as part of an integrated services digital network hypothetical reference connection, in the fixed-satellite service	Objectifs de disponibilité d'un circuit fictif de référence et d'un conduit numérique fictif de référence utilisés dans un service de téléphonie avec modulation par impulsions et codage, ou comme partie d'une connexion fictive de référence d'un réseau numérique à intégration de services, dans le service fixe par satellite	Objetivos de disponibilidad para un circuito ficticio de referencia y un trayecto digital ficticio de referencia para telefonía con modulación por impulsos codificados, o como parte de una conexión ficticia de referencia de una red digital de servicios integrados, en el servicio fijo por satélite	1997	Blue - 4/BL/13
S.580-5	Radiation diagrams for use as design objectives for antennas of earth stations operating with geostationary satellites	Diagrammes de rayonnement à utiliser comme objectifs de conception pour les antennes des stations terriennes fonctionnant avec des satellites géostationnaires	Diagramas de radiación que han de utilizarse como objetivos de diseño para las antenas de las estaciones terrenas que funcionan con satélites geoestacionarios	1993	S/1994
S.614-3	Allowable error performance for a hypothetical reference digital path in the fixed-satellite service operating below 15 GHz when forming part of an international connection in an integrated services digital network	Taux d'erreur admissible pour un conduit numérique fictif de référence du service fixe par satellite fontionnant en dessous de 15 GHz et faisant partie d'une communication internationale dans un réseau numérique à intégration de services	Objetivos de características de error para un trayecto digital ficticio de referencia del servicio fijo por satélite que funciona por debajo de 15 GHz, cuando forma parte de una conexión internacional en una red digital de servicios integrados	1993	S/1994
S.670-1	Flexibility in the positioning of satellites as a design objective	Souplesse de positionnement des satellites en tant qu'objectif de conception	Flexibilidad en la ubicación de los satélites como objetivo de diseño	1992	S/1994
S.671-3	Necessary protection ratios for narrow-band single channel-per-carrier transmissions interfered with by analogue television carriers	Rapports de protection nécessaires pour des transmissions à une seule voie par porteuse (SCPC) à bande étroite brouillées par des porteuses de télévision analogiques	Relaciones de protección necesarias para transmisiones de banda estrecha con un solo canal por portadora interferidas por portadoras de televisión analógicas	1993	S/1994

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S.672-4	Satellite antenna radiation pattern for use as a design objective in the fixed-satellite service employing geostationary satellites	Diagramme de rayonnement à utiliser comme objectif de conception pour les antennes de satellite dans le service fixe par satellite employant des satellites géostationnaires	Diagramas de radiación de antenas de satélite para utilizar como objetivo de diseño en el servicio fijo por satélite que emplea satélites geoestacionarios	1997	Blue - 4/BL/20
S.673	Terms and definitions relating to space radiocommunications	Termes et définitions concernant les radiocommunications spatiales	Términos y definiciones relativos a radiocomunicaciones espaciales	1990	S/1994
S.725	Technical characteristics for very small aperture terminals (VSATs)	Caractéristiques techniques des microstations	Características técnicas de los terminales de muy pequeña apertura (VSAT)	1992	S/1994
S.726-1	Maximum permissible level of spurious emissions from very small aperture terminals (VSATs)	Niveau maximal admissible des rayonnements non essentiels émis par les microstations (VSAT)	Nivel máximo admisible de las emisiones no esenciales procedentes de estaciones terminales de apertura muy pequeña (VSAT)	1993	S/1994
S.727	Cross-polarization isolation from very small aperture terminals (VSATs)	Discrimination de polarisation croisée des microstations	Discriminación por polarización cruzada en los terminales de muy pequeña apertura (VSAT)	1992	S/1994
S.728-1	Maximum permissible level of off-axis e.i.r.p. density from very small aperture terminals (VSATs)	Niveau maximal admissible de la densité de p.i.r.e. hors axe des microstations	Máximo nivel admisible de densidad de p.i.r.e. fuera del eje procedente de terminales de muy pequeña apertura (VSAT)	1995	S/1995
S.729	Control and monitoring function of very small aperture terminals (VSATs)	Commande et surveillance des microstations terriennes	Funciones de control y supervisión de terminales de muy pequeña apertura (VSAT)	1992	S/1994

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S.730	Compensation of the effects of switching discontinuities for voice band data and of Doppler frequency-shifts in the fixed-satellite service	Compensation de l'influence des discontinuités dues à la commutation sur la transmission de données dans la bande vocale et de l'effet Doppler dans le service fixe par satellite	Compensación de los efectos causados por discontinuidades debidas a la conmutación en la transmisión de datos en banda vocal y los desplazamientos de frecuencia por efecto Doppler en el servicio fijo por satélite	1992	S/1994
S.731	Reference earth-station cross-polarized radiation pattern for use in frequency coordination and interference assessment in the frequency range from 2 to about 30 GHz	Diagramme de rayonnement contrapolaire de référence de station terrienne, à utiliser pour la coordination des fréquences et pour l'évaluation des brouillages dans la gamme des fréquences comprises entre 2 et environ 30 GHz	Diagrama de radiación contrapolar de referencia de estación terrena para utilizar en la coordinación de frecuencias y la evaluación de la interferencia en la gama de frecuencias comprendida entre 2 y unos 30 GHz	1992	S/1994
S.732	Method for statistical processing of earth-station antenna side-lobe peaks	Méthode de traitement statistique des crêtes des lobes latéraux d'antenne de station terrienne	Método para el tratamiento estadístico de las crestas de los lóbulos laterales de las antenas de estación terrena	1992	S/1994
S.733-1	Determination of the G/T ratio for earth stations operating in the fixed-satellite service	Détermination du rapport G/T des stations terriennes du service fixe par satellite	Determinación de la relación ganancia/temperatura de ruido de las estaciones terrenas que funcionan en el servicio fijo por satélite	1993	S/1994
S.734	The application of interference cancellers in the fixed-satellite service	Application des annuleurs de brouillage dans le service fixe par satellite	Utilización de canceladores de interferencia en el servicio fijo por satélite	1992	S/1994

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S.735-1	Maximum permissible levels of interference in a geostationary-satellite network for an HRDP when forming part of the ISDN in the fixed-satellite service caused by other networks of this service below 15 GHz	Niveaux maximaux admissibles, dans un réseau du service fixe par satellite géostationnaire, du brouillage provoqué par d'autres réseaux de ce service en dessous de 15 GHz, pour un conduit numérique fictif de référence (CNFR) faisant partie du RNIS	Niveles máximos admisibles de la interferencia causada en una red de satélite geoestacionario, para un trayecto digital ficticio de referencia (TDFR) del servicio fijo por satélite que forme parte de la RDSI, por otras redes de este servicio a frecuencias inferiores a 15 GHz	1993	S/1994
S.736-3	Estimation of polarization discrimination in calculations of interference between geostationary-satellite networks in the fixed-satellite service	Évaluation de la discrimination de polarisation dans les calculs de brouillage entre réseaux à satellites géostationnaires dans le service fixe par satellite	Estimación de la discriminación por polarización en los cálculos de interferencia entre redes de satélites geoestacionarios en el servicio fijo por satélite	1997	Blue - 4/BL/11
S.737	Relationship of technical coordination methods within the fixed-satellite service	Relations entre les différentes méthodes de coordination technique dans le service fixe par satellite	Relación entre los métodos de coordinación técnica en el servicio fijo por satélite	1992	S/1994
S.738	Procedure for determining if coordination is required between geostationary-satellite networks sharing the same frequency bands	Procédure permettant de déterminer s'il y a lieu de procéder à la coordination entre des réseaux à satellites géostationnaires partageant les mêmes bandes de fréquences	Procedimiento para determinar si es necesaria la coordinación entre las redes de satélites geoestacionarios que comparten las mismas bandas de frecuencia	1992	S/1994
S.739	Additional methods for determining if detailed coordination is necessary between geostationary-satellite networks in the fixed-satellite service sharing the same frequency bands	Méthodes additionnelles pour déterminer si une coordination détaillée est nécessaire entre réseaux à satellites géostationnaires partageant les mêmes bandes de fréquences dans le service fixe par satellite	Métodos adicionales para determinar si es necesaria la coordinación detallada entre las redes de satélites geoestacionarios del servicio fijo por satélite que comparten las mismas bandas de frecuencia	1992	S/1994

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S.740	Technical coordination methods for fixed-satellite networks	Méthodes de coordination technique de réseaux du service fixe par satellite	Métodos de coordinación técnica para redes del servicio fijo por satélite	1992	S/1994
S.741-2	Carrier-to-interference calculations between networks in the fixed-satellite service	Calculs des rapports porteuse sur brouillage entre réseaux dans le service fixe par satellite	Cálculo de la relación portadora/interferencia entre redes del servicio fijo por satélite	1993	S/1994
S.742-1	Spectrum utilization methodologies	Méthodes d'utilisation du spectre	Metodologías de utilización del espectro	1993	S/1994
S.743-1	The coordination between satellite networks using slightly inclined geostationary-satellite orbits (GSOs) and between such networks and satellite networks using non-inclined GSO satellites	Coordination des réseaux utilisant des satellites sur orbite géostationnaire légèrement inclinée et coordination de ces réseaux avec les réseaux utilisant des satellites sur orbites géostationnaires non inclinées	Coordinación de las redes por satélite que utilizan órbitas geoestacionarias ligeramente inclinadas y entre dichas redes y las redes por satélite que utilizan la órbita de los satélites geoestacionarios no inclinada	1993	S/1994
S.744	Orbit/spectrum improvement measures for satellite networks having more than one service in one or more frequency bands	Mesures permettant d'améliorer l'efficacité d'utilisation de la ressource orbite/spectre par les réseaux à satellites assurant plusieurs services sur une ou plusieurs bandes de fréquences	Medidas para mejorar el recurso órbita/espectro en las redes por satélite que tienen más de un servicio en una o más bandas de frecuencias	1992	S/1994
S.1001	Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations	Utilisation de systèmes du service fixe par satellite en cas de catastrophes naturelles et de situations critiques analogues pour les avertissements et les opérations de secours	Utilización de sistemas en el servicio fijo por satélite en los casos de desastres naturales y otras emergencias similares para avisos y operaciones de socorro	1993	S/1994

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S.1002	Orbit management techniques for the fixed-satellite service	Techniques de gestion de l'orbite applicables au service fixe par satellite	Técnicas de gestión de la órbita en el servicio fijo por satélite	1993	S/1994
S.1003	Environmental protection of the geostationary orbit	Protection de l'environnement de l'orbite des satellites géostationnaires	Protección medioambiental de la órbita de los satélites geoestacionarios	1993	S/1994
S.1061	Utilization of fade countermeasures strategies and techniques in the fixed-satellite service	Utilisation de stratégies et de techniques de protection contre les évanouissements dans le service fixe par satellite	Utilización de estrategias y técnicas contra el desvanecimiento en el servicio fijo por satélite	1993	S/1994
S.1062-1	Allowable error performance for a hypothetical reference digital path operating at or above the primary rate	Qualité de fonctionnement admissible en termes d'erreur pour un conduit numérique fictif de référence fonctionnant à un débit égal ou supérieur au débit primaire	Característica de error admisible para el trayecto digital ficticio de referencia a la velocidad primaria o a velocidades superiores	1995	S/1995
S.1063	Criteria for sharing between BSS feeder links and other Earth-to-space or space-to-Earth links on the FSS	Critères de partage entre liaisons de connexion du SRS et d'autres liaisons du SFS dans le sens Terre-espace ou espace-Terre	Criterios para la compartición de frecuencias entre los enlaces de conexión del SRS y otros enlaces Tierra-espacio o espacio-Tierra del SFS	1993	S/1994
S.1064-1	Pointing accuracy as a design objective for earthward antennas on board geostationary satellites in the FSS	Objectif de conception pour la précision du pointage vers la Terre des antennes des satellites géostationnaires du SFS	La precisión de puntería como objetivo de diseño para las antenas dirigidas a la Tierra a bordo de satélites geoestacionarios del SFS	1995	S/1995
S.1065	Power flux-density values to facilitate the application of RR Article 14 for the FSS in Region 2 in relation to the BSS in the band 11.7-12.2 GHz	Valeurs de puissance surfacique destinées à faciliter l'application de l'Article 14 du RR pour le SFS en Région 2 en relation avec le SRS dans la bande 11,7-12,2 GHz	Valores de densidad de flujo de potencia que facilitan la aplicación del Artículo 14 del RR al SFS en la Región 2 con relación al SRS en la banda 11,7-12,2 GHz	1993	S/1994

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S.1066	Ways of reducing the interference from the broadcasting-satellite service of one Region into the fixed-satellite service of another Region around 12 GHz	Moyens de réduire le brouillage causé par le service de radiodiffusion par satellite d'une Région, au service fixe par satellite d'une autre Région, aux environs des 12 GHz	Método para reducir la interferencia causada por el servicio de radiodifusión por satélite de una Región al servicio fijo por satélite de otra Región en torno a 12 GHz	1993	S/1994
S.1067	Ways of reducing the interference from the broadcasting-satellite service into the fixed-satellite service in adjacent frequency bands around 12 GHz	Moyens de réduire le brouillage causé par le service de radiodiffusion par satellite au service fixe par satellite, dans les bandes adjacentes aux environs des 12 GHz	Métodos para reducir la interferencia causada por el servicio de radiodifusión por satélite al servicio fijo por satélite en bandas de frecuencias adyacentes en torno a 12 GHz	1993	S/1994
S.1068	Fixed-satellite and radiolocation/radionavigation services sharing in the band 13,75 to 14 GHz	Partage de la bande 13,75-14 GHz entre le service fixe par satellite et le service de radiolocalisation/radionavigation	Compartición entre el servicio fijo por satélite y los servicios de radiolocalización y radionavegación en la banda de 13,75 a 14 GHz	1993	S/1994
S.1069	Compatibility between the fixed-satellite service and the space science services in the band 13,75-14 GHz	Compatibilité du service fixe par satellite et des services scientifiques spatiaux dans la bande 13,75-14 GHz	Compatibilidad entre el servicio fijo por satélite y los servicios científicos espaciales en la banda 13,75-14 GHz	1993	S/1994
S.1149-1	Network architecture and equipment functional aspects of digital satellite systems in the fixed-satellite service forming part of synchronous digital hierarchy transport networks	Architecture de réseau et caractéristiques fonctionnelles des systèmes numériques à satellites du service fixe par satellite utilisés dans les réseaux de transport de hiérarchie numérique synchrone	Arquitectura de red y aspectos funcionales del equipo de los sistemas digitales de satélite del servicio fijo por satélite que forman parte de las redes de transporte de jerarquía digital síncrona	1997	Blue - 4/BL/4

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S.1150	Technical criteria to be used in examinations relating to the probability of harmful interference between frequency assignments in the FSS as required in No. 1506 of the Radio Regulations	Critères techniques à utiliser pour les examens concernant la probabilité de brouillage préjudiciable entre des assignations de fréquence dans le SFS demandés au titre du No. 1506 du Règlement des radiocommunications	Criterios técnicos que deben utilizarse en las consideraciones relativas a la probabilidad de interferencia perjudicial entre las asignaciones de frecuencias del servicio fijo por satélite como estipula el número 1506 del Reglamento de Radiocomunicaciones	1995	S/1995
S.1151	Sharing between the inter-satellite service involving geostationary satellites in the fixed-satellite service and the radionavigation service at 33 GHz	Partage entre le service intersatellites reliant des satellites géostationnaires du service fixe par satellite et le service de radionavigation à 33 GHz	Compartición entre el servicio entre satélites en el que intervienen satélites geoestacionarios del servicio fijo por satélite y el servicio de radionavegación a 33 GHz	1995	S/1995
S.1250	Network management architecture for digital satellite systems forming part of SDH transport networks in the fixed-satellite service	Architecture de réseau pour systèmes numériques à satellites faisant partie de réseaux de transport en hiérarchie numérique synchrone dans le service fixe par satellite	Arquitectura de la gestión de red para los sistemas digitales de satélite del servicio fijo por satélite que forman parte de las redes de transporte de jerarquía digital síncrona	1997	Blue - 4/BL/1
S.1251	Network management - performance management object class definitions for satellite systems network elements forming part of SDH transport networks in the fixed-satellite service	Gestion de réseaux - définition des classes d'objets de gestion de la qualité de fonctionnement pour des éléments de réseau de systèmes à satellites faisant partie de réseaux de transport en hiérarchie numérique synchrone du service fixe par satellite	Gestión de la red - Definiciones de las clases de objeto de gestión de la calidad de funcionamiento para elementos de red de sistemas de satélite que forman parte de las redes de transporte de jerarquía digital síncrona en el servicio fijo por satélite	1997	Blue - 4/BL/2

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S.1252	Network management - payload configuration object class definitions for satellite system network elements forming part of SDH transport networks in the fixed-satellite service	Gestion de réseaux - définition des classes d'objets de configuration de capacité utile pour des éléments de réseaux de systèmes à satellites faisant partie de réseaux de transport en hiérarchie numérique synchrone du service fixe par satellite	Gestión de la red - Definiciones de clases de objeto de configuración de la carga útil para elementos de red de sistemas de satélite que forman parte de las redes de transporte de jerarquía digital síncrona en el servicio fijo por satélite	1997	Blue - 4/BL/3
S.1253	Technical options to facilitate coordination of fixed-satellite service networks in certain orbital arc segments and frequency bands	Options techniques visant à faciliter la coordination des réseaux du service fixe par satellite dans certaines portions d'arc d'orbite et dans certaines bandes de fréquences	Opciones técnicas para facilitar la coordinación de las redes del servicio fijo por satélite en determinados segmentos del arco orbital y bandas de frecuencia	1997	Blue - 4/BL/5
S.1254	Best practices to facilitate the coordination process of fixed-satellite service satellite networks	Meilleures pratiques pour faciliter le processus de coordination des réseaux à satellites du service fixe par satellite	Métodos óptimos para facilitar el proceso de coordinación de las redes de satélite del servicio fijo por satélite	1997	Blue - 4/BL/6
S.1255	Use of adaptive uplink power control to mitigate codirectional interference between geostationary satellite orbit/fixed-satellite service (GSO/FSS) networks and feeder links of non-geostationary satellite orbit/mobile satellite service (non-GSO/FSS) networks and between GSO/FSS networks and non-GSO/FSS networks	Utilisation d'une commande adaptative de puissance sur la liaison montante pour atténuer les brouillages dans le même sens de transmission entre réseaux à satellites géostationnaires du service fixe par satellite (OSG/SFS) et liaisons de connexion de réseaux à satellites non géostationnaires du service mobile par satellite (non OSG/SMS) et entre réseaux OSF/SFS et réseaux non OSG/SFS	Utilización del control adaptativo de potencia en el enlace ascendente para atenuar la interferencia codireccional entre las redes de satélites geoestacionarios (OSG) del servicio fijo por satélite (SFS) y los enlaces de conexión de las redes de satélites no geoestacionarios (no OSG) del servicio móvil por satélite (SMS) y entre las redes OSG del SFS y las redes no OSG del SFS	1997	Blue - 4/BL/7

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S.1256	Methodology for determining the maximum aggregate power flux-density at the geostationary-satellite orbit in the band 6 700-7 075 MHz from feeder links of non-geostationary satellite systems in the mobile-satellite service in the space-to-Earth direction	Méthodologie permettant de calculer le niveau total maximal de la puissance surfacique produite sur l'orbite des satellites géostationnaires dans la bande 6 700-7 075 MHz par les liaisons de connexion dans le sens espace-Terre des systèmes à satellites non géostationnaires du service mobile par satellite	Metodología para determinar la densidad de flujo de potencia total máxima en la órbita de los satélites geoestacionarios en la banda 6 700-7 075 MHz producida por enlaces de conexión de sistemas de satélites no geoestacionarios del servicio móvil por satélite en el sentido de transmisión espacio-Tierra	1997	Blue - 4/BL/8
S.1257	Analytical method to calculate visibility statistics for non-geostationary satellite orbit satellites as seen from a point on the Earth's surface	Méthode analytique pour calculer les statistiques de visibilité des satellites non géostationnaires à partir d'un point à la surface de la Terre	Método analítico para calcular las estadísticas de visibilidad de los satélites no geoestacionarios vistos desde un punto situado en la superficie de la Tierra	1997	Blue - 4/BL/9
S.1323	Maximum permissible levels of interference in a satellite network (GSO/FSS; non-GSO/FSS; non-GSO/MSS feeder links) for a hypothetical reference digital path in the fixed-satellite service caused by other codirectional networks below 30 GHz	Niveaux maxima admissibles de brouillage dans un réseau a satellite (SFS/OSG; SFS/non-OSG; liaisons de connexion SMS/non-OSG) pour un conduit numérique fictif de référence occasionnés dans le service fixe par satellite par d'autres réseaux exploités dans le même sens, au-dessous de 30 GHz	Máximos niveles de interferencia admisible en una red de satélites (enlaces de conexión del SFS/OSG, SFS/no OSG y SMS/no OSG) para un trayecto digital ficticio de referencia del servicio fijo por satélite provocada por otras redes codireccionales por debajo de 30 GHz	1997	Blue - 4/BL/14

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S.1324	Analytical method for estimating interference between non-geostationary mobile-satellite feeder links and geostationary fixed-satellite networks operating co-frequency and codirectionally	Méthode analytique d'estimation du brouillage entre les liaisons de connexion des réseaux du service mobile par satellites non géostationnaires et les réseaux du service fixe par satellites géostationnaires exploités dans les mêmes bandes de fréquences et dans le même sens de transmission	Método analítico para calcular la interferencia entre los enlaces de conexión de los satélites no geoestacionarios del servicio móvil por satélite y las redes de satélites geoestacionarios del servicio fijo por satélite que funcionan con la misma frecuencia y en la misma dirección	1997	Blue - 4/BL/15
S.1325	Simulation methodology for assessing short-term interference between co-frequency, codirectional non-GSO FSS networks and other non-GSO FSS or GSO FSS networks	Méthode de simulation pour l'évaluation des brouillages à court terme entre des réseaux SFS non OSG utilisant les mêmes fréquences dans le même sens et d'autres réseaux SFS non OSG ou OSG	Metodología de simulación para evaluar la interferencia a corto plazo entre redes del SFS no OSG codireccionales de la misma frecuencia y otras redes del SFS no OSG o OSG	1997	Blue - 4/BL/16
S.1326	Feasibility of sharing between the inter-satellite service and the fixed-satellite service in the frequency band 50.4-51.4 GHz	Faisabilité du partage entre le service inter-satellites et le service fixe par satellite dans la bande de fréquences 50,4-51,4 GHz	Viabilidad de la compartición entre el servicio entre satélites y el servicio fijo por satélite en la banda de frecuencias 50,4-51,4 GHz	1997	Blue - 4/BL/17
S.1327	Requirements and suitable bands for operation of the inter-satellite service within the range 50.2-71 GHz	Conditions techniques d'exploitation du service inter-satellites et bandes convenant à ce service dans la gamme 50,2-71 GHz	Requisitos y bandas idóneas para el funcionamiento del servicio entre satélites en la gama 50,2-71 GHz	1997	Blue - 4/BL/18

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S.1328	Satellite system characteristics to be considered in frequency sharing analyses between GSO and non-GSO satellite systems in the fixed-satellite service including feeder links for the mobile-satellite service	Caractéristiques de systèmes à satellites à prendre en compte dans les analyses de partage des fréquences entre systèmes à satellites OSG et systèmes à satellites non-OSG dans le service fixe par satellite, y compris les liaisons de connexion du service mobile par satellite	Características de los sistemas de satélite que se han de tener en cuenta en los análisis de compartición de frecuencias entre sistemas de satélites OSG y no OSG en el servicio fijo por satélite incluidos los enlaces de conexión para el servicio móvil por satélite	1997	Blue - 4/BL/19
S.1329	Frequency sharing of the bands 19.7-20.2 GHz and 29.5-30.0 GHz between systems in the mobile-satellite service and systems in the fixed-satellite service	Partage de fréquences, dans les bandes 19,7-20,2 GHz et 29,5-30,0 GHz, entre systèmes du service mobile par satellite et systèmes du service fixe par satellite	Compartición de frecuencias de las bandas 19,7-20,2 GHz y 29,5-30,0 GHz entre los sistemas del servicio móvil por satélite y del servicio fijo por satélite	1997	Blue - 4/BL/21
S.1339	Feasibility of sharing between spaceborne passive sensors of the Earth exploration-satellite service and inter-satellite links of geostationary-satellite networks in the range 50 to 65 GHz	Faisabilité du partage entre les détecteurs passifs embarqués du service d'exploration de la Terre par satellite et les liaisons intersatellites des réseaux à satellite géostationnaire entre 50 et 65 GHz	Viabilidad de la compartición entre sensores pasivos a bordo de vehículos espaciales, del servicio de exploración de la Tierra por satélite y enlaces entre satélites de redes de satélites geoestacionarios en la gama de 50 a 65 GHz	1997	Pink - 4/1005
S.1340	Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4-15.7 GHz	Partage entre les liaisons de connexion du service mobile par satellite et le service de radionavigation aéronautique dans le sens Terre-espace dans la bande 15,4-15,7 GHz	Compartición entre los enlaces de conexión del servicio móvil por satélite y el servicio de radionavegación aeronáutica en el sentido Tierra-espacio en la banda 15,4-15,7 GHz	1997	Pink - 4/1006

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S.1341	Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4-15.7 GHz and the protection of the radio astronomy service in the band 15.35-15.4 GHz	Partage de fréquences entre les liaisons de connexion espace vers Terre du service mobile par satellite et le service de radionavigation aéronautique dans la bande 15,4-15,7 GHz et protection du service de radioastronomie dans la bande 15,35-15,4 GHz	Compartición entre los enlaces de conexión del servicio móvil por satélite y el servicio de radionavegación aeronáutica en el sentido espacio-Tierra en la banda 15,4-15,7 GHz y protección del servicio de radioastronomía en la banda 15,35-15,4 GHz	1997	Pink - 4/1007
S.1342	Method for determining coordination distances, in the 5 GHz band, between the international standard Microwave Landing System (MLS) and NGSO mobile satellite service (MSS) stations providing feeder uplink services	Méthode de détermination des distances de coordination, dans la bande des 5 GHz, entre des stations du système international normalisé d'atterrissage hyperfréquences (MLS) exploitées dans le service de radionavigation aéronautique (SRA) et des stations non OSG du service mobile par satellite (SMS) assurant des liaisons de connexion montantes	Método para determinar las distancias de coordinación en la banda de 5 GHz entre las estaciones del sistema de aterrizaje por microondas (MLS) de norma internacional que funcionan en el servicio de radionavegación aeronáutica y las estaciones del servicio móvil por satélite no geostacionario que suministran servicios de enlace de conexión ascendente	1997	Pink - 4/1008
SA.362-2	Frequencies technically suitable for meteorological satellites	Fréquences techniquement appropriées pour les satellites météorologiques	Frecuencias técnicamente adecuadas para los satélites meteorológicos	1982	SA/1994
SA.363-5	Space operation systems. Frequencies, bandwidths and protection criteria	Systèmes d'exploitation spatiale. Fréquences, largeurs de bande et critères de protection	Sistemas de operaciones espaciales. Frecuencias, anchuras de banda y criterios de protección	1993	SA/1994
SA.364-5	Preferred frequencies and bandwidths for manned and unmanned near-Earth research satellites	Fréquences et largeurs de bandes préférées pour les satellites habités ou non du service de recherche spatiale, proches de la Terre	Anchuras de banda y frecuencias preferidas para satélites de investigación espacial próximos a la Tierra, tripulados o no tripulados	1992	SA/1994

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SA.509-1	Generalized space research earth station antenna radiation pattern for use in interference calculations, including coordination procedures	Diagramme de rayonnement de référence d'une antenne de station terrienne dans le service de recherche spatiale, à utiliser pour les calculs de brouillage ainsi que dans les procédures de coordination	Diagrama de radiación de referencia de una antena de estación terrena del servicio de investigación espacial, para uso en los cálculos de interferencia y en los procedimientos de coordinación	1990	SA/1994
SA.510-2	Feasibility of frequency sharing between the space research service and other services in bands near 14 and 15 GHz - Potential interference from data relay satellite systems	Possibilité de partage des fréquences entre le service de recherche spatiale et d'autres services dans les bandes au voisinage de 14 et 15 GHz - Brouillage potentiel causé par les systèmes à satellites relais de données	Posibilidad de compartición de frecuencias entre el servicio de investigación espacial y otros servicios en las bandas cercanas a 14 y 15 GHz - Interferencia potencial procedente de los sistemas de satélites de retransmisión de datos	1997	Pink - 7/1010
SA.513-1	Preferred frequency bands for spacecraft transmitters used as beacons	Bandes de fréquences préférées pour les émetteurs d'engins spatiaux utilisés comme balises	Bandas de frecuencias preferidas para los transmisores de vehículos espaciales utilizados como radiofaros	1986	SA/1994
SA.514-3	Interference criteria for command and data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services	Critères de brouillage pour les systèmes de télécommande et de transmission de données fonctionnant dans les services d'exploration de la Terre par satellite et de météorologie par satellite	Criterios de interferencia para los sistemas de telemando y transmisión de datos que funcionan en los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1997	Pink - 7/1011
SA.515-3	Frequency bands and bandwidths used for satellite passive sensing	Bandes de fréquences et largeurs de bande utilisées pour la télédétection passive par satellite	Bandas de frecuencias y anchuras de banda utilizadas para la detección pasiva por satélite	1997	Blue - 7/BL/14

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SA.516-1	Feasibility of sharing between active sensors used on Earth exploration and meteorological satellites and the radiolocation service	Possibilités de partage entre les capteurs actifs utilisés dans les services d'exploration de la Terre par satellite et de météorologie par satellite et le service de radiolocalisation	Viabilidad de la compartición entre el servicio de radiolocalización y los sensores activos utilizados en los satélites de exploración de la Tierra y de meteorología	1993	SA/1994
SA.577-5	Preferred frequencies and necessary bandwidths for spaceborne active remote sensors	Fréquences préférées et largeurs de bande nécessaires pour la télédétection active spatiale	Frecuencias preferidas y anchuras de banda necesarias para la teledetección activa desde vehículos espaciales	1997	Blue - 7/BL/18
SA.578	Protection criteria and sharing considerations relating to deep-space research	Critères de protection et considérations relatives au partage pour la recherche dans l'espace lointain	Criterios de protección y consideraciones relativas a la compartición para la investigación del espacio lejano	1982	SA/1994
SA.609-1	Protection criteria for telecommunication links for manned and unmanned near-Earth research satellites	Critères de protection pour les liaisons de télécommunication avec les satellites de recherche habités ou non, proches de la Terre	Criterios de protección para los enlaces de telecomunicación con satélites de investigación espacial, tripulados o no tripulados, próximos a la Tierra	1992	SA/1994
SA.1012	Preferred frequency bands for deep-space research in the 1-40 GHz range	Bandes de fréquences préférées pour la recherche dans l'espace lointain dans la gamme 1-40 GHz	Bandas de frecuencias preferidas para la investigación del espacio lejano en la gama de 1-40 GHz	1993	SA/1994
SA.1013	Preferred frequency bands for deep-space research in the 40-120 GHz range	Service de recherche spatiale dans l'espace lointain: bandes de fréquences préférées dans la gamme 40-120 GHz	Bandas de frecuencias preferidas para la investigación del espacio lejano en la gama de 40-120 GHz	1993	SA/1994

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SA.1014	Telecommunication requirements for manned and unmanned deep-space research	Vaisseaux habités ou inhabités destinés à la recherche dans l'espace lointain: exigences en matière de télécommunications	Requisitos de telecomunicaciones para la investigación del espacio lejano con vuelos tripulados y no tripulados	1993	SA/1994
SA.1015	Bandwidth requirements for deep-space research	Recherche dans l'espace lointain: largeur de bande requise	Requisitos de anchura de banda para la investigación del espacio lejano	1993	SA/1994
SA.1016	Sharing considerations relating to deep-space research	Recherche dans l'espace lointain: considérations relatives au partage	Consideraciones sobre la compartición en relación con la investigación del espacio lejano	1993	SA/1994
SA.1017	Preferred method for calculating link performance in the space research service	Méthode préférée de calcul de la qualité de fonctionnement des liaisons dans le service de recherche spatiale	Método sugerido para calcular la calidad de un enlace en el servicio de investigaciones del espacio	1993	SA/1994
SA.1018	Hypothetical reference system for systems comprising data relay satellites in the geostationary orbit and user spacecraft in low Earth-orbits	Système fictif de référence pour des systèmes comprenant des satellites relais de données en orbite géostationnaire et des engins spatiaux en orbites terrestres basses	Sistema ficticio de referencia para los sistemas que comprenden satélites de retransmisión de datos en la órbita geoestacionaria y vehículos espaciales de usuario en órbitas bajas	1993	SA/1994
SA.1019	Preferred frequency bands and transmission directions for data relay satellite systems	Systèmes à satellites relais de données: bandes de fréquences préférées et sens de transmission	Bandas de frecuencias preferidas y sentidos de transmisión para los sistemas de satélites de retransmisión de datos	1993	SA/1994
SA.1020	Hypothetical reference system for the Earth exploration-satellite and meteorological satellite services	Système fictif de référence pour les services d'exploration de la Terre par satellite et de météorologie par satellite	Sistema ficticio de referencia para los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1993	SA/1994

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SA.1021	Methodology for determining performance objectives for systems in the Earth exploration-satellite and meteorological-satellite services	Méthode permettant de déterminer les objectifs de qualité de fonctionnement pour des systèmes des services d'exploration de la Terre par satellite et de météorologie par satellite	Metodología para determinar los objetivos de calidad de los sistemas que intervienen en los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1993	SA/1994
SA.1022	Methodology for determining interference criteria for systems in the Earth exploration-satellite and meteorological-satellite services	Méthode permettant d'établir des critères de brouillage pour les systèmes des services d'exploration de la Terre par satellite et de météorologie par satellite	Metodología para determinar los criterios de interferencia de los sistemas utilizados en los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1993	SA/1994
SA.1023	Methodology for determining sharing and coordination criteria for systems in the Earth exploration-satellite and meteorological-satellite services	Méthode permettant d'établir des critères de partage et de coordination pour les systèmes utilisés dans les services d'exploration de la Terre par satellite et de météorologie par satellite	Metodología para determinar los criterios de compartición y coordinación de los sistemas que intervienen en los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1993	SA/1994
SA.1024-1	Necessary bandwidths and preferred frequency bands for data transmission from Earth exploration satellites (not including meteorological satellites)	Largeurs de bande nécessaires et bandes de fréquences préférées pour la transmission de données par les satellites d'exploration de la Terre (non compris les satellites météorologiques)	Anchuras de banda necesarias y bandas de frecuencias preferidas para la transmisión de datos desde satélites de exploración de la Tierra (excluyendo satélites meteorológicos)	1997	Blue - 7/BL/3

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SA.1025-2	Performance criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites	Critères de qualité de fonctionnement pour les systèmes de transmission de données espace-Terre dans les services d'exploration de la Terre par satellite et de météorologie par satellite utilisant des satellites en orbites terrestres basses	Criterios de calidad para los sistemas de transmisión de datos espacio-Tierra que funcionan en los servicios de exploración de la Tierra por satélite y de meteorología por satélite que utilizan satélites en órbita terrestre baja	1997	Blue - 7/BL/4
SA.1026-2	Interference criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Critères de brouillage pour les systèmes de transmission de données espace-Terre dans les services d'exploration de la Terre par satellite et de météorologie par satellite utilisant des satellites en orbites terrestres basses	Criterios de interferencia para los sistemas de transmisión de datos espacio-Tierra que funcionan en los servicios de exploración de la Tierra por satélite y de meteorología por satélite que utilizan satélites de órbita baja	1997	Blue - 7/BL/5
SA.1027-2	Sharing and coordination criteria for space-to-Earth data transmission systems in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Critères de partage et de coordination pour les systèmes de transmission de données espace-Terre dans les services d'exploration de la Terre par satellite et de météorologie par satellite utilisant des satellites en orbites terrestres basses	Criterios de compartición y coordinación para los sistemas de transmisión de datos espacio-Tierra de los servicios de exploración de la Tierra por satélite y de meteorología por satélite que utilizan satélites de órbita baja	1997	Blue - 7/BL/6
SA.1028-1	Performance criteria for satellite passive remote sensing	Critères de qualité de fonctionnement pour la télédétection passive par satellite	Criterios de calidad para la teledetección pasiva por satélite	1997	Blue - 7/BL/15
SA.1029-1	Interference criteria for satellite passive remote sensing	Critères de brouillage applicables à la télédétection passive par satellite	Criterios de interferencia para la teledetección pasiva por satélite	1997	Blue - 7/BL/16

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SA.1030	Telecommunication requirements of satellite systems for geodesy and geodynamics	Besoins de télécommunications des systèmes à satellites pour la géodésie et la géodynamique	Requisitos de telecomunicación de los sistemas de satélite para geodesia y la geodinámica	1993	SA/1994
SA.1071	Use of the 13.75 to 14.0 GHz band by the space science services and the fixed satellite service	Utilisation de la bande 13,75-14,0 GHz par les services scientifiques spatiaux et le service fixe par satellite	Utilización de la banda 13,75-14 GHz por los servicios científicos espaciales y el servicio fijo por satélite	1993	SA/1994
SA.1154	Provisions to protect the Space Research (SR), Space Operations (SO) and Earth-Exploration Satellite Services (EES) and to facilitate sharing with the mobile service in the 2 025-2 110 and 2 200-2 290 MHz bands	Dispositions propres à assurer la protection des services de recherche spatiale (SRS), d'exploitation spatiale (SES) et d'exploration de la Terre par satellite (SETS) et à faciliter le partage avec le service mobile dans les bandes 2 025-2 110 MHz et 2 200-2 290 MHz	Disposiciones para proteger los servicios de investigación espacial (IE), operaciones espaciales (OE) y explotación de la Tierra por satélite (ETS) y facilitar la compartición con el servicio móvil en las bandas 2 025-2 110 MHz y 2 200-2 290 MHz	1995	SA/1995
SA.1155	Protection criteria related to the operation of data relay satellite systems	Critères de protection relatifs à l'exploitation des systèmes à satellites relais de données	Criterios de protección relativos a la explotación de los sistemas de satélites de retransmisión de datos	1995	SA/1995
SA.1156	Methods of calculating low-orbit satellite visibility statistics	Méthodes de calcul des caractéristiques statistiques de visibilité des satellites en orbite basse	Métodos de cálculo de las estadísticas de visibilidad de un satélite en órbita baja	1995	SA/1995
SA.1157	Protection criteria for deep-space research	Critères de protection pour la recherche dans l'espace lointain	Criterios de protección para la investigación del espacio lejano	1995	SA/1995
SA.1158-1	Sharing of the 1 675-1 710 MHz band between the meteorological-satellite service (space-to-Earth) and the mobile-satellite service (Earth-to-space)	Partage de la bande 1 675-1 710 MHz entre le service de météorologie par satellite (espace-Terre) et le service mobile par satellite (Terre-espace)	Compartición de la banda 1 675-1 710 MHz entre el servicio de meteorología por satélite (espacio-Tierra) y el servicio móvil por satélite (Tierra-espacio)	1997	Blue - 7/BL/8

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SA.1159-1	Performance criteria for data dissemination and direct data readout systems in the Earth exploration-satellite service and meteorological-satellite services using satellites in geostationary orbit	Objectifs de qualité de fonctionnement pour les systèmes d'acquisition directe et de diffusion de données des services d'exploration de la Terre par satellite et de météorologie par satellite utilisant des satellites géostationnaires	Criterios de calidad para los sistemas de difusión y toma directa de datos de los servicios de exploración de la Tierra por satélite y de meteorología por satélite que utilizan satélites situados en la órbita geoestacionaria	1997	Blue - 7/BL/9
SA.1160-1	Interference criteria for data dissemination and direct data readout systems in the Earth exploration-satellite and meteorological-satellite services using satellites in the geostationary orbit	Critères de brouillage applicables aux systèmes d'acquisition directe et de diffusion de données des services d'exploration de la Terre par satellite et de météorologie par satellite utilisant des satellites géostationnaires	Criterios de interferencia para sistemas de difusión y toma directa de datos que funcionan en los servicios de exploración de la Tierra por satélite y de meteorología por satélite utilizando satélites de órbita geoestacionaria	1997	Blue - 7/BL/10
SA.1161	Sharing and coordination criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	Critères de partage et de coordination pour les systèmes d'acquisition directe et de diffusion de données du service de météorologie par satellite utilisant des satellites géostationnaires	Criterios de compartición y coordinación para sistemas de difusión y toma directa de datos que funcionan en el servicio de meteorología por satélite utilizando satélites geoestacionarios	1995	SA/1995
SA.1162-1	Telecommunication requirements and performance criteria for service links in data collection and platform location systems in the Earth exploration- and meteorological-satellite services	Besoins de télécommunication et qualité de fonctionnement des liaisons de service des systèmes de collecte de données et de localisation de plates-formes utilisés par les services d'exploration de la Terre par satellite et de météorologie par satellite	Requisitos de telecomunicación y criterios de calidad de los enlaces de servicio de los sistemas de recogida de datos y localización de plataformas de los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1997	Blue - 7/BL/11

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SA.1163-1	Interference criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services	Critères de brouillage applicables aux liaisons de service des systèmes de collecte de données des services d'exploration de la Terre par satellite et de météorologie par satellite	Criterios de interferencia para los enlaces de servicio en los sistemas de recogida de datos de los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1997	Blue - 7/BL/12
SA.1164-1	Sharing and coordination criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services	Critères de partage et de coordination applicables aux liaisons de service des systèmes de collecte de données des services d'exploration de la Terre par satellite et de météorologie par satellite	Criterios de compartición y coordinación para los enlaces de servicio de los sistemas de recogida de datos en los servicios de exploración de la Tierra por satélite y de meteorología por satélite	1997	Blue - 7/BL/13
SA.1165-1	Technical characteristics and performance criteria for radiosonde systems in the meteorological aids service	Caractéristiques techniques et critères de qualité de fonctionnement des radiosondes utilisées dans le service des auxiliaires de la météorologie	Características técnicas y criterios de calidad de los sistemas de radiosondas del servicio de ayudas a la meteorología	1997	Blue - 7/BL/22
SA.1166-1	Performance and interference criteria for active spaceborne sensors	Critères de qualité de fonctionnement et de brouillage applicables aux capteurs spatiaux actifs	Criterios de calidad de funcionamiento y de interferencia para sensores activos a bordo de vehículos espaciales	1997	Blue - 7/BL/19
SA.1236	Frequency sharing between space research service extra-vehicular activity (EVA) links and fixed and mobile service links in the 410-420 MHz band	Partage des fréquences entre les liaisons du service de recherche spatiale utilisées pour les activités extravéhiculaires (EVA) et les liaisons des services fixe et mobile dans la bande 410-420 MHz	Compartición de frecuencias entre los enlaces para actividades fuera del vehículo espacial (EVA) del servicio de investigación espacial y los enlaces de los servicios fijo y móvil en la banda de 410-420 MHz	1997	Blue - 7/BL/1

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SA.1258	Sharing of the frequency band 401-403 MHz between the meteorological satellite service, Earth exploration satellite service and meteorological aids service	Partage de la bande de fréquences 401-403 MHz entre le service météorologique par satellite, le service d'exploration de la Terre par satellite et le service des auxiliaires de la météorologie	Compartición de la banda de frecuencias 401-403 MHz entre el servicio de meteorología por satélite, el servicio de exploración de la Tierra por satélite y el servicio de ayudas a la meteorología	1997	Blue - 7/BL/7
SA.1259	Feasibility of sharing between spaceborne passive sensors and the fixed service from 50 to 60 GHz	Possibilité de partage des fréquences allant de 50 à 60 GHz entre les détecteurs passifs et les systèmes du service fixe	Viabilidad de la compartición entre sensores pasivos a bordo de vehículos espaciales y el servicio fijo de 50 a 60 GHz	1997	Blue - 7/BL/17
SA.1260	Feasibility of sharing between active spaceborne sensors and other services in the vicinity of 410-470 MHz	Possibilité de partage de fréquences entre les capteurs spatiaux actifs et les systèmes d'autres services fonctionnant dans le voisinage de 410-470 MHz	Posibilidad de compartición entre sensores activos a bordo de vehículos espaciales y otros servicios en las proximidades de 410-470 MHz	1997	Blue - 7/BL/20
SA.1261	Feasibility of sharing between spaceborne cloud radars and other services in the range of 92-95 GHz	Faisabilité du partage entre radars de nuages placés à bord d'engins spatiaux et d'autres services dans la bande 92-95 GHz	Posibilidad de compartición entre radares de nubes a bordo de vehículos espaciales y otros servicios en la gama de frecuencias 92-95 GHz	1997	Blue - 7/BL/21
SA.1262	Sharing and coordination criteria for meteorological aids in the 400.15-406 MHz and 1 668.4-1 700 MHz bands	Critères de partage et de coordination pour le service des auxiliaires de la météorologie dans les bandes 400,15-406 MHz et 1 668,4-1 700 MHz	Criterios de compartición y coordinación para las ayudas a la meteorología en las bandas 400,15-406 MHz y 1 668,4-1 700 MHz	1997	Blue - 7/BL/23
SA.1263	Interference criteria for meteorological aids operated in the 400.15-406 MHz and 1 668.4-1 700 MHz bands	Critères de brouillage pour le service des auxiliaires de la météorologie dans les bandes 400,15-406 MHz et 1 668,4-1 700 MHz	Criterios de interferencia para las ayudas a la meteorología en las bandas 400,15-406 MHz y de 1 668,4-1 700 MHz	1997	Blue - 7/BL/24

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SA.1264	Frequency sharing between the meteorological aids service and the mobile-satellite service (Earth-to-space) in the 1 675-1 700 MHz band	Partage de fréquences entre le service des auxiliaires de la météorologie et le service mobile par satellite (Terre-espace) dans la bande 1 675-1 700 MHz	Compartición de frecuencias entre el servicio de ayudas a la meteorología y el servicio móvil por satélite (Tierra-espacio) en la banda 1 675-1 700 MHz	1997	Blue - 7/BL/25
SA.1273	Power flux-density levels from the space research, space operation and Earth exploration-satellite services at the surface of the Earth required to protect the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz	Puissance surfacique rayonnée par les services de recherche spatiale, d'exploitation spatiale et d'exploration de la Terre par satellite à la surface de la Terre propres à protéger le service fixe dans les bandes 2 025-2 110 MHz et 2 200-2 290 MHz	Niveles de densidad de flujo de potencia causados por los servicios de investigación espacial, de operaciones espaciales y de exploración de la tierra por satélite en la superficie de la tierra necesarios para proteger el servicio fijo en las bandas 2 025-2 110 MHz y 2 200-2 290 MHz	1997	Pink - 7/1006
SA.1274	Criteria for data relay satellite networks to facilitate sharing with systems in the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz	Critères applicables aux réseaux à satellite relais de données visant à faciliter le partage avec les systèmes du service fixe dans les bandes 2 025-2 110 MHz et 2 200-2 290 MHz	Criterios para facilitar la compartición entre redes de satélite de retransmisión de datos y sistemas del servicio fijo en las bandas 2 025-2 110 MHz y 2 200-2 290 MHz	1997	Pink - 7/1007
SA.1275	Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 2 200-2 290 MHz	Positions orbitales des satellites relais de données devant être protégées contre les émissions des systèmes du service fixe fonctionnant dans la bande 2 200-2 290 MHz	Ubicaciones orbitales de satélites de retransmisión de datos que han de protegerse de las emisiones de sistemas del servicio fijo que funcionan en la banda 2 200-2 290 MHz	1997	Pink - 7/1008

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SA.1276	Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 25.25-27.5 GHz	Positions orbitales des satellites relais de données devant être protégées contre les émissions des systèmes du service fixe fonctionnant dans la bande 25,25-27,5 GHz	Ubicaciones orbitales de los satélites de retransmisión de datos que se han de proteger contra las emisiones de sistemas del servicio fijo que funcionan en la banda 25,25-27,5 GHz	1997	Pink - 7/1009
SA.1277	Sharing in the 8 025-8 400 MHz frequency band between the Earth exploration-satellite service and the meteorological-satellite, fixed, fixed-satellite and mobile services in Regions 1, 2 and 3	Partage de la bande de fréquences 8 025-8 400 MHz entre le service d'exploration de la Terre par satellite et les services de météorologie par satellite, fixe, fixe par satellite et mobile dans les Régions 1, 2 et 3	Compartición de la banda de frecuencias 8 025-8 400 MHz entre el servicio de exploración de la Tierra por satélite y los servicios de meteorología por satélite, fijo, fijo por satélite y móvil en las Regiones 1, 2 y 3	1997	Pink - 7/1012
SA.1278	Feasibility of sharing between the Earth exploration-satellite service (space-to-Earth) and the inter-satellite, fixed and mobile services in the band 25.5-27.0 GHz	Faisabilité du partage de fréquences entre le service d'exploration de la Terre par satellite (espace vers Terre) et les services inter-satellites, fixe et mobile dans la bande 25,5-27,0 GHz	Viabilidad de la compartición entre el servicio de exploración de la Tierra por satélite (espacio-Tierra) y los servicios fijo, móvil y entre satélites en la banda 25,5-27,0 GHz	1997	Pink - 7/1013
SA.1279	Spectrum sharing between spaceborne passive sensors and inter-satellite links in the range 50.2-59.3 GHz	Partage du spectre entre capteurs passifs spatioportés et liaisons intersatellites dans la plage de fréquence 50,2-59,3 GHz	Compartición del espectro entre sensores pasivos a bordo de vehículos espaciales y enlaces entre satélites en la gama de 50,2-59,3 GHz	1997	Pink - 7/1014R1
SA.1280	Selection of active spaceborne sensor emission characteristics to mitigate the potential for interference to terrestrial radars operating in frequency bands 1-10 GHz	Choix des caractéristiques d'émission des capteurs actifs spatioportés visant à atténuer les risques de brouillage causé aux radars de terre fonctionnant dans les bandes comprises entre 1 et 10 GHz	Selección de las características de emisión de los sensores activos a bordo de vehículos espaciales para reducir la posible interferencia causada a radares terrenales que funcionan en las bandas de frecuencias 1-10 GHz	1997	Pink - 7/1015

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SA.1281	Protection of stations in the radiolocation service from emissions from active spaceborne sensors in the band 13.4-13.75 GHz	Protection des stations du service de radiolocalisation contre les émissions des capteurs actifs spatioportés dans la bande de fréquences 13,4-13,75 GHz	Protección para estaciones del servicio de radiolocalización de las emisiones procedentes de sensores activos a bordo de vehículos espaciales en la banda 13,4-13,75 GHz	1997	Pink - 7/1016
SA.1282	Feasibility of sharing between wind profiler radars and active spaceborne sensors in the vicinity of 1 260 MHz	Possibilité de partage entre les radars profileurs de vent et les capteurs actifs spatioportés au voisinage de 1 260 MHz	Viabilidad de la compartición entre radares de perfil del viento y sensores activos a bordo de vehículos espaciales cerca de 1 260 MHz	1997	Pink - 7/1017
SF.355-4	Frequency sharing between systems in the fixed-satellite service and radio-relay systems in the same frequency bands	Partage de fréquences entre systèmes du service fixe par satellite et par faisceaux hertziens fonctionnant dans la même bande de fréquences	Compartición de frecuencias entre sistemas del servicio fijo por satélite y sistemas de relevadores radioeléctricos que funcionan en la misma banda de frecuencias	1992	SF/1994
SF.356-4	Maximum allowable values of interference from line-of-sight radio-relay systems in a telephone channel of a system in the fixed-satellite service employing frequency modulation, when the same frequency bands are shared by both systems	Valeurs maximales admissibles des brouillages dus aux faisceaux hertziens à visibilité directe dans une voie téléphonique d'un système du service fixe par satellite utilisant la modulation de fréquence, ces systèmes utilisant en partage les mêmes bandes de fréquences	Valores máximos admisibles de interferencia debidos a los sistemas de relevadores radioeléctricos con visibilidad directa en un canal telefónico de un sistema del servicio fijo por satélite que utiliza la modulación de frecuencia, cuando ambos sistemas comparten las mismas bandas de frecuencias	1978	SF/1994

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SF.357-4	Maximum allowable values of interference in a telephone channel of an analogue angle-modulated radio-relay system sharing the same frequency bands as systems in the fixed-satellite service	Valeurs maximales admissibles des brouillages dans une voie téléphonique d'un faisceau hertzien analogique à modulation angulaire, partageant la même bande de fréquences que des systèmes du service fixe par satellite	Valores máximos admisibles de interferencia en un canal telefónico de un sistema de relevadores radioeléctricos analógico con modulación angular que comparte las mismas bandas de frecuencias que los sistemas del servicio fijo por satélite	1997	Blue - 4-9/BL/1
SF.358-5	Maximum permissible values of power flux-density at the surface of the Earth produced by satellites in the fixed-satellite service using the same frequency bands above 1 GHz as line-of-sight radio-relay systems	Valeurs maximales admissibles de la puissance surfacique produite à la surface de la Terre par des satellites du service fixe par satellite utilisant les mêmes bandes de fréquences que les faisceaux hertziens en visibilité directe au-dessus de 1 GHz	Valores máximos admisibles de la densidad de flujo de potencia producida en la superficie de la Tierra por satélites del servicio fijo que comparten las mismas bandas de frecuencias superiores a 1 GHz, con los sistemas de radioenlaces con visibilidad directa	1995	SF/1995
SF.406-8	Maximum equivalent isotropically radiated power of radio-relay system transmitters operating in the frequency bands shared with the fixed-satellite service	Valeur maximale de la puissance isotrope rayonnée équivalente des émetteurs de faisceaux hertziens fonctionnant dans des bandes de fréquences partagées avec le service fixe par satellite	Valor máximo de la potencia isótropa radiada equivalente de los transmisores de sistemas de relevadores radioeléctricos que comparten bandas de frecuencias con el servicio fijo por satélite	1993	SF/1994
SF.558-2	Maximum allowable values of interference from terrestrial radio links to systems in the fixed-satellite service employing 8-bit PCM encoded telephony and sharing the same frequency bands	Valeurs maximales admissibles du brouillage causé par des faisceaux hertziens de Terre à des systèmes du service fixe par satellite transmettant la téléphonie avec codage MIC à 8 bits et partageant les mêmes bandes de fréquences	Valores máximos permisibles de interferencia producida por radioenlaces terrenales a sistemas del servico fijo por satélite, utilizados para la transmisión de telefonía codificada por MIC de 8 bits y que comparten las mismas bandas de frecuencias	1986	SF/1994

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SF.615-1	Maximum allowable values of interference from the fixed-satellite service into terrestrial radio-relay systems which may form part of an ISDN and share the same frequency band below 15 GHz	Valeurs maximales admissibles des brouillages causés par les systèmes du service fixe par satellite aux faisceaux hertziens numériques de Terre qui pourraient faire partie du RNIS et utilisant en partage la même bande de fréquences au-dessous de 15 GHz	Valores máximos admisibles de la interferencia producida por sistemas del servicio fijo por satélite a los sistemas terrenales de relevadores radioeléctricos que pueden formar parte de una RDSI y que comparten las mismas bandas de frecuencias por debajo de 15 GHz	1997	Blue - 4-9/BL/2
SF.674-1	Power flux-density values to facilitate the application of Article 14 of the Radio Regulations for FSS in relation to the fixed-satellite service in the 11.7-12.2 GHz band in Region 2	Valeurs de puissance surfacique propres à faciliter l'application de l'Article 14 du Règlement des radiocommunications lorsque le service fixe par satellite affecte le service fixe dans la bande 11,7-12,2 GHz dans la Région 2	Valores de densidad de flujo de potencia para facilitar la aplicación del Artículo 14 del Reglamento de Radiocomunicaciones en el caso en que el servicio fijo por satélite afecte al servicio fijo en la banda de 11,7-12,2 GHz en la Región 2	1997	Blue - 4-9/BL/3
SF.675-3	Calculation of the maximum power density (averaged over 4 kHz) of an angle-modulated carrier	Calcul de la densité maximale de puissance (moyenne dans une bande de 4 kHz) d'une onde porteuse à modulation angulaire	Cálculo de la densidad de potencia máxima (valor medio en una banda de 4 kHz) de una portadora con modulación angular	1993	SF/1994
SF.765	Intersection of radio-relay antenna beams with orbits used by space stations in the fixed-satellite service	Intersection des lobes des antennes de faisceaux hertziens avec les orbites des stations spatiales du service fixe par satellite	Intersección de haces de antenas de sistemas de relevadores radioeléctricos con las órbitas de las estaciones espaciales del servicio fijo por satélite	1992	SF/1994
SF.766	Methods for determining the effects of interference on the performance and the availability of terrestrial radio-relay systems and systems in the fixed-satellite service	Méthodes de détermination des effets du brouillage sur la qualité et la disponibilité des faisceaux hertziens de Terre et des systèmes du service fixe par satellite	Métodos para determinar los efectos de la interferencia en la calidad de funcionamiento y la disponibilidad de los sistemas de relevadores radioeléctricos terrenales y en los sistemas del servicio fijo por satélite	1992	SF/1994

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SF.1004	Maximum equivalent isotropically radiated power transmitted towards the horizon by earth stations of the fixed-satellite service sharing frequency bands with the fixed service	Puissance isotrope rayonnée équivalente maximale émise en direction de l'horizon par des stations terriennes du service fixe par satellite utilisant des bandes de fréquences en partage avec le service fixe	Valor máximo de la potencia isótropa radiada equivalente transmitida hacia el horizonte por las estaciones terrenas del servicio fijo por satélite que comparten bandas de frecuencias con el servicio fijo	1993	SF/1994
SF.1005	Sharing between the fixed service and the fixed-satellite service with bidirectional usage in bands above 10 GHz currently unidirectionally allocated	Partage des fréquences entre le service fixe et le service fixe par satellite avec utilisation bidirectionnelle dans les bandes supérieures à 10 GHz actuellement attribuées pour utilisation unidirectionnelle	Compartición de frecuencias entre el servicio fijo y el servicio fijo por satélite con utilización bidireccional en bandas por encima de 10 GHz actualmente atribuidas para funcionamiento unidireccional	1993	SF/1994
SF.1006	Determination of the interference potential between earth stations of the fixed-satellite service and stations in the fixed service	Détermination des possibilités de brouillage entre stations terriennes du service fixe par satellite et stations du service fixe	Determinación de la interferencia potencial entre estaciones terrenas del servicio fijo por satélite y estaciones del servicio fijo	1993	SF/1994
SF.1008-1	Possible use by space stations in the fixed-satellite service of orbits slightly inclined with respect to the geostationary-satellite orbit in bands shared with the fixed service	Possibilités d'utilisation par des stations spatiales du service fixe par satellite d'orbites légèrement inclinées par rapport à l'orbite des satellites géostationnaires dans des bandes utilisées en partage avec le service fixe	Posible utilización por las estaciones espaciales del servicio fijo por satélite de órbitas ligeramente inclinadas con respecto a la órbita de los satélites geoestacionarios en bandas compartidas con el servicio fijo	1995	SF/1995
SF.1193	Carrier-to-interference calculations between earth stations in the fixed-satellite service and radio-relay systems	Calculs des rapports porteuse sur brouillage entre les stations terriennes du service fixe par satellite et les faisceaux hertziens	Cálculo de la relación portadora/interferencia entre estaciones terrenas del servicio fijo por satélite y sistemas de radioenlaces	1995	SF/1995

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SF.1320	Maximum allowable values of power flux-density at the surface of the Earth produced by non-geostationary satellites in the fixed-satellite service used in feeder links for the mobile-satellite service and sharing the same frequency bands with radio-relay systems	Valeurs maximales admissibles de puissance surfacique produite à la surface de la Terre par des satellites non géostationnaires du service fixe par satellite utilisés pour des liaisons de connexion du service mobile par satellite et partageant certaines bandes de fréquences avec des faisceaux hertziens	Valores máximos admisibles de densidad de flujo de potencia en la superficie de la Tierra producidos por satélites no geoestacionarios del servicio fijo por satélite utilizados en enlaces de conexión del servicio móvil por satélite y que comparten bandas de frecuencias con sistemas de radioenlaces	1997	Blue - 4-9/BL/4
SM.182-4	Automatic monitoring of occupancy of the radio-frequency spectrum	Contrôle automatique du degré d'occupation du spectre radioélectrique	Comprobación automática de la ocupación del espectro de frecuencias radioeléctricas	1992	SM/1994
SM.239-2	Spurious emissions from sound and television broadcast receivers	Rayonnements parasites produits par les récepteurs de radiodiffusion sonore et de télévision	Emisiones no esenciales producidas por los receptores de radiodifusión sonora y de televisión	1978	SM/1994
SM.326-6	Determination and measurement of the power of radio transmitters	Détermination et mesure de la puissance des émetteurs radioélectriques	Determinación y medición de la potencia de los transmisores radioeléctricos	1990	SM/1994
SM.328-9	Spectra and bandwidth of emissions	Spectres et largeurs de bande des émissions	Espectros y anchuras de banda de las emisiones	1997	Pink - 1/1005
SM.329-7	Spurious emissions	Rayonnements non essentiels	Emisiones no esenciales	1997	Blue - 1/BL/11
SM.331-4	Noise and sensitivity of receivers	Bruit de fond et sensibilité des récepteurs	Ruido y sensibilidad de los receptores	1978	SM/1994
SM.332-4	Selectivity of receivers	Sélectivité des récepteurs	Selectividad de los receptores	1978	SM/1994
SM.337-4	Frequency and distance separations	Séparations en fréquence et en distance	Separaciones de frecuencia y en distancia	1997	Pink - 1/1007

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SM.377-3	Accuracy of frequency measurements at stations for international monitoring	Précision des mesures de fréquence dans les stations pour le contrôle international des émissions	Precisión de las mediciones de frecuencia en las estaciones de comprobación técnica internacional	1993	SM/1994
SM.378-6	Field-strength measurements at monitoring stations	Mesures de champ dans les stations de contrôle des émissions	Mediciones de la intensidad de campo en las estaciones de comprobación técnica	1995	SM/1995
SM.433-5	Methods for the measurement of radio interference and the determination of tolerable levels of interference	Méthodes de mesure des perturbations radioélectriques et de détermination des niveaux de brouillage tolérables	Métodos de medición de las perturbaciones radioeléctricas y de determinación de los niveles admisibles de interferencia	1992	SM/1994
SM.443-2	Bandwidth measurement at monitoring stations	Mesure de la largeur de bande dans les stations de contrôle des émissions	Mediciones de la anchura de banda en las estaciones de comprobación técnica de las emisiones	1995	SM/1995
SM.508	Use of radio-noise data in spectrum utilization studies	Emploi des données sur le bruit radioélectrique dans les études relatives à l'utilisation du spectre	Empleo de datos de ruido radioeléctrico en los estudios sobre la utilización del espectro radioeléctrico	1978	SM/1994
SM.575	Protection of fixed monitoring stations against radio-frequency interference	Protection des stations fixes de contrôle des émissions contre les brouillages aux fréquences radioélectriques	Protección de las estaciones fijas de comprobación técnica contra la interferencia de radiofrecuencia	1982	SM/1994
SM.667	National spectrum management data	Données nationales sur la gestion du spectre	Datos de gestión nacional del espectro	1990	SM/1994
SM.668-1	Electronic exchange of information for spectrum management purposes	Échange électronique d'informations pour la gestion du spectre	Intercambio electrónico de información para la gestión del espectro	1997	Blue - 1/BL/2

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SM.669-1	Protection ratios for spectrum sharing investigations	Rapports de protection pour les études de partage des fréquences	Relaciones de protección para las investigaciones sobre la compartición del espectro	1993	SM/1994
SM.852	Sensitivity of radio receivers for class of emissions F3E	Sensibilité des récepteurs pour les émissions de la classe F3E	Sensibilidad de los receptores radioeléctricos para la clase de emisión F3E	1992	SM/1994
SM.853-1	Necessary bandwidth	Largeur de bande nécessaire	Anchura de banda necesaria	1997	Pink - 1/1006
SM.854	Direction finding at monitoring stations of signals below 30 MHz	Radiogoniométrie dans les stations de contrôle, de signaux inférieurs à 30 MHz	Estaciones de radio y de comprobación de señales por debajo de 30 MHz	1992	SM/1994
SM.855-1	Multi-service telecommunication systems	Systèmes de télécommunication à services multiples	Sistemas de telecomunicación multiservicio	1997	Pink - 1/1010
SM.856-1	New spectrally efficient techniques and systems	Nouvelles techniques et nouveaux systèmes économes de spectre	Nuevas técnicas y sistemas eficaces desde el punto de vista del espectro	1997	Blue - 1/BL/3
SM.1045-1	Frequency tolerance of transmitters	Tolérance en fréquence des émetteurs	Tolerancia de frecuencia en los transmisores	1997	Blue - 1/BL/12
SM.1046-1	Definition of spectrum use and efficiency of a radio system	Définitions du facteur d'utilisation du spectre et de l'efficacité d'utilisation du spectre d'un système radioélectrique	Definición de la eficacia en la utilización del espectro por un sistema de radiocomunicaciones	1997	Pink - 1/1008
SM.1047	National spectrum management	Gestion nationale du spectre	Gestión nacional del espectro	1993	SM/1994
SM.1048	Design guidelines for a basic automated spectrum management system (BASMS)	Directives de conception d'un système de base pour la gestion automatisée du spectre	Directrices para el diseño de un sistema básico automatizado de gestión del espectro	1993	SM/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SM.1049-1	A method of spectrum management to be used for aiding frequency assignment for terrestrial services in border areas	Méthode de gestion du spectre à utiliser pour faciliter le processus d'assignation de fréquence aux services de Terre dans les zones frontalières	Método de gestión del espectro destinado a facilitar el proceso de asignación de frecuencias a estaciones de servicios terrenales en zonas fronterizas	1995	SM/1995
SM.1050	Tasks of a monitoring service	Fonctions assignées à un service de contrôle des émissions	Tareas que ha de realizar el servicio de comprobación técnica de las emisiones	1993	SM/1994
SM.1051-2	Priority of identifying and eliminating harmful interference in the band 406-406.1 MHz	Priorité accordée à l'identification et à la suppression des brouillages préjudiciables dans la bande 406-406,1 MHz	Prioridad de identificación y supresión de interferencia perjudicial en la banda 406-406,1 MHz	1997	Blue - 1/BL/6
SM.1052	Automatic identification of radio stations	Identification automatique des stations radioélectriques	Identificación automática de las estaciones radioeléctricas	1993	SM/1994
SM.1053	Methods of improving HF direction-finding accuracy at fixed stations	Méthodes permettant d'améliorer la précision des mesures de radiogoniométrie par stations fixes en ondes décamétriques	Métodos para mejorar la exactitud de la radiogoniometría en ondas decamétricas en estaciones fijas	1993	SM/1994
SM.1054	Monitoring of radio emissions from spacecraft at monitoring stations	Contrôle des émissions radioélectriques en provenance d'engins spatiaux par des stations de contrôle des émissions	Comprobación técnica de las emisiones de vehículos espaciales en las estaciones de comprobación técnica	1993	SM/1994
SM.1055	The use of spread spectrum techniques	L'utilisation des techniques d'étalement du spectre	Utilización de técnicas de espectro ensanchado	1993	SM/1994
SM.1056	Limitation of radiation from industrial, scientific and medical (ISM) equipment	Limitation des rayonnements provenant des appareils industriels, scientifiques et médicaux (ISM)	Limitación de las radicaciones procedentes de equipos industriales, científicos y médicos (ICM)	1993	SM/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SM.1131	Factors to consider in allocating spectrum on a worldwide basis	Facteurs à prendre en compte lors de l'attribution du spectre des fréquences radioélectriques à l'échelle mondiale	Factores que intervienen en la atribución de espectro a escala mundial	1995	SM/1995
SM.1132	General principles and methods for sharing between radio services	Principes généraux et méthodes d'utilisation en partage de bandes de fréquences entre des services de radiocommunication	Principios y métodos generales de compartición entre servicios de radiocomunicación	1995	SM/1995
SM.1133	Spectrum utilization of broadly defined services	Utilisation du spectre par des services génériques	Utilización del espectro por servicios definidos en acepción amplia	1995	SM/1995
SM.1134	Intermodulation interference calculations in the land-mobile service	Calculs des brouillages d'intermodulation dans le service mobile terrestre	Cálculos de la interferencia de intermodulación en el servicio móvil terrestre	1995	SM/1995
SM.1135	SINPO and SINPFEMO codes	Codes SINPO et SINPFEMO	Códigos SINPO y SINPFEMO	1995	SM/1995
SM.1138	Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions	Détermination des largeurs de bande nécessaires, exemples de calcul de la largeur de bande nécessaire et exemples connexes de désignation des émissions	Determinación de las anchuras de banda necesarias, con inclusión de ejemplos de cálculo de las mismas y ejemplos conexos de denominación de emisiones	1995	SM/1995
SM.1139	International monitoring system	Système de contrôle international des émissions	Sistema de comprobación técnica internacional de las emisiones	1995	SM/1995
SM.1235	Performance functions for digital modulation systems in an interference environment	Qualité de fonctionnement des systèmes à modulation numérique en présence de brouillage	Funciones de comportamiento de los sistemas de modulación digital en un entorno con interferencia	1997	Blue - 1/BL/1
SM.1265	Alternative allocation methods	Nouvelles méthodes d'attribution des fréquences	Métodos de atribución alternativos	1997	Blue - 1/BL/4
SM.1266	Adaptive MF/HF systems	Systèmes adaptatifs en ondes hectométriques et décamétriques	Sistemas adaptables en las bandas de ondas hectométricas/decamétricas	1997	Blue - 1/BL/8

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SM.1267	Collection and publication of monitoring data to assist frequency assignment for geostationary satellite systems	Collecte et publication des données de contrôle des émissions visant à faciliter l'attribution de fréquences aux systèmes à satellites géostationnaires	Acopio y publicación de datos de comprobación técnicas para contribuir al proceso de asignación de frecuencias a los sistemas de satélites geoestacionarios	1997	Blue - 1/BL/5
SM.1268	Method of measuring the maximum frequency deviation of FM broadcast emissions at monitoring stations	Méthode à utiliser par les stations de contrôle des émissions pour mesurer l'excursion maximale de fréquence des émissions de radiodiffusion	Método de medición de la máxima desviación de frecuencia de las emisiones de radiodifusión MF a utilizar en las estaciones de comprobación técnica	1997	Blue - 1/BL/7
SM.1269	Classification of direction finding bearings	Classification des relèvements	Clasificación de las marcaciones radiogoniométricas	1997	Blue - 1/BL/9
SM.1270	Additional information for monitoring purposes related to classification and designation of emission	Renseignements complémentaires relatifs au contrôle des émissions pour la classification et la désignation des émissions	Información adicional a efectos de la comprobación técnica relacionada con la clasificación y designación de emisiones	1997	Blue - 1/BL/10
SM.1271	Efficient spectrum utilization using probabilistic methods	Utilisation efficace du spectre et méthodes probabilistes	Utilización eficaz del espectro empleando métodos probabilísticos	1997	Pink - 1/1009
SNG.722-1	Uniform technical standards (analogue) for Satellite News Gathering (SNG)	Normes techniques unifiées (applicables aux systèmes analogiques) pour le reportage d'actualités par satellite (RAS)	Normas técnicas (analógicas) uniformes para el periodismo electrónico por satélite (SNG)	1992	SNG/1994
SNG.770-1	Uniform operational procedures for Satellite News Gathering (SNG)	Procédures d'exploitation unifiées applicables au reportage d'actualités par satellite (RAS)	Procedimientos operativos uniformes para el periodismo electrónico por satélite (SNG)	1993	SNG/1994
SNG.771-1	Auxiliary coordination satellite circuits for SNG terminals	Circuits auxiliaires par satellite pour la coordination des stations RAS	Circuitos de coordinación auxiliares por satélite para terminales SNG	1993	SNG/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
SNG.1007-1	Uniform technical standards (digital) for satellite news gathering (SNG)	Normes techniques unifiées (applicables aux systèmes numériques) pour le reportage d'actualités par satellite (RAS)	Normas técnicas (digitales) uniformes para el periodismo electrónico por satélite (SNG)	1995	SNG/1995
SNG.1070	An automatic transmitter identification system (ATIS) for analogue-modulation transmissions for satellite news gathering and outside broadcasts	Système automatique d'identification des émetteurs (ATIS) applicables aux transmissions à modulation analogique par satellite pour le reportage d'actualités et la production en extérieur	Sistema de identificación automática del transmisor (ATIS) para transmisiones con modulación analógica del periodismo electrónico por satélite y desde exteriores	1993	SNG/1994
SNG.1152	Use of digital transmission techniques for satellite news gathering (SNG) (sound)	Utilisation de techniques de transmission numériques pour le reportage d'actualités par satellite (RAS) (sonore)	Utilización de técnicas digitales de transmisión para el periodismo electrónico por satélite (SNG) (sonora)	1995	SNG/1995
TF.374-3	Standard-frequency and time-signal emissions	Emissions de fréquences étalon et de signaux horaires	Emisiones de frecuencias patrón y de señales horarias	1974	TF/1994
TF.375-2	Standard-frequency and time-signal emissions in additional frequency bands	Emissions de fréquences étalon et de signaux horaires dans de nouvelles bandes de fréquences	Emisiones de frecuencias patrón y de señales horarias en nuevas bandas de frecuencias	1982	TF/1994
TF.376-1	Avoidance of external interference with emissions of the standard-frequency service in the bands allocated to that service	Suppression des brouillages d'origine extérieure causés aux émissions du service de fréquences étalon dans les bandes attribuées à ce service	Supresión de las interferencias de origen externo causadas a las emisiones del servicio de frecuencias patrón en las bandas atribuidas a este servicio	1966	TF/1994
TF.457-2	Use of the modified Julian date by the standard-frequency and time-signal services	Utilisation de la date julienne modifiée par les services de fréquences étalon et de signaux horaires	Utilización de la Fecha Juliana Modificada en los servicios de frecuencias patrón y de señales horarias	1997	Pink - 7/1019

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
TF.458-2	International comparisons of atomic time scales	Comparaisons internationales d'échelles de temps atomique	Comparaciones internacionales de escalas de Tiempo Atómico	1990	TF/1994
TF.460-5	Standard-frequency and time-signal emissions	Emissions de fréquences étalon et de signaux horaires	Emisiones de frecuencias patrón y señales horarias	1997	Pink - 7/1020
TF.485-2	Use of time scales in the field of standard-frequency and time services	Utilisation d'échelles de temps dans les services de fréquences étalon et de signaux horaires	Utilización de escalas de tiempo en los servicios de frecuencias patrón y de señales horarias	1990	TF/1994
TF.486-1	Reference of precisely controlled frequency generators and emissions to the international atomic time scale	Référence à l'échelle de temps atomique international pour les générateurs et les émissions de fréquence commandés avec précision	Referencia de los generadores y emisiones con control preciso de frecuencia a la escala de Tiempo Atómico Internacional	1978	TF/1994
TF.535-1	Use of the term UTC	Emploi du terme UTC	Utilización del término UTC	1982	TF/1994
TF.536	Time-scale notations	Notations à utiliser pour désigner les échelles de temps	Notación de las escalas de tiempo	1978	TF/1994
TF.537	Reduction of mutual interference between emissions of the standard-frequency and time-signal service on the allocated frequencies in bands 6 and 7	Réduction des brouillages mutuels entre émissions du service de fréquences étalon et de signaux horaires sur les fréquences qui leur sont attribuées dans les bandes 6 et 7	Reducción de la interferencia mutua entre las emisiones de los servicios de frecuencias patrón y de señales horarias en las frecuencias atribuidas en las bandas 6 y 7	1978	TF/1994
TF.538-3	Measures for random instabilities in frequency and time (phase)	Mesures de l'instabilité aléatoire de fréquence et de temps (phase)	Mediciones de la inestabilidad de frecuencia y en el tiempo (fase)	1993	TF/1994
TF.582-1	Time and frequency reference signal dissemination and coordination using satellite methods	Diffusion et coordination de signaux de référence de temps et de fréquence par satellite	Difusión y coordinación de señales de referencia de tiempo y frecuencia por satélite	1990	TF/1994
TF.583-4	Time codes	Codes horaires	Códigos de tiempo	1997	Blue - 7/BL/27
TF.685	International synchronization of UTC time scale	Synchronisation internationale des échelles de temps UTC	Sincronización internacional de las escalas de tiempo UTC	1990	TF/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
TF.686-1	Glossary	Glossaire	Glosario	1997	Pink - 7/1018
TF.767	Use of the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS) for high-accuracy time transfer	Utilisation du système mondial de positionnement (GPS) et du système mondial de satellites de navigation (GLONASS) pour le transfert de temps de haute précision	Utilización del sistema global de determinación de la posición (GPS) y del sistema global de navegación por satélite (GLONASS) para la transferencia de señales horarias de gran precisión	1992	TF/1994
TF.768-3	Standard frequencies and time signals	Fréquences étalon et signaux horaires	Frecuencias patrón y señales horarias	1997	Blue - 7/BL/26
TF.1010-1	Relativistic effects in a coordinate time system in the vicinity of the Earth	Effets relativistes dans un système de temps coordonné au voisinage de la Terre	Efectos relativistas en un sistema con coordenada de tiempo en las proximidades de la Tierra	1997	Pink - 7/1021
TF.1011-1	Systems, techniques and services for time and frequency transfer	Transfert de signaux horaires et de fréquences étalon: systèmes, techniques et services	Sistemas, técnicas y servicios para la transferencia de tiempo y frecuencia	1997	Pink - 7/1022
TF.1153-1	The operational use of two-way satellite time and frequency transfer employing PN codes	Utilisation opérationnelle du transfert bidirectionnel de signaux horaires et de fréquences étalon par satellite au moyen de codes de pseudo-bruit	Utilización operativa de la transferencia bidireccional por satélite de señales horarias y frecuencias utilizando códigos de seudorruido	1997	Blue - 7/BL/28
V.430-3	Use of the international system of units (SI)	Emploi du système international d'unités (SI)	Empleo del sistema internacional de unidades (SI)	1990	V/1994
V.431-6	Nomenclature of the frequency and wavelength bands used in telecommunications	Nomenclature des bandes de fréquences et de longueurs d'onde employées en télécommunication	Nomenclatura de las bandas de frecuencias y de las longitudes de onda empleadas en telecomunicaciones	1993	V/1994

Number Numéro Número	Title	Titre	Título	Approved Approuvée Aprobada	Vol. or/ou/o Doc.
V.461-5	Graphical symbols and rules for the preparation of documentation in telecommunications	Symboles graphiques et règles pour l'établissement de la documentation utilisée dans les télécommunications	Símbolos gráficos y reglas para la preparación de la documentación utilizada en telecomunicaciones	1993	V/1994
V.573-3	Radiocommunication vocabulary	Vocabulaire des radiocommunications	Vocabulario de radiocomunicaciones	1990	V/1994
V.574-3	Use of the decibel and the neper in telecommunications	Emploi du décibel et du néper dans les télécommunications	Uso del decibelio y del neperio en telecomunicaciones	1990	V/1994
V.607-2	Terms and symbols for information quantities in telecommunications	Termes et symboles relatifs aux quantités d'information en télécommunication	Términos y símbolos relacionados con cantidades de información en telecomunicaciones	1990	V/1994
V.608-2	Letter symbols for telecommunications	Symboles littéraux pour les télécommunications	Símbolos literales para las telecomunicaciones	1993	V/1994
V.662-2	Terms and definitions	Termes et définitions	Términos y definiciones	1993	V/1994
V.663-1	Use of certain terms linked with physical quantities	Emploi de certains termes liés à des grandeurs physiques	Utilización de ciertos términos vinculados a cantidades físicas	1990	V/1994
V.664	Adoption of the CCITT Specification and Description Language (SDL)	Adoption du langage de spécification et de description fonctionnelles (LDS) du CCITT	Adopción del Lenguaje de Especificación y Descripción (LED) del CCITT	1986	V/1994
V.665-1	Traffic intensity unit	Unité d'intensité du trafic	Unidad de intensidad de tráfico	1990	V/1994
V.666-2	Abbreviations and initials used in telecommunications	Abréviations et sigles utilisés en télécommunication	Abreviaturas y siglas utilizadas en telecomunicaciones	1993	V/1994

ANNEX 2

List of the ITU-R Recommendations related to the CPM Report to WRC-97 as of 24 October 1997

NOTE - This is an updated version of Annex 2 to the CPM Report to the WRC-97 (Document 4) resulting from the approval of the ITU-R Recommendations by the 1997 Radiocommunication Assembly.

Chapter 2		
Recommendation ITU-R BS.560-3	Radio-frequency protection ratios in LF, MF, and HF broadcasting	1994 BS Series
Recommendation ITU-R BS.640-2	Single-sideband (SSB) system for HF broadcasting	1994 BS Series
Recommendation ITU-R BS.705-1	HF transmitting and receiving antennas characteristics and diagrams	1995 Separate publication
Recommendation ITU-R P.533-5	HF propagation prediction method	1995 P Series
Recommendation ITU-R P.842-1	Computation of reliability and compatibility of HF radio systems	1994 PI Series
Chapter 3		
Recommendation ITU-R M.257-3	Sequential single frequency selective-calling system for use in the maritime mobile service	1995 M Series, Part 3
Recommendation ITU-R M.476-5	Direct-printing telegraph equipment in the maritime mobile service	1995 M Series, Part 3
Recommendation ITU-R M.1084-1	Improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	1995 M Series, Part 3
Recommendation ITU-R M.1312 [Doc. 8/54]	A long-term solution for improved efficiency in the use of the band 156 - 174 MHz by stations in the maritime mobile service	Document 8/1013
Chapter 4		
Recommendation ITU-R M.1039-1	Co-frequency sharing between stations in the mobile service below 1 GHz and FDMA NON-GSO mobile earth stations	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1185	Method for determining coordination distance between ground based mobile Earth stations and terrestrial stations operating in the 148.0 - 149.9 MHz band	1995 M Series, Part 5
Recommendation ITU-R SA.1164	Sharing and coordination criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services	Document 7/BL/13

Recommendation ITU-R SA.1258 [Doc. 7/70]	Sharing of the frequency band 401-403 MHz between the METSAT service, EESS and METAIDS service	Document 7/BL/7
Recommendation ITU-R SA.1165-1	Technical characteristics and performance criteria for radiosonde systems in the METAIDS service	Document 7/BL/22
Recommendation ITU-R SA.1262 [Doc. 7/39]	Sharing and coordination criteria for METAIDS in the 400.15 to 406 MHz and 1 668.4 to 1 700 MHz bands	Document 7/BL/23
Recommendation ITU-R SA.1263 [Doc. 7/41]	Interference criteria for METAIDS operated in the bands 400.15 to 406 and 1 668.4 to 1 700 MHz	Document 7/BL/24
Recommendation ITU-R SM.1051-1	Priority of identifying and eliminating radio interference in the band 406-406.1 MHz	Document 1/BL/6
Recommendation ITU-R RA.769-1	Protection criteria used for radioastronomical measurements	1995 RA Series
Recommendation ITU-R RA.1031	Protection of the RA service in frequency bands shared with other services	1995 RA Series
Recommendation ITU-R BT.417-4	Minimum field strengths for which protection may be sought in planning a television service	1994 BT Series
Recommendation ITU-R BT.655-4	Radio-frequency protection ratios for AM vestigial sideband terrestrial television systems	1994 BT Series
Recommendation ITU-R IS.851-1	Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands	1995 IS Series
Recommendation ITU-R M.1087	Methods for evaluating sharing between systems in the land mobile service and spread-spectrum LEO systems in the MSS below 1 GHz	1994 M Series, Part 5
Recommendation ITU-R SA.1021	Methodology for determining performance objectives for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R SA.1022	Methodology for determining interference criteria for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R SA.1023	Methodology for determining sharing and coordination criteria for systems in the Earth exploration-satellite and meteorological-satellite services	1994 SA Series
Recommendation ITU-R M.1230	Performance objectives for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1231	Interference criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5
Recommendation ITU-R M.1232	Sharing criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137 - 138 MHz band	1997 M Series, Parts 1, 2, 3, 4, 5

Recommendation ITU-R M.1315 [8D/XQ]	Methodology for evaluating interference from narrow-band mobile-satellite networks to spread-spectrum direct-sequence mobile-satellite networks operating with space stations in low-earth orbit at frequencies below 1 GHz	Document 8/1020
Recommendation ITU-R M.1316 [8D/XN]	Principles and a methodology for frequency sharing in the 1 610.6 - 1 613.8 and 1 660 - 1 660.5 MHz bands between the mobile-satellite service (earth-to-space) and the radio astronomy service	Document 8/1021
Recommendation ITU-R M.1186	Technical considerations for the coordination between MSS networks utilizing CDMA and other spread spectrum techniques in the 1 - 3 GHz band	1995 M Series Part 5
Recommendation ITU-R M.1318 [8D/XO]	Interference protection evaluation model for the radionavigation-satellite service in the 1 559 - 1 610 MHz band	Document 8/1023
Recommendation ITU-R M.1317 [Doc. 8/57]	Considerations for sharing with systems of other services operating in bands allocated to the radionavigation-satellite and aeronautical radio-navigation services and the global navigation satellite system (GLONASS-M)	Document 8/1022
Recommendation ITU-R M.830	Operational procedures for mobile-satellite networks or systems in the bands 1530-1544 MHz and 1626.5-1645.5 MHz which are used for distress and safety purposes as specified for GMDSS	1995 M Series Part 5
Recommendation ITU-R M.1037	Bit error performance objectives for aeronautical mobile-satellite (R) service (AMS(R)S) radio link	1995 M Series Part 5
Recommendation ITU-R M.1089	Technical considerations for the coordination of mobile-satellite systems supporting AMS(R)S	1995 M Series Part 5
Recommendation ITU-R SA.1158-1	Sharing of the 1 675 - 1 710 MHz Band between the meteorological-satellite service (space-to-Earth) and the mobile-satellite service (Earth-to-space)	Document 7/BL/8
Recommendation ITU-R F.1245 [Doc. 9/20]	Mathematical model of average radiation patterns for line-of-sight point-to-point radio-relay system antennas for use in certain coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	Document 9/BL/5
Recommendation ITU-RF.1246 [Doc. 9/29]	Reference bandwidth of receiving stations in the fixed service to be used in coordination of frequency assignments with transmitting space stations in the mobile-satellite service in the 1 - 3 GHz range	Document 9/BL/6
Recommendation ITU-R F.1336 [Doc. 9/92]	Reference radiation patterns of omnidirectional and other antennas in point-to-multipoint systems for use in sharing studies	Document 9/BL/39
Recommendation ITU-R M.1141-1	Sharing in the 1-3 GHz frequency range between the non-geostationary space stations operating in the MSS and stations in the fixed service	Document 8/1024
Recommendation ITU-R M.1142-1	Sharing in the 1-3 GHz frequency range between geostationary space stations operating in the MSS and stations in the fixed service	Document 8/1025

Recommendation ITU-R SA.1264 [Doc. 7/38]	Frequency sharing between the meteorological aids service and the MSS (Earth-to-space) in the 1 675 - 1 700 MHz band	Document 7/BL/25
Recommendation ITU-R F.283-5	Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.382-6	Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands	1994 F Series, Part 1
Recommendation ITU-R F.1098-1	Radio-frequency channel arrangements for radio-relay systems in the 1 900-2 300 MHz band	1995 F Series, Part 1
Recommendation ITU-R IS.1143-1	System specific methodology for coordination of non-geostationary space stations (space-to-Earth) operating in the MSS with the fixed service	Document 8/1026
Recommendation ITU-R P.530-6	Propagation data and prediction methods required for the design of terrestrial line-of-sight systems	1995 P Series
Recommendation ITU-R P.452-7	Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0.7 GHz	1995 P Series
Recommendation ITU-R P.619-1	Propagation data required for the evaluation of interference between stations in space and those on the surface of the Earth	1994 PN Series
Recommendation ITU-R F.1095	A procedure for determining coordination area between radio-relay stations of the fixed service	1994 F Series, Part 1
Recommendation ITU-R F.746-2	Radio-frequency channel arrangements for radio-relay systems	1995 F Series, Part 1
Recommendation ITU-R M.1036	Spectrum considerations for implementation of FPLMTS in the bands 1 885-2 025 MHz and 2 110-2 200 MHz	1994 M Series, Part 2
Recommendation ITU-R S.1255 [4A/XH]	Use of adaptive uplink power control to mitigate codirectional interference between GSO/FSS networks and feeder links of NGSO/MSS networks and between GSO/FSS networks and NGSO/FSS networks	Document 4/BL/7
Recommendation ITU-R S.1256 [4A/XF]	Methodology for determining the maximum aggregate pfd at the GSO in the band 6 700 - 7 075 MHz from feeder links of non-GSO satellite systems in the MSS in the space-to-Earth direction	Document 4/BL/8
Recommendation ITU-R S.1257 [4A/XC]	Analytical method to calculate visibility statistics for NGSO satellites as seen from a point on the Earth’s surface	Document 4/BL/9
Recommendation ITU-R S.1341 [4A/XO]	Sharing between feeder links for the MSS and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4 - 15.7 GHz and the protection of the radioastronomy service in the band 15.35 - 15.4 GHz	Document 4/1007
Recommendation ITU-R S.1340 [4A/XP]	Sharing between feeder links for the MSS and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4 - 15.7 GHz	Document 4/1006

Recommendation ITU-R SF.1320 [4/26-9/33]	Maximum allowable values of pfd at the surface of the earth produced by NGSO in the FSS used in feeder links for the MSS and sharing the same frequency bands with radio-relay systems (Parts relating to 19 GHz band)	Doc. 4/26 (Rev.1)-9/33 (Rev.1)
Recommendation ITU-R S.1328 [4A/XQ]	Satellite system characteristics to be considered in frequency sharing analyses between GSO and non-GSO satellite systems in the fixed-satellite service including feeder links for the mobile-satellite service	Document 4/BL/19
Recommendation ITU-R S.1323 [4A/XB]	Maximum permissible levels of interference in a satellite network (GSO/FSS; NGSO/FSS; NGSO/MSS feeder links) for a hypothetical reference digital path in the FSS caused by other codirectional networks below 30 GHz	Document 4/BL/14
Recommendation ITU-R S.1324 [4A/XJ]	Analytical method for estimating interference between NGSO MSS feeder links and GSO FSS networks operating co-frequency and co-directionally	Document 4/BL/15
Chapter 5		
Recommendation ITU-R SA.1154	Provisions to protect the space research (SR), space operations (SO) and earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2 025 - 2 110 and 2 200 - 2 290 MHz bands	1995 SA Series
Recommendation ITU-R SA.1258 [Doc. 7/70]	Sharing of the frequency band 401-403 MHz between the meteorological satellite service, Earth exploration satellite service and meteorological aids service in the band 401-403 MHz	Document 7/BL/7
Recommendation ITU-R SA.577-5	Preferred frequencies and necessary bandwidths for spaceborne active remote sensing	Document 7/BL/18
Recommendation ITU-R SA.1166-1	Performance and interference criteria for active spaceborne sensors	Document 7/BL/19
Recommendation ITU-R SA.1260 [Doc. 7/11]	Feasibility of sharing between active spaceborne sensors and other services in the vicinity of 410-470 MHz	Document 7/BL/20
Recommendation ITU-R SA.1281 [7/116-8/93]	Protection criteria for stations in the radiolocation service from emissions from active spaceborne sensors in the band 13.4 - 13.75 GHz	Document 7/1016
Recommendation ITU-R SA.1280 [7/98-8/47]	Selection of active spaceborne sensor emission characteristics to mitigate the potential for interference to terrestrial radars operating in frequency bands 1 - 10 GHz	Document 7/1015
Recommendation ITU-R M.1088	Considerations for sharing with systems of other services operating in the bands allocated to the radionavigation satellite service	1994 M Series, Part 5
Recommendation ITU-R M.1317 [Doc. 8/57]	Considerations for sharing with systems of other services operating in bands allocated to the radionavigation-satellite and aeronautical radio-navigation services and the global navigation satellite system (GLONASS-M)	Document 8/1022
Recommendation ITU-R SA.1025-2	Performance criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/4

Recommendation ITU-R SA.1026-2	Interference criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/5
Recommendation ITU-R SA.1027-2	Sharing and coordination criteria for space-to-Earth data transmission systems in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit	Document 7/BL/6
Recommendation ITU-R SA.1277 [7/14]	Sharing in the 8 025 - 8 400 MHz frequency band between the earth exploration-satellite service and the meteorological-satellite, fixed, fixed-satellite and mobile services in Regions 1, 2 and 3	Document 7/1012
Recommendation ITU-R SA. 515-3	Frequency bands and bandwidths used for satellite passive sensing	Document 7/BL/14
Recommendation ITU-R SA.1028-1	Performance criteria for satellite passive remote sensing	Document 7/BL/15
Recommendation ITU-R SA.1029-1	Interference criteria for satellite passive remote sensing	Document 7/BL/16
Recommendation ITU-R F.699-3	Reference radiation patterns for line-of-sight radio-relay system antennas for use in coordination studies and interference assessment in the frequency range from 1 to about 40 GHz	1995 F Series, Part 1
Recommendation ITU-R F.761	Frequency sharing between the fixed service and passive sensors in the band 18.6 to 18.8 GHz	1994 F Series
Recommendation ITU-R SA.1261 [7/44]	Feasibility of sharing between spaceborne cloud radars and other services in the range of 92 - 95 GHz	Document 7/BL/21
Recommendation ITU-R RA.769-1	Protection criteria used for radioastronomical measurements	1995 RA Series
Recommendation ITU-R SA.1024-1	Necessary bandwidths and preferred frequency bands for data transmission from Earth exploration-satellites (not including meteorological-satellites)	Document 7/BL/3
Recommendation ITU-R SA.1159-1	Performance criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	Document 7/BL/9
Recommendation ITU-R SA.1160-1	Interference criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	Document 7/BL/10
Recommendation ITU-R SA.1161	Sharing and coordination criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit	1995 SA Series
Recommendation ITU-R SA.1278 [Doc. 7/74] [Doc. 7/104]	Feasibility of sharing between the Earth exploration-satellite service (space-to-Earth) and the inter-satellite, fixed and mobile services in the band 25.5 - 27.0 GHz	Document 7/1013
Recommendation ITU-R F.748-2	Radio-frequency channel arrangements for radio-relay systems operating in the 25, 26 and 28 GHz bands	1995 F Series, Part 1

Recommendation ITU-R F.758	Considerations in the development of criteria for sharing between the terrestrial fixed service and other services	1994 F Series, Part 1
Recommendation ITU-R F.1094-1	Maximum allowable error performance and availability degradations to digital radio-relay systems arising from interference from emissions and radiations from other sources	1995 F Series, Part 1
Recommendation ITU-R F.1102	Characteristics of radio-relay systems operating in frequency bands above about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1108-1	Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands	1995 F Series, Part 1
Recommendation ITU-R SA.1259 [7/23]	Feasibility of sharing between spaceborne passive sensors and the fixed service from 50 to 60 GHz	Document 7/BL/17
Recommendation ITU-R SA.1279 [7C/AE]	Spectrum sharing between spaceborne passive sensors and inter-satellite links in the range 50.2 - 61.3 GHz	Document 7/1014
Recommendation ITU-R S.1339 [4A/XK]	Feasibility of sharing between spaceborne passive sensors of the EESS and inter-satellite links of GSO networks in the range 50 to 65 GHz	Document 4/1005
Recommendation ITU-R S.1327 [4A/XG]	Requirements and suitable bands for operation of the inter-satellite service within the range 50.2 - 71 GHz	Document 4/BL/18
Recommendation ITU-R S.1326 [4A/XL]	Feasibility of sharing between the inter-satellite service and the fixed satellite service in the frequency band 50.4 - 51.4 GHz	Document 4/BL/17
Recommendation ITU-R SA.1236	Frequency sharing between space research service extra-vehicular activity (EVA) links and fixed and mobile service links in the 410-420 MHz band	Document 7/BL/1
Recommendation ITU-R SA.609-1	Protection criteria for telecommunication links for manned and unmanned near-Earth research satellites	1994 SA Series
Chapter 6		
Recommendation ITU-R P.618-4	Propagation data and prediction methods required for the design of Earth-space telecommunications systems	1995 P Series
Recommendation ITU-R P.837-1	Characteristics of precipitation for propagation modelling	1994 PN Series
Recommendation ITU-R BO.1211	Digital multi-programme emission systems for television, sound and data services for satellites operating in the 11/12 GHz frequency range	1995 BO Series
Recommendation ITU-R BO.1213	Reference receiving earth station antenna patterns for replanning purposes to be used in the revision of the WARC-77 BSS plans for Regions 1 and 3	1995 BO Series

Recommendation ITU-R BO.1295 [AAA]	Reference transmit earth station antenna off-axis e.i.r.p. patterns for planning purposes to be used in the revision of the Appendix 30A plans at 14 GHz and 17 GHz in regions 1 and 3	Document 10-11S/1006
Recommendation ITU-R BO.1296 [BBB]	Reference receive space station antenna patterns for planning purposes to be used for elliptical beams in the revision of the Appendix 30A Plans at 14 GHz and 17 GHz in Regions 1 and 3	Document 10-11S/1007
Recommendation ITU-R BO.1297 [DDD]	Protection ratios to be used for planning purposes in the revision of the Appendixes 30 and 30A Plans in Reg. 1 and 3	Document 10-11S/1008
Recommendation ITU-R BO.1294 [CCC]	Common functional requirements for the reception of digital multi-programme television emissions by satellites operating in the 11/12 GHz frequency range	Document 10-11S/1005
Recommendation ITU-R BO.1293 [EEE]	Protection Masks and Associated Interference Calculation Methods to be used in Appendices 30 and 30A BSS Plans	Addendum 1 to Doc. 11/1001
Chapter 7		
Recommendation ITU-R IS.847-1	Determination of the coordination area of an earth station operating with a geostationary space station and using the same frequency band as a system in a terrestrial service	1994 IS Series
Recommendation ITU-R IS.848-1	Determination of the coordination area of a transmitting earth station using the same frequency band as receiving earth stations in bidirectionally allocated frequency bands	1994 IS Series
Recommendation ITU-R IS.849-1	Determination of coordination area for earth stations operating with non-geostationary spacecraft in bands shared with terrestrial services	1994 IS Series
Recommendation ITU-R SM.1266	Adaptive MF/HF systems	Document 1/BL/8
Recommendation ITU-R F.1110-1	Adaptive radio systems for frequencies below about 30 MHz	1995 F Series, Part 2
Recommendation ITU-R F.613	The use of ionospheric channel sounding systems operating in the fixed service at frequencies below about 30 MHz	1994 F Series, Part 2
Recommendation ITU-R SM.329-7	Spurious emissions	Document 1/BL/11
Recommendation ITU-R M.1177	Techniques for measurement of spurious emissions of maritime radar systems	1995 M Series, Part 4
Recommendation ITU-R M.1226	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz	1997 M Series, Part 4
Recommendation ITU-R M.1085-1	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 400 MHz	1997 M Series Part 4
Recommendation ITU-R M.1227	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 1000 MHz	1997 M Series Part 4

Recommendation ITU-R SA.1282 [7/65]	Feasibility of sharing between wind profiler radars and active spaceborne sensors in the vicinity of 1260 MHz	Document 7/1017
Recommendation ITU-R F.746-2	Radio-frequency channel arrangements for radio-relay systems	1995 F Series, Part 1
Recommendation ITU-R F.749-1	Radio-frequency channel arrangements for radio-relay systems in the 38 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.750-2	Architectures and functional aspects of radio-relay systems for SDH-based networks	1995 F Series, Part 1
Recommendation ITU-R F.756	TDMA point-to-multipoint systems used as radio concentrators	1994 F Series, Part 1
Recommendation ITU-R F.758-1	Considerations in the development of criteria for sharing between the terrestrial fixed service and other services	Document 9/BL/14
Recommendation ITU-R F.1100	Radio-frequency channel arrangements for radio-relay systems operating in the 55 GHz band	1994 F Series, Part 1
Recommendation ITU-R F.1101	Characteristics of digital radio-relay systems below about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1102	Characteristics of radio-relay systems operating in frequency bands above about 17 GHz	1994 F Series, Part 1
Recommendation ITU-R F.1104	Requirements for point-to-multipoint radio systems used in the local grade portion of an ISDN connection	1994 F Series, Part 1
Recommendation ITU-R P. 620-3	Propagation data required for the calculation of coordination distances in the frequency range 1-40 GHz	Document 3/BL/14
Recommendation ITU-R P.837-1	Characteristics of precipitation for propagation modelling	1994 PN Series

ANNEX 3

Status of the ITU-R Recommendations incorporated by reference into the Radio Regulations adopted by WRC-95 as of 24 October 1997

NOTE - This list includes also ITU-R Recommendations which have been approved by the 1997 Radiocommunication Assembly

Recommendation	Title	Status	Document*
ITU-R M.257-3	Sequential Single Frequency selective-calling system for use in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 145
ITU-R TF.460-6	Standard-frequency and time-signal emissions	MOD	Document 7/1020
ITU-R M.476-5	Direct-printing telegraph equipment in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 60
ITU-R M.489-2	Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz	NOC	1995 M Series Fascicle, Part 3, p 150
ITU-R M.492-6	Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 72
ITU-R M.541-8	Operational procedures for the use of digital selective-calling (DSC) equipment in the maritime mobile service	MOD	1997 M Series Fascicle, p 339 + Document 8/1010
ITU-R M.625-3	Direct-printing telegraph equipment employing automatic identification in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 1
ITU-R M.627-1	Technical characteristics for HF maritime radio equipment using narrow-band phase-shift keying (NBPSK) telegraphy	NOC	1995 M Series Fascicle, Part 3, p 143
ITU-R M.690-1	Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz	NOC	1995 M Series Fascicle, Part 4, p 1
ITU-R RA.769-1	Protection criteria used for radioastronomical measurements	NOC	1995 RA Series Fascicle, p 5
ITU-R IS.847-1	Determination of the coordination area of an earth station operating with a geostationary space station and using the same frequency band as a system in a terrestrial service	NOC	1994 IS Series Volume, p 1
ITU-R IS.848-1	Determination of the coordination area of a transmitting earth station using the same frequency band as receiving earth stations in bidirectionally allocated frequency bands	NOC	1994 IS Series Volume, p 31

* The texts of the Recommendations may also be found in WRC-97 Document 2 (Part 4).

Recommendation	Title	Status	Document*
ITU-R IS.849-1	Determination of the coordination area for earth stations operating with non-geostationary spacecraft in bands shared with terrestrial services	NOC	1994 IS Series Volume, p 40
ITU-R SM.1135	SINPO and SINPFEMO codes	NOC	1995 SM Series Fascicle, p 47
ITU-R SM.1138	Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions	NOC	1995 SM Series Fascicle, p 50
ITU-R SM.1139	International monitoring system	NOC	1995 SM Series Fascicle, p 58
ITU-R M.1169	Hours of service of ship stations	NOC	1995 M Series Fascicle, Part 3, p 157
ITU-R M.1170	Morse telegraphy procedures in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 162
ITU-R M.1171	Radiotelephony procedures in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 169
ITU-R M.1172	Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service	NOC	1995 M Series Fascicle, Part 3, p 178
ITU-R M.1173	Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz	NOC	1995 M Series Fascicle, Part 3, p 211
ITU-R M.1174	Characteristics of equipment used for on-board communications in the bands between 450 MHz	NOC	1995 M Series Fascicle, Part 3, p 213
ITU-R M.1175	Automatic receiving equipment for radiotelegraph and radiotelephone alarm signals	NOC	1995 M Series Fascicle, Part 3, p 215
ITU-R M.1185-1	Method for determining coordination distance between ground based mobile earth stations and terrestrial stations operating in the 148.0 - 149.9 MHz band	MOD	Document 8/1019
ITU-R M.1187	A method for the calculation of the potentially affected region for a mobile-satellite service (MSS) network in the 1 - 3 GHz range using circular orbits	NOC	1995 M Series Fascicle, Part 5, p 38

* The texts of the Recommendations may also be found in WRC-97 Document 2 (Part 4).

ANNEX 4

REVISION OF RESOLUTION ITU-R 2-1*

CONFERENCE PREPARATORY MEETING

(1993-1995)

The ITU Radiocommunication Assembly,

considering

a) that the duties and functions of the Radiocommunication Assembly, in preparing for World Radiocommunication Conferences (WRCs) are stated in Articles 13 of the Constitution and 11 of the Convention (Geneva, 1992);

b) that special arrangements are necessary for such preparations,

resolves

1 that a Conference Preparatory Meeting (CPM) shall be set up on the basis of the following principles:

– that the CPM should be permanent;

– that it should address topics on the agenda of the immediately forthcoming conference and make provisional preparations for the subsequent conference;

– that invitations to participate should be sent to all the membership of the Radiocommunication Sector;

– that documents should be distributed to all Member States of the ITU and to Sector Members wishing to participate in the CPM;

– that the terms of reference of the CPM should include the updating and rationalization of material from Radiocommunication Study Groups and the Special Committee, together with consideration of new material submitted to it;

2 that the scope of the CPM shall be:

– on the basis of contributions from administrations, the Special Committee, the Radiocommunication Study Groups (see also Provision No. 156 of the ITU Convention (Geneva 1992)), and other sources (see Article 19 of the ITU Convention (Geneva 1992)) concerning the regulatory, technical, operational and procedural matters to be considered by world and regional radiocommunication conferences, the CPM shall prepare a consolidated report to be used in support of the work of such conferences. In the preparation of these reports, differences in approach as contained in the source material shall be reconciled to the extent possible;

3 that the working methods shall be as presented in Annex 1,

instructs the Director

to draw the attention of the 1997 World Radiocommunication Conference to this Resolution and to invite this Conference to take it into consideration.

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* Note by the Secretariat: The text of this Resolution has not yet been edited.

Working methods for the Conference Preparatory Meeting

1 Regulatory studies of technical and operational matters will be undertaken by the appropriate Study Groups.

2 The CPM will normally hold two meetings during the interval between WRCs.

2.1 The first meeting will be for the purpose of coordinating the work programmes of the relevant Study Groups, and preparing a draft structure for the CPM Report, based on the agenda for the next two WRCs, and for taking into account any directives which may have come from the previous WRC. This meeting will be of short duration and will normally occur in the week following the conclusion of the previous WRC, and should be associated with a meeting of Study Group Chairmen and Vice-Chairmen.

2.2 The second meeting will be for the purpose of preparing the report for the next WRC. This meeting shall also review progress on preparatory studies for agenda items to be considered at the WRC following the next scheduled WRC. The meeting will be of adequate duration to accomplish the necessary work (two to three weeks) and will be timed to ensure publication of the Final Report at least six months before the next WRC.

2.3 The first meeting will identify issues for study in preparation for the next WRC and, to the extent necessary, for the subsequent WRC. These issues should be derived from the draft and provisional conference agendas and should, as far as possible, be self contained and independent. For each issue a single group (which could be a Study Group, Task Group or Working Party, etc.) should be identified to take responsibility for the preparatory work, inviting input and/or participation from other groups as necessary. As far as possible, existing groups should be used for this purpose, with new groups being established only where this is considered to be necessary.

2.4 Meetings of the groups identified should be scheduled to facilitate maximum participation by all interested members. The groups should base their output on existing material plus new contributions. The output of each group should form contributions to the CPM Final Report to the WRC without the need for formal consideration by the relevant Study Group. Where the relevant Study Group has not considered the output from the respective group, this should be clearly indicated.

3 The work of the CPM will be directed by a Chairman and two Vice-Chairmen. The Chairman will be responsible for preparing the report to the next WRC.

4 The Chairman or the CPM may appoint Chapter Rapporteurs to assist in guiding the development of the text that will form the basis of the CPM Report, and to provide continuity of material through the consolidation of Study Group texts into a cohesive report.

5 The Chairman shall convene a meeting of the responsible Working Party/Task Group Chairmen, Study Group Chairmen, CPM Chairmen and Vice-Chairmen, Chapter Rapporteurs and Radiocommunication Bureau Staff to consolidate the output from the responsible Working Parties or Task Groups into a draft CPM Report, that will be an input document to the CPM.

6 The consolidated draft CPM Report shall be translated into the three working languages of the Union and distributed to Member States a minimum of two months prior to the date schedule for the second meeting of the CPM.

7 Every effort shall be made to ensure that the volume of the final CPM Report is kept to a minimum. To this end, Working Parties/Task Groups/Study Groups are urged to maximize the use of references to approved ITU-R Recommendations in preparing CPM texts.

8 In relation to working arrangements, the CPM shall be considered as an ITU meeting in accordance with No. 172 of the Constitution (Geneva, 1992).

9 In preparing for the CPM, maximum use should be made of electronic means for the distribution of contributions to participants.

10 The other working arrangements shall be in accordance with the relevant provisions of Resolution ITU-R 1.

ANNEX 5

REVISION OF RESOLUTION ITU-R 38*

STUDY OF REGULATORY/PROCEDURAL MATTERS

(1995)

The ITU Radiocommunication Assembly,

considering

a) that the ITU Convention includes among the functions of Radiocommunication Study Groups the study of technical, operational and procedural matters to be considered by World and Regional Radiocommunication Conferences (CV 156);

b) that the Radiocommunication Assembly, 1995 (Resolution ITU-R 38) established a special committee to deal with matters relating to regulatory/procedural issues as part of preparations for World Radiocommunication Conferences;

c) that the special committee has undertaken valuable work in preparation for WRC-97;

d) that a significant body of work of a regulatory/procedural nature might be identified in preparation for a future WRC;

e) that a mechanism should be put in place to facilitate such preparations,

recognizing

that the activation of that mechanism shall be the responsibility of the relevant World Radiocommunication Conference or the first session of the Conference Preparatory Meeting authorized by the Conference,

resolves

1 to maintain the infrastructure of the special committee to address the review of regulatory/procedural matters, the results of which may be used by administrations in their preparation for the relevant World Radiocommunication Conference;

2 that a decision to activate this special committee should be taken by a World Radiocommunication Conference or the first session of the Conference Preparatory Meeting authorized by the Conference;

3 that the results of the studies by the special committee shall be contained in reports as contributions to the work of the Conference Preparatory Meeting in preparing its report to the relevant World Radiocommunication Conference;

4 that the committee shall be open to all the membership of the ITU-R Sector;

5 that the committee shall adopt the working methods of the Study Groups wherever applicable, and shall be task oriented;

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* Note by the Secretariat: The text of this Resolution has not yet been edited.

6 that the committee will have a Chairman and at least one Vice-Chairman appointed by a Radiocommunication Assembly,

instructs the Director

1 to draw the attention of the World Radiocommunication Conference, 1997 to this Resolution and invite the Conference or the first session of the CPM to identify whether there is likely to be a sufficient body of work of a regulatory/procedural nature in preparation for the next World Radiocommunication Conference to justify activating the special committee, and if so to task the special committee accordingly;

2 to take the necessary measures to activate the special committee, if needed.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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Addendum 1 to
Document 123-E
30 October 1997
Original: Russian

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Kazakstan (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 1.10

The BSS Plan has been prepared on the basis of Resolution 531 (WRC-95), which provides for the inclusion in the BSS Plan, first of all, of frequency assignments to "new" countries. A key stage is the identification of substantiated requirements for new countries in terms of frequency channels. Recommendation 521 establishes that countries which do not have frequency assignments in the BSS Plan or have less than the minimum number of channels adopted for the Region in question are to be provided with a capacity at least equivalent to that which would have been provided to them under the planning principles used at WARC-77. An analysis of the 1977 Plan shows that for some countries, requirements consistent with the general planning principles and the quality of the Plan have been taken into account and reflected in the Plan. Thus, there are a significant number of exceptions in the Plan in relation to the minimum capacity of 4 to 5 channels allotted to the vast majority of countries. For instance, Australia and Japan in Region 3 are allotted 6 and 8 channels, India and China received 48 and 55 channels and the USSR and Yugoslavia in Region 1 were allotted 70 and 10 channels, respectively.

Kazakstan, as a part of the former USSR, has been served by several beams with an overall number of 10 channels at every point on its territory. Accordingly, we consider it necessary to retain the capacity which Kazakstan has had in practice, since, first, Kazakstan has a large surface area spanning two time zones and, second, Kazakstan is a multi-ethnic state and is obliged to take into account the interests of the peoples living on its territory, and consider that it should be allotted 10 channels at the orbital position 44º E, if technically feasible. Should this be technically impossible, then Kazakstan would require the allotment of two positions with 5 channels each, one of them at 44º E.

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CMR-97 CONFÉRENCE MONDIALE DES RADIOCOMMUNICATIONS

Document 123-E
29 October 1997
Original: English

GENÈVE, 27 OCTOBRE – 21 NOVEMBRE 1997

COMMITTEE 5

Kazakstan (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of the Republic of Kazakstan presents the following proposal for the deletion of its country's name from the footnotes set out below:

KAZ/123/1
SUP S5.67, S5.194, S5.271, S5.338, S5.349, S5.350, S5.412, S5.430, S5.448, S5.450, S5.496, S5.501

INTERNATIONAL TELECOMMUNICATION UNION

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

WORKING GROUP 2
OF THE PLENARY

Tonga (Kingdom of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 7

FINAL REPORT OF THE DIRECTOR OF THE RADIOCOMMUNICATION BUREAU ON ACTIVITIES RELATED TO RESOLUTION 18

1 Introduction

The Kingdom of Tonga has closely followed the work of the various organs of ITU which have led to the report of the Director of the Radiocommunication Bureau on activities related to Resolution 18.

In the present document, Tonga wishes to state its position on the objectives of Resolution 18 and provide some proposals regarding the implementation of any procedural changes which the Conference may determine to adopt.

2 Tonga's position

The aims of Resolution 18, and the thrust of the recommendations in the BR Director's report, are to ensure the rationalization and streamlining of the satellite network filing and coordination process.

Tonga wishes clearly to state that it supports these broad objectives. A rationalized and effective set of procedures governing the filing and coordination of satellite networks can only be in the interests of all administrations be they existing users of satellite communications or aspiring users.

The proposals before us are complex and, clearly, we must consider them in detail before making any conclusions. However, Tonga believes that the proposal for a reduced regulatory time limit for bringing satellite networks into use and the proposal for a regime of administrative due diligence can both make major contributions towards satisfying the objectives of Resolution 18.

3 Tonga's proposal - Principles regarding procedural changes as a result of Resolution 18

Tonga believes that this Conference, in implementing the procedural changes arising out of Kyoto Resolution 18 and the BR Director's report, must keep certain principles clearly in mind. These principles should guide the Conference in assessing the benefit and appropriateness of any proposals which it determines to adopt.

TON/124/1

Thus, the principles determining the appropriateness or otherwise of the outcome of the work of the Conference under agenda item 7, and which the Kingdom of Tonga **proposes** be adopted by this Conference are:

- **firstly, that the new procedures must be equitable**; they must allow equal access to the resources and benefits of satellite telecommunications to all nations, rich or poor, large or small, existing users of space or not; Tonga is firm in its belief that any revised procedures must not be used as an impediment to the future use of satellite communications by small or developing nations, nor must they act in a way which favours the large, wealthy nations;
- **secondly, that any new or revised procedures which the Conference adopts must not be more burdensome on the Secretariat of the Union than the current procedures**; the Conference must ensure that it does not remove the burden to the staff of the Bureau of processing large numbers of filings only to replace it with an equally onerous burden of collecting and validating potentially large quantities of new data;
- **thirdly, that the Conference must respect the rights and expectations of those many administrations who have initiated the coordination of their satellite networks under the existing procedures**; Tonga believes that administrations who already have API and/or AP3/APS4 filings in the system should have the right to have their expectations that these filings would be treated under the existing procedural regime satisfied; Tonga believes that the plans, contracts and interests of these administrations may be severely prejudiced by an inappropriate application of any new procedures;
- **finally, and perhaps most importantly, that any new or revised procedures that are adopted by the Conference will be workable**; the Conference must ensure that any changes that are made here, particularly in the introduction of due diligence, are done in a way which can be met in an equitable manner by all administrations, can be trusted as effective and reliable by all Members of the Union, can be effectively implemented by the Bureau and by the Members and lastly, cannot be circumvented or abused.

4 Conclusions

The Kingdom of Tonga **recommends** that the above set of principles is accepted by the Conference as an essential tool in assisting its work with regard to agenda item 7.

The Kingdom of Tonga will be assessing the work of the Conference against these principles and hopes that others will do the same.

Tonga is clear, however, that it will, within the guidance of these principles, do what it can to facilitate and assist with the work of the Conference under agenda item 7, with the aim of developing a proposal which all Members of the Union can support.

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INTERNATIONAL TELECOMMUNICATION UNION

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Document 125-E
29 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Zambia (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

1 Introduction

On the basis of the agenda of the World Radiocommunication Conference (WRC-97) as contained in Resolution 1086 of the Council, the Administration of Zambia wishes to submit the following proposals for the work of the Conference.

2 Agenda item 1.2 - Simplification of the Radio Regulations

ZMB/125/1A
MOD

MHz
470 – 890

Allocation to Services		
Region 1	Region 2	Region 3
470 – 790 BROADCASTING S5.149 S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312	**470 – 512** BROADCASTING Fixed Mobile S5.292 S5.293	**470 – 585** FIXED MOBILE BROADCASTING S5.291 S5.298
	512 – 608 BROADCASTING S5.297	**585 – 610** FIXED MOBILE BROADCASTING RADIONAVIGATION S5.149 S5.305 S5.306 S5.307
	608 – 614 RADIO ASTRONOMY Mobile-Satellite except aeronautical mobile-satellite (Earth-to-space)	
	614 – 806 BROADCASTING Fixed Mobile S5.293 S5.309 S5.310 S5.311	**610 – 890** FIXED MOBILE BROADCASTING
790 – 862 FIXED BROADCASTING S5.312 S5.313 S5.314 S5.315 S5.316 S5.319 S5.321	**806 – 890** FIXED MOBILE BROADCASTING	
862 – 890 FIXED MOBILE except aeronautical mobile ~~BROADCASTING S5.322~~ S5.319 S5.323	S5.310 S5.317 S5.318	S5.149 S5.305 S5.306 S5.307 S5.311 S5.320

ZMB/125/1B
MOD

MHz
890 – 1 240

Allocation to Services		
Region 1	Region 2	Region 3
890 – 942 FIXED MOBILE except aeronautical mobile ~~BROADCASTING S5.322~~ Radiolocation S5.323	**890 – 902** FIXED MOBILE except aeronautical mobile Radiolocation S5.318 S5.325	**890 – 942** FIXED MOBILE BROADCASTING Radiolocation S5.327
	902 – 928 FIXED Amateur Mobile except aeronautical mobile Radiolocation S5.150 S5.325 S5.326	
	928 – 942 FIXED MOBILE except aeronautical mobile Radiolocation S5.325	
942 – 960 FIXED MOBILE except aeronautical mobile ~~BROADCASTING S5.322~~ S5.323	**942 – 960** FIXED MOBILE	**942 – 960** FIXED MOBILE BROADCASTING S5.320

Reasons: Use of this band by the broadcasting service is not provided for in the African VHF/UHF Plan.

3 Agenda item 1.4 - High-frequency broadcasting

ZMB/125/2

i) The Administration of Zambia does not support introduction of single-sideband earlier than the year 2015.

ii) This Administration supports a planning system that would guarantee for all countries equitable access to the frequencies allocated to high-frequency broadcasting.

iii) Zambia is in favour of the reduction of seasonal broadcasting schedules to two (2) times a year and the establishment of coordination meetings.

4 Agenda item 1.6 - Maritime services

ZMB/125/3

i) It is the view of this Administration that the cut-off date (end 1999) watchkeeping be extended, as many vessels may not be able to conform to full GMDSS requirements by the due date.

ii) The gradual phasing out of 500 kHz W/T (wireless telegraphy or Morse) and 2 182 kHz R/T (radiotelegraphy) watchkeeping after 1999 is recommended.

5 Agenda item 1.8 - Secondary allocations in the band 136 - 137 MHz

ZMB/125/4

In the frequency band 136 - 137 MHz all secondary allocations should be deleted.

6 Agenda item 1.9.1 - Mobile-satellite service

ZMB/125/5

Zambia's position is that no further frequency allocations be made around 2 GHz to the mobile-satellite service, unless proven studies are made to demonstrate that sharing is possible without interference with other services.

7 Agenda item 1.10 - Review of Appendices 30 and 30A

ZMB/125/6

The replanning of the BSS plan should not result in reduced allotments. However, it is desirable that the new plan should make provision for the establishment of subregional systems.

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COMMITTEE 5

Switzerland

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of Switzerland wishes to make the following proposal to the work of the Conference:

SUI/126/1

MOD S5.259 *Additional allocation:* in Germany, Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Syria, the United Kingdom~~,~~ and Sweden ~~and Switzerland~~, the band 328.6 - 335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

Belgium

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.10

The Administration of Belgium wishes to make the following proposals to the work of the Conference:

BEL/127/1
MOD S5.112 *Alternative allocation:* in ~~Belgium,~~ Bosnia and Herzegovina, Cyprus, Denmark, Spain, France, Greece, Iceland, Italy, Malta, Norway, the United Kingdom, Singapore, Sri Lanka, Turkey and Yugoslavia, the band 2 194 - 2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

BEL/127/2
MOD S5.114 *Alternative allocation:* in ~~Belgium,~~ Bosnia and Herzegovina, Cyprus, Denmark, Spain, France, Greece, Iraq, Italy, Malta, Norway, the United Kingdom, Turkey and Yugoslavia, the band 2 502 - 2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

BEL/127/3
MOD S5.117 *Alternative allocation:* in ~~Belgium,~~ Bosnia and Herzegovina, Cameroon, Cyprus, Côte d'Ivoire, Denmark, Egypt, Spain, France, Greece, Iceland, Italy, Liberia, Malta, Norway, the United Kingdom, Singapore, Sri Lanka, Togo, Turkey and Yugoslavia, the band 3 155 - 3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

BEL/127/4
MOD S5.181 *Additional allocation:* in Germany, Austria, ~~Belgium,~~ Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, Syria, the United Kingdom, Sweden and Switzerland, the band 74.8 - 75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical

radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

BEL/127/5
MOD S5.210 *Additional allocation:* in Austria, ~~Belgium,~~ France, Italy, Liechtenstein, Luxembourg, Slovakia, the Czech Republic, the United Kingdom and Switzerland, the bands 138 - 143.6 MHz and 143.65 - 144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis.

BEL/127/6
MOD S5.259 *Additional allocation:* in Germany, Austria, ~~Belgium,~~ Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Syria, the United Kingdom, Sweden and Switzerland, the band 328.6 - 335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

BEL/127/7
MOD S5.466 *Different category of service:* in ~~Belgium,~~ Israel, Luxembourg, Malaysia, Singapore and Sri Lanka, the allocation of the band 8 400 - 8 500 MHz to the space research service is on a secondary basis (see No. **S5.32**).

BEL/127/8
MOD S5.495 *Additional allocation:* in ~~Belgium,~~ Bosnia and Herzegovina, Croatia, Denmark, Spain, France, Greece, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Monaco, Norway, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5 - 12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

BEL/127/9
MOD S5.508 *Additional allocation:* in Germany, Austria, ~~Belgium,~~ Bosnia and Herzegovina, Denmark, Spain, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Luxembourg, Norway, Portugal, the United Kingdom, Slovenia, Switzerland, Turkey and Yugoslavia, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis.

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INTERNATIONAL TELECOMMUNICATION UNION

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WORKING GROUP 1
OF THE PLENARY

Note from the Chairman of the Conference

FUTURE WRC AGENDAS

Agendas for future world radiocommunication conferences are established by the Council on the basis of a recommendation from the Conference. Article 7 of the Convention provides some guidance on issues that may be included.

In view of:

- the rapidly changing radiocommunication environment;
- the resulting need for the timely provision of an adequate regulatory framework; and
- the limited resources available to administrations, the Radiocommunication Bureau and conferences themselves,

it is necessary

– with respect to WRC agendas:
  - to include only items that are needed to satisfy an urgent regulatory requirement;
  - to limit the scope to what is achievable;
  - to determine the necessary preparatory work;
  - to set priorities;
  - to consider the available resources,

and to consider for each proposed specific agenda item in most precise terms:

- the elements that determine the scope of the item;
- the justification for its urgency;
- the required preparations within the ITU-R Study Groups and the Radiocommunication Bureau.

Delegations are urged to take account of these elements when considering those items that they may propose for the agendas of future conferences to be considered in Working Group 1 of the Plenary.

Potential elements for future WRC agendas identified in the various committees/working groups of the Conference should be submitted to Working Group 1 of the Plenary for evaluation and consolidation as soon as possible.

Noting also No. 126 of Article 7 of the Convention and the provisions of Article 34 of the Convention (see also Document CMR97/111), financial implications need to be assessed.

Accordingly Working Group 1 of the Plenary should examine all proposals with respect to the above criteria. The results should then be submitted for consideration by Committee 3 with regard to advice from the Radiocommunication Bureau on the Bureau resource requirements in respect of each item proposed and convey the information to Working Group 1 of the Plenary.

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INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

Austria, Finland and Switzerland (Confederation of)

PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-97 AGENDA ITEM 1.9.3

RECOMMENDATION 621 (WARC-92): FREQUENCIES FOR WIND PROFILER RADARS; ADDITIONAL ALLOCATION IN AUSTRIA, FINLAND AND SWITZERLAND IN THE BAND 470 - 494 MHz TO THE RADIOLOCATION SERVICE LIMITED TO THE OPERATION OF WIND PROFILER RADARS

Introduction

For the operation of wind profiler radars in the 400 MHz range, Europe has proposed two candidate bands (see EUR/5/338), i.e. 420 - 435 MHz and 438 - 450 MHz. Due to heavy usage by and incompatibility with the mobile service, these bands, however, might not be usable for this purpose in several countries. The band 470 - 495 MHz has therefore been proposed by Germany in Document 69 as an alternative to the above-mentioned candidate bands.

The German proposal is supported in principle, however a slight modification concerning the upper end of the frequency range is proposed in order to achieve conformity with the television channel arrangement, in particular to avoid the partial use of TV channel 24 by wind profiler radars.

Austria, Finland and Switzerland therefore propose that the following footnote, which may also be shared by other countries, is added in order to permit the implementation and operation of wind profiler radars in the upper 400 MHz range:

AUT/FIN/
SUI/129/1
ADD S5.291A *Additional allocation:* In Austria, Finland and Switzerland, the band 470 - 494 MHz is also allocated to the radiolocation service on a secondary basis. Its use is limited to the operation of wind profiler radars, the technical and operational characteristics of which shall be in accordance with Recommendations ITU-R M.[8/BL/23], [8/BL/24] and [8/BL/25].

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COMMITTEE 5

Ukraine

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of the Ukraine wishes to make the following proposal for the work of the Conference:

UKR/130/1

MOD S5.194 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Lebanon, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Syria, Russia, Somalia, Tajikistan, Turkmenistan~~,~~ and Turkey ~~and Ukraine~~, the band 104 - 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis.

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COMMITTEE 4

Note by the Chairman of Committee 4

ALLOCATION OF DOCUMENTS FOR COMMITTEE 4

1 Proposals from Administrations

Doc. #	Source	C4	WG 4A	WG 4B	WG 4C	WG 4D
5	EUR		Part A.1, B.7	Parts B.1-B.6	Parts C.1-C2	Parts D.1-D4
7	UZB					Last remark (Ap. 30-30A)
9	SEN		3-7	13-18	10-12	8,40
14	ASP		5-19	85-135	21-84	211-253
15	RUS			5	3-4	8-12
26	AUS					13-14
29	J		[56], 74		74	61-73
30+Add.1	USA			3-68	1-2	173-281
35+Add.1	CAN			111-114	55-110	52-54, 147-148
36	F		1			1
37+Add.1	NZL		Annex 1	4-14, 38, 40, the entire Addendum 1; Annex 1	1-3, 41, Annex 1	Annex 1
38	CHN				2	16
40+Add.1	IAP		1-33, 120-139	142-212	34-98, 140-141	267-269
41	LUX		1-18			
44+Add.1	IRN	33	14, 16			15, 17-32, the entire add
46	CVA	1-3				
47	KEN/UGA /TZA		1-8, 14-15	18-26	16-17	52
48	ARM			4	3	6-9
49	B		2-15		16, 28-35, 37-44	26
55	UGA		Ch. 1	Ch. 3, Ch. 7 (17)	Ch. 2 (3-4)	Ch. 1(2), Ch. 6
58	ISR		-	-	-	1-5
59	UZB		8, 29	11	10A-10B	28A-28E
62	F					Parts 1-4, 8

64	TJK			5	3-4	7-11
66	CUB		3-43		44-91	
68	MLA					1-3
70	KEN		2-9	12-19	10-11	46
71	AFS		3	6, 7A-7G	5	10
73	G					Part 3
74	VTN			3-4	1-2	
75	GUI				5	
76	SYR+		1-17,21	26	18	22-24
78	ARM+		2	5	3-4	7-11
79	KOR					5-7
80	TZA		3-9, 43	12-19, 43	11, 43	43
81	MDA		2	4	3	7
84	INS		1			
87	PAK					1-2
94	CME		5-12		14	
97	EGY					entire document
105	BFA		2	4	3	
114	LBN		1-19			17, 26-30
125	ZMB			3	2	6

2 Documents from other sources

Doc. #	Source	C4	WG 4A	WG 4B	WG 4C	WG 4D
4	CPM		Ch. 1, Ch. 7 (§ 7.6)	Ch. 3 (§ 3.1.1-3.1.5) Ch. 7 (§ 7.2, 7.6)	Ch. 2, Ch. 7 (§ 7.6)	Ch. 6, Ch. 7 (§ 7.6)
22	ICAO		paras 2.4, 2.24, 2.26	paras 2.7-2.13, 4	para 2.6	-
27	BR		Annex 1	Annex 1	Annex 1	Annex 1
28+Add.1,2	BR		Sect. 3, 4.1-4.5, 4.12	Sect. 4.6-4.8, 4.10 Add. 2	Sect. 4.9-4.11, 5	-
51	Intelsat					Parts 2 and 3
53	IMO			Annex 1		
56+Add.1,2	BR					Entire document
90	BR					Entire document

E. GEORGE
Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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COMMITTEE 4

Report by the Chairman of Working Group 4A

FIRST REPORT FROM WORKING GROUP 4A TO COMMITTEE 4

At its second meeting on 29 October 1997, the Working Group reviewed the texts of Articles S4 and S7 of the Simplified Radio Regulations, from the point of view of their consistency with other provisions of the Radio Regulations. No need for changes was identified in respect to these Articles, with the exception of the provision No. S4.4 where an amendment was approved which makes this provision clearer.

The approved texts, as reproduced below, are submitted to Committee 4 for consideration.

1 Article S4

ARTICLE S4

NOC S4.1[1] - S4.3

MOD S4.4 Administrations of the Members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations.

NOC S4.5 - S4.22

[1] The provision S4.1 is also under consideration by WG 4B, within its terms of reference.

2 Article S7

ARTICLE S7

NOC S7.1 - S7.8

R.N. AGARWAL
Chairman of Working Group 4A

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CMR-97 CONFÉRENCE MONDIALE DES RADIOCOMMUNICATIONS

GENÈVE, 27 OCTOBRE – 21 NOVEMBRE 1997

Corrigendum 2 au
Document 133-F/E/S
17 novembre 1997
Original: anglais

COMMISSION 5

Ukraine

PROPOSITIONS POUR LES TRAVAUX DE LA CONFÉRENCE

Ajouter "**Géorgie**" dans la liste des pays signataires de ce document.

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COMMITTEE 5

Ukraine

PROPOSALS FOR THE WORK OF THE CONFERENCE

Add "**Georgia**" in the list of countries cosponsoring this document.

* * * * * * * * * *

COMISIÓN 5

Ucrania

PROPUESTAS PARA LOS TRABAJOS DE LA CONFERENCIA

Añádase "**Georgia**" a la lista de países firmantes de este documento.

_____

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CMR-97 CONFÉRENCE MONDIALE DES RADIOCOMMUNICATIONS

GENÈVE, 27 OCTOBRE – 21 NOVEMBRE 1997

Corrigendum 1 au
Document 133-F/E/S
12 novembre 1997
Original: anglais

COMMISSION 5

Ukraine

PROPOSITIONS POUR LES TRAVAUX DE LA CONFÉRENCE

Ajouter "**Bélarus (République du), République kirghize**" dans la liste des pays signataires de ce document.

* * * * * * * * * *

COMMITTEE 5

Ukraine

PROPOSALS FOR THE WORK OF THE CONFERENCE

Add "**Belarus (Republic of), Kyrgyz Republic**" in the list of countries cosponsoring this document.

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COMISIÓN 5

Ucrania

PROPUESTAS PARA LOS TRABAJOS DE LA CONFERENCIA

Añádanse "**Belarús (República de), República Kirguisa**" a la lista de países firmantes de este documento.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 133-E
30 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

Ukraine

PROPOSALS FOR THE WORK OF THE CONFERENCE (WRC-97)

Agenda item 1.9.1 - Resolution 118 - Use of the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz by non-geostationary fixed-satellite service systems

Ukraine supports the development of new satellite technologies, including providing broadband telecommunications services to different users regardless of location and without reliance on the development of terrestrial infrastructure.

Proposal

UKR/133/1

1 To make effective use of broadband systems, it is necessary to make the possibility for LEO systems to use additional 2 x 100 MHz in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz.

UKR/133/2

2 Not to impose additional limitations that will inhibit the development of LEO systems in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 134-E
30 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

Thailand

PROPOSAL FOR THE WORK OF THE CONFERENCE (WRC-97)

Agenda item 1.9.1 - Resolution 118 - Use of the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz by NGSO FSS systems

Background

In adopting Resolution 118, WRC-95 identified the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz for use by NGSO FSS. At WRC-95, the upper 400 MHz of each of these bands was made available for immediate NGSO FSS use by waiving Radio Regulation S22.2 and providing for the application of Resolution 46 coordination procedures. The remaining 100 MHz bands were reserved until WRC-97, pending the completion of technical studies, with action identified for this Conference that would designate their use for NGSO FSS. The technical studies involving NGSO FSS systems requested in Resolution 118 have been performed by the ITU-R and the conclusions are recorded in the CPM-97 Report. Noting these results, the Administration of Thailand makes the following proposal:

Proposal

THA/134/1

The Administration of Thailand shares the views of other administrations that the same regulations should apply to the entire 500 + 500 MHz bands identified in Resolution 118 (WRC-95). In the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz, S22.2 should be removed and Resolution 46 should apply. GSO FSS networks under coordination as of 18 November 1995 shall continue their coordination under Resolution 46.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 135-E
30 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Israel (State of)

POSITION OF THE ADMINISTRATION OF ISRAEL REGARDING SOME ISSUES PROPOSED IN DOCUMENT 76 FOR THE WORK OF THE CONFERENCE

1 The legal status of the PLO observer delegation in ITU fora is extremely well-defined, and is based on three UN General Assembly resolutions which are applied in a consistent and unified manner throughout the UN system. The acceptance of an entity which is not a state would require, as a pre-requisite, changes in the UN Charter and the basic documents of ITU.

2 According to Article IX (5) of the Interim Agreement between Israel and the PLO, the Palestinian Council (which replaced the Palestinian Authority) does not have powers and responsibilities in the sphere of foreign relations. Consequently, it cannot become a member of ITU. Furthermore, Article XXXI (7) of the Interim Agreement stipulates that "Neither side shall initiate or take any step that will change the status of the West Bank and Gaza Strip pending the outcome of the permanent status negotiations." Therefore, the PLO's status as observer in ITU may not be upgraded, since such would imply a change in the status of the West Bank and the Gaza Strip. It follows, then, that granting membership in ITU to either the Palestinian Council or the PLO would result in a grave violation of the Interim Agreement. In addition, this would be contrary to the provision of Article 2 of the ITU Constitution, which stipulates that only States may be members of ITU.

3 In view of the above, we would like to inform you of our position on three proposals in Document 76 (Arab proposals), which are presented and rebutted as follows:

3.1 (at the top of page 14): "to apply the principles used in 1977 to the entries for new countries and to include Palestine among them".

The Israeli delegation wishes to point out that ITU is not in a position to define which States may be considered as "new countries". Palestine (which name identifies the PLO observer delegation) is not in any way recognized by the UN and the organizations which operate under its auspices as a "new country". Thus, Palestine can by no means be included as a new country in the ITU planning exercise. Therefore, the Israeli delegation proposes to delete the wording: "and to include Palestine among them" from this sentence.

For this reason, the Bureau, as directed by the CPM, was correct in excluding Palestine from the planning exercise by not adopting the recommendation of Working Party 10-11. Contrary to what WP 10-11 proposed, it is irrelevant to this Conference that Document 76 claims (at the bottom of page 13) that "Palestine is part of the Arab world", in view of the fact that the PLO observer representation is neither a Member of the UN nor a Member State of ITU.

3.3 The Israeli delegation also objects to the proposal in Document 76 (at the bottom of page 17) that "application of Resolution 531 should be limited to the implementation of Step 1 and Step 2 with the minimum number of channels for the new countries, with an entry for Palestine".

As mentioned above, Palestine is not a "new country" as defined by the UN. According to Resolution 1 of the Radio Regulations, allowing an entry for Palestine would contradict this fundamental Resolution of ITU. The Conference would, if it were to go along with this proposal in Document 76, be tampering with a delicate political issue outside of its terms of reference.

Therefore in the above-mentioned paragraph on page 17, the delegation of Israel proposes to delete the wording "with an entry for Palestine".

4 The delegation of Israel would like to remind the Secretary-General that the positions presented in Document 76 which have been rebutted here should in no way be reflected in the Final Acts and the Resolutions of this Conference. We would especially emphasize that the issue of new countries is outside of the terms of reference of the World Radiocommunication Conference. Therefore, the delegation of the State of Israel would like to request that the Secretary-General remind the Chairmen of all Committees of their terms of reference.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 2 to
Document 136-E
12 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

WORKING GROUP 4D

NOTE FROM THE SECRETARY-GENERAL

This document provides test point and ellipse parameters for the beams:

CZE14400

SVK14400

YYY00001

which have been changed or added to the data supplied in Documents 136 and 136(Add.1).

Country symbol: **CZE**
Beam Identification: **CZE14400**
Orbital position: **17.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	48.60	14.07	23,27,31,35,39	Circular	Right	0.92	0.6	174.55	47.02	49.79	15.50
2	0	48.62	16.94									
3	0	49.44	12.66									
4	0	49.52	18.84									
5	0	50.32	17.69									
6	0	50.32	12.11									
7	0	51.05	14.32									

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	48.60	14.07	23,27,31,35,39	Circular	Left	0.92	0.6	174.55	47.02	49.79	15.50
2	0	48.62	16.94									
3	0	49.44	12.66									
4	0	49.52	18.84									
5	0	50.32	17.69									
6	0	50.32	12.11									
7	0	51.05	14.32									

ITU Digitized World Map. ELLIPSE PROGRAM ZOOMED PERSPECTIVE GRID: 2.0

CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
CZE	CZE14400	U	49.79	15.50	0.92	0.60	174.55

Country symbol: **SVK**
Beam Identification: **SVK14400**
Orbital position: **17.00**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	47.77	18.67	3,7,11,15,19	Circular	Left	0.82	0.6	5.20	47.53	48.69	19.65
2	0	47.77	17.75									
3	0	48.03	17.10									
4	0	48.38	16.85									
5	0	48.43	22.06									
6	0	48.80	17.20									
7	0	49.05	22.50									
8	0	49.42	21.60									
9	0	49.43	18.75									
10	0	49.55	19.47									

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	47.77	18.67	3, 7, 11,15,19	Circular	Right	0.82	0.6	5.20	47.53	48.69	19.65
2	0	47.77	17.75									
3	0	48.03	17.10									
4	0	48.38	16.85									
5	0	48.43	22.06									
6	0	48.80	17.20									
7	0	49.05	22.50									
8	0	49.42	21.60									
9	0	49.43	18.75									
10	0	49.55	19.47									

ITU Digitized World Map.			ELLIPSE PROGRAM			ZOOMED PERSPECTIVE	GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
SVK	SVK14400	U	48.69	19.65	0.82 0.60	5.20	

Country symbol: **Provisional Beam***
Beam Identification: **YYY00001**
Orbital position: **11.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	32.47	35.30	1,5,9,13,17	Circular	Right	0.60	0.60	0	48.88	31.86	34.99
2	0	32.22	35.25									
3	0	31.90	35.20									
4	0	31.42	34.97									
5	0	31.28	34.25									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	32.47	35.30	1,5,9,13,17	Circular	Right	0.60	0.60	0	48.88	31.86	34.99
2	0	32.22	35.25									
3	0	31.90	35.20									
4	0	31.42	34.97									
5	0	31.28	34.25									

* NOTE - This assignment is for exclusive use by Palestine, subject to the Israeli-Palestinian Interim Agreement of 28/09/95, Resolution 741 of the ITU Council notwithstanding.

ITU Digitized World Map. ELLIPSE PROGRAM ZOOMED PERSPECTIVE GRID:10.0

CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
	YYY00001	D	31.86	34.99	0.60	0.60	90.00

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 1 to
Document 136-E
30 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

NOTE BY THE SECRETARY-GENERAL

According to the test points proposed by the Administration of China in Document 38(Add.1), ellipse parameters for a proposed new beam of China /Hong Kong have been calculated using the same ellipse calculation software that has been used for other "new countries" beams of Step 2. Following the request of the Administration of China conveyed to the Bureau for an orbital location of either 122° E or 128° E, calculations have been provisionally performed for both orbital positions. Selection of an appropriate orbital position and channels for this beam is a matter to be decided subsequently.

Pekka TARJANNE
Secretary-General

Country symbol:**CHN**
Beam Identification: **CHN19000**
Orbital position: **122.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	22.33	114.17				0.91	0.6	2.88	47.08	23.32	114.17
2	0	23.30	116.39									
3	0	24.53	113.31									
4	0	23.00	112.00									
5	0											
6	0											
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	22.33	114.17				0.91	0.6	2.88	47.08	23.32	114.17
2	0	23.30	116.39									
3	0	24.53	113.31									
4	0	23.00	112.00									
5	0											
6	0											
7												

ITU Digitized World Map. ELLIPSE PROGRAM ZOOMED PERSPECTIVE GRID: 2.0

CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
CHN	CHN19000	U	23.32	114.17	0.91	0.60	2.88

Country symbol:**CHN**
Beam Identification: **CHN19000**
Orbital position: **128.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	22.33	114.17				0.89	0.6	4.20	47.18	23.30	114.17
2	0	23.30	116.39									
3	0	24.53	113.31									
4	0	23.00	112.00									
5	0											
6	0											
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	22.33	114.17				0.89	0.6	4.20	47.18	23.30	114.17
2	0	23.30	116.39									
3	0	24.53	113.31									
4	0	23.00	112.00									
5	0											
6	0											
7												

ITU Digitized World Map. ELLIPSE PROGRAM ZOOMED PERSPECTIVE GRID: 2.0

CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
CHN	CHN19000	U	23.30	114.17	0.89	0.60	4.20

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 136-E
30 October 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Note by the Secretary-General

I have the honour to submit to the Conference the annexed Circular-letter CR/76 from the Radiocommunication Bureau.

Pekka TARJANNE
Secretary-General

INTERNATIONAL TELECOMMUNICATION UNION

Radiocommunication Bureau
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Circular Letter
CR/76

15 July 1997

To Administrations of Member States of the ITU

Subject: Beam characteristics for "new countries" in Step 2 of Planning Exercises

Reference: Circular Letter CR/62 of 4 November 1996

To the Director-General

Dear Sir,

1. In Resolution 531 (Annex 1, Section. 5.4, Step 2), WRC-95 instructed the Bureau to consult with the administrations concerned to establish their test points and new beam requirements. The Bureau, therefore, on 8 and 13 February 1996 sent a Multi Address Letter to all "new countries". A number of replies were received (see Table 1 attached). The list of selected test points was also sent to all administrations by Circular Letter CR/62 of 4 November 1996. Since then, the test points of Republic of Belarus and Kyrgyz Republic have been changed according to the comments received from administrations. One test point of the Russian Federation has been objected to by the Administration of Japan.

2. With the exception of a few beams which have entered into the Plans through successful application of the Article 4 procedure, all beams in the current Appendices 30 and 30A Plans are elliptical. For new beams, the ellipse characteristics are calculated using the test point coordinates, space station orbital position proposed in Planning Exercises and the space station antenna pointing error (± 0.1°).

3. Unfortunately, neither the algorithm, nor the ellipse generation program used during the World Broadcasting-Satellite Administrative Radio Conférence, Geneva, 1977 (WARC-77) has been retained. As a consequence, a new program had to be developed. Using software provided by the European Broadcasting Union (EBU) and modified by the Bureau, the Bureau has calculated ellipse parameters together with maximum antenna gain in accordance with item 3.13.1 of Annex 5 to Appendix 30 and 3.7.1 of Annex 3 to Appendix 30A.

4. It should be noted that during WARC-77, space station antenna pointing error (but not station keeping or rotational errors) was taken into account in ellipse generation (see Document DT/37, 28 January 1977). Therefore, to avoid inconsistency in ellipse parameters for "old" and "new" beams, only the pointing error was used in generating ellipses for the Planning Exercises. Also, a minimum beamwidth of 0.6° has been applied in conformity with 3.13.2 of Annex 5 to Appendix 30 and 3.7.2 of Annex 3 to Appendix 30A.

5. It is also worth mentioning that in order to show more clearly the location of the test points, the footprints of ellipses appearing in Annexes 1 and 2 to the present Circular Letter differ from those as seen from the satellites. As a consequence, some of the footprints are distorted by the effect of the spherical shape of the Earth especially in cases where the footprints are located far from the sub-satellite points. The channels assigned for each beam in Annexes 1 and 2 are those used currently in the Planning Exercises and might be changed as the result of further exercises.

./.

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6. Ellipses for "new countries" are contained in Annex 1 to this Circular Letter and specific beam requirements requested by the Administrations of the Russian Federation and the Federal Republic of Germany are contained in Annex 2 of this Circular Letter. In the absence of any comment from your Administration within 45 days from the date of this Circular Letter, the Bureau will consider that your Administration concurs with the information contained in the Annexes 1 and 2 to the present Circular Letter and will use it in its Planning Exercises to be submitted to WRC-97.

Yours faithfully.

for Robert W. Jones
Director, Radiocommunication Bureau

Annexes: 2

Distribution:

- Administrations of Member States of the ITU
- Members of the Radio Regulations Board

TABLE 1

LIST OF "NEW COUNTRIES"[1] AND DATE OF RECEIPT OF BEAM REQUIREMENTS AND ASSOCIATED TEST POINTS

Administration	Symbol	ITU Region	Date of receipt
Armenia (Republic of)	ARM	1	08.07.96
Azerbaijani Republic	AZE	1	No reply
Belarus (Republic of)	BLR	1	09.12.96 28.01.97
Bhutan (Kingdom of)	BTN	3	12.07.96
Bosnia and Herzegovina (Republic of)	BIH	1	No reply
Croatia (Republic of)	HRV	1	15.03.96 15.07.96
Eritrea	ERI	1	No reply
Estonia (Republic of)	EST	1	11.03.96
Georgia	GEO	1	No reply
Kazakstan (Republic of)	KAZ	1	No reply
Kiribati (Republic of)	KIR	3	No reply
Latvia (Republic of)	LVA	1	31.05.96
The Former Yugoslav Republic of Macedonia	MKD	1	02.04.96
Lithuania (Republic of)	LTU	1	27.02.96 08.07.96
Micronesia (Federated States of)	FSM[2]	3	25.06.96
Moldova (Republic of)	MDA	1	26.06.96
Uzbekistan (Republic of)	UZB	1	No reply
Kyrgyz Republic	KGZ	1	05.02.97 01.04.97
Slovak Republic	SVK	1	20.03.96 01.07.96
Czech Republic	CZE	1	28.03.96
Solomon Islands	SLM	3	No reply
Slovenia (Republic of)	SVN	1	11.03.96
Tajikistan (Republic of)	TJK	1	No reply
Turkmenistan	TKM	1	No reply
Ukraine	UKR	1	30.08.96 18.10.96
Palau (Republic of)	PLW[2]	3	22.03.96 21.05.96 24.06.96 25.10.96
Australia	AUS[3]	3	03.05.96 21.05.96 21.06.96 07.08.96 16.10.96
Germany (Federal Republic of)	D	1	15.04.96
Ethiopia (Federal Democratic Republic of)	ETH	1	08.07.96
Russian Federation	RUS	1	25.03.96
Yemen (Republic of)	YEM	1	No reply
Yugoslavia (Federal Republic of)	YUG	1	22.07.96
Marshall Islands (Republic of the)	MHL	3	24.04.96
Tuvalu	TUV	3	No reply

1 Including countries which have geographically or administratively changed with respect to their situation at the time of the WARC-77 and WARC Orb-88 Conferences.

2 The beams of FSM and PLW replace the former CAR beam. The Federated States of Micronesia (FSM) is a member of the UN and the ITU. The Republic of Palau is a member of the UN but is not a member of the ITU. However, based on the Compacts of Free Association between the United States of America and the Republic of Palau, the United States of America will continue to represent the Republic of Palau as far as ITU matters are concerned.

3 Concerns only the downlink path according to the request of the Administration of Australia.

Country symbol: **ARM**
Beam Identification: **ARM06400**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.10	43.50	24,28,32,36,40	Circular	Left	0.73	0.6	148.17	48.02	39.95	44.99
2	0	39.71	44.79									
3	0	40.24	45.92									
4	0	38.88	46.52									
5	0	41.20	44.95									
6	0	40.11	43.68									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.10	43.50	24,28,32,36,40	Circular	Right	0.73	0.6	148.17	48.02	39.95	44.99
2	0	39.71	44.79									
3	0	40.24	45.92									
4	0	38.88	46.52									
5	0	41.20	44.95									
6	0	40.11	43.68									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE			GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION	
ARM	ARM06400	D	39.95	44.99	0.73	0.60	148.17	

COUNTRY : ARM Feeder Link and Down Link

Country symbol: **AUS**
Beam Identification: **AUS0040A**
Orbital position: **152.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	3, 7, 11,15, 19,23	Circular	Left	6.89	4.83	141.15	29.23	-23.95	135.36
2	0	-27.50	153.00									
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-12.19	96.83	3, 7, 11,15, 19,23	Circular	Right	0.60	0.60	0	48.88	-12.19	96.83
2												
3												
4												
5												
6												
7												

Country symbol: **AUS**
Beam Identification: **AUS0040B**
Orbital position: **152.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	3, 7, 11,15, 19,23	Circular	Left	6.89	4.83	141.15	29.23	-23.95	135.36
2	0	-27.50	153.00									
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.45	105.69	3, 7, 11,15, 19,23	Circular	Right	0.6	0.6	0	48.88	-10.45	105.69
2												
3												
4												
5												
6												
7												

Country symbol: **AUS**
Beam Identification: **AUS0040C**
Orbital position: **152.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	3, 7, 11,15, 19,23	Circular	Left	6.89	4.83	141.15	29.23	-23.95	135.36
2	0	-27.50	153.00									
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-66.28	110.52	3, 7, 11,15, 19,23	Circular	Right	0.6	0.6	0	48.88	-66.28	110.52
2												
3												
4												
5												
6												
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0040A	U	-23.95 135.36	6.89	4.83	141.15	

COUNTRY : AUS Feeder Link Beam Identification: **AUS0040A / AUS0040B / AUS0040C**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
AUS	AUS0040A	D	-12.19	96.83	0.60	0.60	0.00

COUNTRY : AUS Down Link Beam Identification: **AUS0040A**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0040B	D	-10.45 105.69	0.60	0.60	0.00	

COUNTRY : AUS **Down Link** Beam Identification: **AUS0040B**

ITU Digitized World Map.			ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
AUS	AUS0040C	D	-66.28 110.52	0.60 0.60	0.00	

COUNTRY : AUS Down Link Beam Identification: **AUS0040C**

Country symbol: **AUS**
Beam Identification: **AUS0070A**
Orbital position: **164.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	3, 7, 11,15, 19,23	Circular	Right	6.82	4.20	134.19	29.87	-24.16	136.62
2	0	-27.50	153.00									
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-54.50	158.94	3, 7, 11,15, 19,23	Circular	Right	0.6	0.6	0	48.88	-54.50	158.94
2												
3												
4												
5												
6												
7												

ITU Digitized World Map.			ELLIPSE PROGRAM	ZOOMED PERSPECTIVE			GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0070A	U	-24.16 136.62	6.82	4.20	134.19	

COUNTRY : AUS Feeder Link Beam Identification: **AUS0070A**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE	GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
AUS	AUS0070A	D	-54.50 158.94	0.60 0.60	0.00	

COUNTRY : AUS Down Link Beam Identification: **AUS0070A**

Country symbol: **AUS**
Beam Identification: **AUS0090A**
Orbital position: **164.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	27,31,35,39	Circular	Right	6.82	4.20	134.19	29.87	-24.16	136.62
2	0	-27.50	153.00	25,29								
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-31.52	159.06	1, 5, 9, 13,17,21	Circular	Right	0.6	0.6	0	48.88	-31.52	159.06
2												
3												
4												
5												
6												
7												

Country symbol: **AUS**
Beam Identification: **AUS0090B**
Orbital position: **164.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-10.60	142.20	27,31,35,39	Circular	Right	6.82	4.20	134.19	29.87	-24.16	136.62
2	0	-27.50	153.00	25,29								
3	0	-33.90	151.20									
4	0	-37.20	145.00									
5	0	-42.90	147.30									
6	0	-34.90	138.60									
7	0	-32.00	115.90									
8	0	-21.60	114.10									
9	0	-12.50	130.80									
10	0	-23.70	133.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-29.02	167.93	1, 5, 9, 13,17,21	Circular	Right	0.6	0.6	0	48.88	-29.02	167.93
2												
3												
4												
5												
6												
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0090A	U	-24.16 136.62	6.82	4.20	134.19	

COUNTRY : AUS Feeder Link Beam Identification: **AUS0090A / AUS0090B**

ITU Digitized World Map.			ELLIPSE PROGRAM			ZOOMED PERSPECTIVE	GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0090A	D	-31.52 159.06	0.60	0.60	0.00	

COUNTRY : AUS Down Link Beam Identification: **AUS0090A**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
AUS	AUS0090B	D	-29.02 167.93	0.60	0.60	0.00	

COUNTRY : AUS Down Link Beam Identification: **AUS0090B**

Country symbol: **AZE**
Beam Identification: **AZE06400**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.89	46.46	4, 8,12,16,20	Circular	Left	0.93	0.60	158.14	46.98	40.14	47.47
2	0	41.74	48.60									
3	0	38.45	48.88									
4	0	38.86	46.12									
5	0	39.65	44.82									
6	0	41.28	45.03									
7	0	40.30	50.35									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.89	46.46	4, 8,12,16,20	Circular	Right	0.93	0.60	158.14	46.98	40.14	47.47
2	0	41.74	48.60									
3	0	38.45	48.88									
4	0	38.86	46.12									
5	0	39.65	44.82									
6	0	41.28	45.03									
7	0	40.30	50.35									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
AZE	AZE06400	D	40.14	47.47	0.93	0.60	158.14

COUNTRY : AZE Feeder Link and Down Link

Country symbol: **BIH**
Beam Identification: **BIH14800**
Orbital position: **34.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	45.22	15.73	2, 6, 10,14,18	Circular	Left	0.62	0.60	166.84	48.71	44.32	17.77
2	0	45.10	17.60									
3	0	44.90	19.33									
4	0	43.52	19.19									
5	0	42.45	18.50									
6	0	43.71	16.88									
7	0	42.91	17.62									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	45.22	15.73	2, 6, 10,14,18	Circular	Right	0.62	0.60	166.84	48.71	44.32	17.77
2	0	45.10	17.60									
3	0	44.90	19.33									
4	0	43.52	19.19									
5	0	42.45	18.50									
6	0	43.71	16.88									
7	0	42.91	17.62									

ITU Digitized World Map.		ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID: 2.0
CTRY BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
BIH BIH14800	D	44.32 17.77	0.62 0.60	166.84	

COUNTRY : BIH Feeder Link and Down Link

Country symbol: **BLR**
Beam Identification: **BLR06200**
Orbital position: **38.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	51.48	30.11	1, 5, 9, 13,17	Circular	Right	1.17	0.60	9.68	45.96	53.18	28.04
2	0	53.36	32.71									
3	0	52.15	23.50									
4	0	55.24	30.45									
5	0	55.48	27.28									
6	0	53.90	23.52									
7	0	55.60	30.90									
8	0	51.27	30.53									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	51.46	27.62	1, 5, 9, 13,17	Circular	Left	1.21	0.60	11.47	45.83	53.06	27.91
2	0	51.27	30.53									
3	0	51.57	23.57									
4	0	53.40	32.73									
5	0	52.15	23.50									
6	0	55.60	30.90									
7	0	53.90	23.52									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
BLR	BLR06200	U	53.18	28.04	1.17	0.60	9.68

COUNTRY : BLR Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
BLR	BLR06200	D	53.06	27.91	1.21 0.60	11.47	

COUNTRY : BLR Down Link

Country symbol: **BTN**
Beam Identification: **BTN03100**
Orbital position: **86.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	27.21	88.78	5, 9, 13, 17	Circular	Left	0.72	0.60	175.47	48.11	27.05	90.44
2	0	26.80	90.00									
3	0	26.90	92.10									
4	0	28.07	91.29									
5	0	27.28	92.10									
6	0	28.30	90.10									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	27.21	88.78	5, 9, 13, 17	Circular	Right	0.72	0.60	175.74	48.11	27.05	90.44
2	0	26.80	90.00									
3	0	26.90	92.10									
4	0	28.07	91.29									
5	0	27.28	92.10									
6	0	28.30	90.10									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM			ZOOMED PERSPECTIVE	GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
BTN	BTN03100	D	27.05 90.44	0.72	0.60	175.47	

COUNTRY : BTN Feeder Link and Down Link

Country symbol: **CZE**
Beam Identification: **CZE14400**
Orbital position: **-1.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	541	50.32	12.11	23,27,31,35,39	Circular	Right	0.92	0.60	172.03	47.03	49.96	15.49
2	435	51.05	14.32									
3	246	50.32	17.69									
4	557	49.52	18.84									
5	151	48.62	16.94									
6	760	48.60	14.07									
7	538	49.44	12.66									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	541	50.32	12.11	23,27,31,35,39	Circular	Left	0.92	0.60	172.03	47.03	49.96	15.49
2	435	51.05	14.32									
3	246	50.32	17.69									
4	557	49.52	18.84									
5	151	48.62	16.94									
6	760	48.60	14.07									
7	538	49.44	12.66									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
CZE	CZE14400	D	49.96	15.49	0.92 0.60	172.03	

COUNTRY : CZE Feeder Link and Down Link

Country symbol: **D**
Beam Identification: **D 08700**
Orbital position: **-19.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	52.50	13.20	2, 6,10,14,18	Circular	Right	1.30	0.64	144.40	45.25	50.46	9.86
2	0	53.70	7.00									
3	0	50.74	6.02									
4	0	47.60	7.80									
5	0	48.92	13.63									
6	0	54.75	9.97									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	52.50	13.20	2, 6,10,14,18	Circular	Left	1.30	0.64	144.40	45.25	50.46	9.86
2	0	53.70	7.00									
3	0	50.74	6.02									
4	0	47.60	7.80									
5	0	48.92	13.63									
6	0	54.75	9.97									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
D	D08700	D	50.46	9.86	1.30	0.64	144.40

COUNTRY : D **Feeder Link and Down Link** Beam Identification: **D08700**

Country symbol: **D**
Beam Identification: **D2-21600**
Orbital position: **-1.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	54.60	13.40	21,25,29,33,37	Circular	Right	0.83	0.62	127.49	47.31	51.36	12.23
2	0	54.00	10.80									
3	0	50.60	9.90									
4	0	48.95	13.60									
5	0	53.30	14.40									
6												
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	54.50	12.50	21,25,29,33,37	Circular	Left	0.77	0.60	158.85	47.77	51.98	12.60
2	0	53.38	14.39									
3	0	51.00	15.00									
4	0	50.50	13.00									
5	0	51.40	9.90									
6	0	54.00	11.00									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
D	D2-21600	U	51.36	12.23	0.83	0.62	127.49

COUNTRY : D **Feeder Link** Beam Identification: **D2-21600**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
D	D2-21600	D	51.98	12.60	0.77 0.60	158.85	

COUNTRY : D **Down Link** Beam Identification: **D2-21600**

Country symbol: **ERI**
Beam Identification: **ERI09200**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	17.94	38.54	23, 27,31,35, 39	Circular	Left	1.67	0.95	145.48	42.44	14.98	39.41
2	0	12.72	43.11									
3	0	12.50	42.40									
4	0	14.45	39.80									
5	0	14.45	36.50									
6	0	16.98	37.00									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	17.94	38.54	23,27,31,35,39	Circular	Right	1.67	0.95	145.48	42.44	14.98	39.41
2	0	12.72	43.11									
3	0	12.50	42.40									
4	0	14.45	39.80									
5	0	14.45	36.50									
6	0	16.98	37.00									
7												

ITU Digitized World Map.		ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID: 2.0
CTRY BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
ERI ERI09200	D	14.98 39.41	1.67 0.95	145.48	

COUNTRY : ERI Feeder Link and Down Link

Country symbol: **EST**
Beam Identification: **EST06100**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	59.50	24.50	1, 5, 9, 13,17	Circular	Right	0.68	0.60	2.17	48.37	59.31	25.36
2	35	59.40	28.25									
3	70	58.25	27.00									
4	0	58.60	27.30									
5	0	59.00	22.50									
6												
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	59.60	24.50	1, 5, 9, 13,17	Circular	Left	0.72	0.60	9.93	48.09	58.47	25.01
2	35	59.35	28.15									
3	28	58.50	27.50									
4	30	57.90	27.85									
5	140	57.60	27.35									
6	0	57.90	22.00									
7	0	58.90	22.15									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
EST	EST06100	U	59.31	25.36	0.68	0.60	2.17

COUNTRY : EST Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
EST	EST06100	D	58.47 25.01	0.72	0.60	9.93	

COUNTRY : EST Down Link

Country symbol: **ETH**
Beam Identification: **ETH09200**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (14 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	4.20	42.10	2, 6, 8,10,12	Circular	Right	2.66	2.23	166.11	36.72	9.19	40.35
2	0	4.81	35.77									
3	400	5.10	45.00									
4	800	7.90	34.00									
5	200	8.00	47.95									
6	200	10.90	34.60									
7	0	12.46	42.39									
8	200	14.17	40.59									
9	700	14.50	37.18									
10	0	14.91	37.88									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	3.52	38.97	22,26,30,34,38	Circular	Left	2.48	1.92	128.32	37.67	8.58	39.55
2	0	5.00	45.00									
3	0	6.28	34.85									
4	0	7.50	35.50									
5	0	12.66	42.28									
6	0	14.64	39.00									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
ETH	ETH09200	U	9.19	40.35	2.66	2.23	166.11

COUNTRY : ETH Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
ETH	ETH09200	D	8.58	39.55	2.48	1.92	128.32

COUNTRY : ETH Down Link

Country symbol: **FSM**
Beam Identification: **FSM00000**
Orbital position: **146.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	1.02	154.78	3,7,11,15	Circular	Right	5.34	1.51	166.52	35.37	5.42	151.67
2	0	5.33	163.00									
3	0	6.93	158.21									
4	0	8.30	137.49									
5	0	8.99	150.12									
6	0	10.09	139.71									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	1.02	154.78	3,7,11,15	Circular	Left	5.34	1.51	166.52	35.37	5.42	151.67
2	0	5.33	163.00									
3	0	6.93	158.21									
4	0	8.30	137.49									
5	0	8.99	150.12									
6	0	10.09	139.71									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 4.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
FSM	FSM00000	D	5.42 151.67	5.34	1.51	166.52	

COUNTRY : FSM Feeder Link and Down Link

Country symbol: **GEO**
Beam Identification: **GEO06400**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.53	41.55	22,26,30,34,38	Circular	Left	1.11	0.60	161.21	46.23	42.27	43.35
2	0	43.39	40.00									
3	0	42.84	43.59									
4	0	41.89	46.44									
5	0	41.25	44.95									
6	0	41.49	42.81									
7	0	41.11	46.63									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.53	41.55	22,26,30,34,38	Circular	Right	1.11	0.60	161.21	46.23	42.27	43.35
2	0	43.39	40.00									
3	0	42.84	43.59									
4	0	41.89	46.44									
5	0	41.25	44.95									
6	0	41.49	42.81									
7	0	41.11	46.63									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
GEO	GEO06400	D	42.27 43.35	1.11	0.60	161.21	

COUNTRY : GEO Feeder Link and Down Link

Country symbol: **HRV**
Beam Identification: **HRV14800**
Orbital position: **34.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	10	45.50	13.51	24,28,32,36,40	Circular	Left	0.88	0.69	5.30	46.57	44.54	16.74
2	20	42.39	16.26									
3	60	42.39	18.54									
4	86	45.91	18.82									
5	168	46.51	16.45									
6	120	45.22	19.38									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters (BR and S. Rapporteur)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	10	45.50	13.51	24,28,32,36,40	Circular	Right	0.88	0.69	5.30	46.57	44.54	16.74
2	20	42.39	16.26									
3	60	42.39	18.54									
4	86	45.91	18.82									
5	168	46.51	16.45									
6	120	45.22	19.38									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
HRV	HRV14800	D	44.54	16.74	0.88	0.69	5.30

COUNTRY : HRV Feeder Link and Down Link

Country symbol: **KAZ**
Beam Identification: **KAZ06600**
Orbital position: **44.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.24	55.48	24,28,32,36,40	Circular	Right	4.31	1.70	172.22	35.79	46.40	64.72
2	0	47.07	71.43									
3	0	40.68	68.49									
4	0	55.41	68.95									
5	0	49.20	87.30									
6	0	48.70	46.60									
7	0	41.79	52.46									
8	0	42.23	80.28									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.24	55.48	24,28,32,36,40	Circular	Left	4.31	1.70	172.22	35.79	46.40	64.72
2	0	47.07	71.43									
3	0	40.68	68.49									
4	0	55.41	68.95									
5	0	49.20	87.30									
6	0	48.70	46.60									
7	0	41.79	52.46									
8	0	42.23	80.28									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
KAZ	KAZ06600	D	46.40	64.72	4.31	1.70	172.22

COUNTRY : KAZ Feeder Link and Down Link

Country symbol: **KGZ**
Beam Identification: **KGZ07000**
Orbital position: **44.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.10	78.18	22,26,30,34,38	Circular	Right	1.34	0.64	3.53	45.12	41.32	73.88
2	0	43.26	74.20									
3	0	42.22	80.25									
4	0	39.47	73.66									
5	0	39.55	69.35									
6	0	41.50	70.22									
7	0	42.40	70.95									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	41.10	78.18	22,26,30,34,38	Circular	Left	1.34	0.64	3.53	45.12	41.32	73.88
2	0	43.26	74.20									
3	0	42.22	80.25									
4	0	39.47	73.66									
5	0	39.55	69.35									
6	0	41.50	70.22									
7	0	42.40	70.95									

ITU Digitized World Map. ELLIPSE PROGRAM ZOOMED PERSPECTIVE GRID: 2.0

CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
KGZ	KGZ07000	D	41.32	73.88	1.34	0.64	3.53

COUNTRY : KGZ Feeder Link and Down Link

Country symbol: **KIR**
Beam Identification: **KIR00001**
Orbital position: **176.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-0.92	169.55	3, 7,11	Circular	Left	4.47	1.27	163.00	36.91	-0.79	177.16
2	0	3.29	172.97									
3	0	-2.51	175.96									
4	0	1.49	172.99									
5	0	-4.51	-172.23									
6	0	-4.49	-172.21									
7	0	1.43	173.00									
8	0	-4.45	-171.22									
9	0	-4.43	-171.23									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-0.92	169.55	3, 7, 11	Circular	Left	4.47	1.27	163.00	36.91	-0.79	177.16
2	0	3.29	172.97									
3	0	-2.51	175.96									
4	0	1.49	172.99									
5	0	-4.51	-172.23									
6	0	-4.49	-172.21									
7	0	1.43	173.00									
8	0	-4.45	-171.22									
9	0	-4.43	-171.23									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
KIR	KIR00001	D	-0.79 177.16	4.47	1.27	163.00	

COUNTRY : KIR **Feeder Link and Down Link** Beam Identification: **KIR00001**

Country symbol: **KIR**
Beam Identification: **KIR00002**
Orbital position: **176.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	4.72	-160.41	15,19,23	Circular	Left	2.40	0.64	110.62	42.60	-0.33	-157.78
2	0	3.82	-159.24									
3	0	1.77	-157.20									
4	0	-4.00	-155.00									
5	0	-5.63	-155.91									
6	0	-5.61	-155.87									
7	0	-4.03	-154.97									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	4.72	-160.41	15,19,23	Circular	Left	2.40	0.64	110.62	42.60	-0.33	-157.78
2	0	3.82	-159.24									
3	0	1.77	-157.20									
4	0	-4.00	-155.00									
5	0	-5.63	-155.91									
6	0	-5.61	-155.87									
7	0	-4.03	-154.97									

ITU Digitized World Map.		ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID: 2.0
CTRY BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
KIR KIR00002	D	-0.33 -157.78	2.40 0.64	110.62	

COUNTRY : KIR **Feeder Link and Down Link** Beam Identification: **KIR00002**

Country symbol: **LTU**
Beam Identification: **LTU06100**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	55.50	21.50	3, 7,11,15,19	Circular	Right	0.72	0.60	173.90	48.11	55.46	24.02
2	0	56.00	21.25									
3	0	56.20	23.50									
4	0	55.28	26.78									
5	0	54.15	25.68									
6	0	53.99	23.49									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	56.08	21.08	3, 7,11,15,19	Circular	Left	0.70	0.60	176.00	48.21	55.66	23.79
2	0	56.25	24.75									
3	0	55.58	26.50									
4	0	54.50	25.50									
5	0	54.38	22.80									
6	0	55.25	21.27									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
LTU	LTU06100	U	55.46	24.02	0.72 0.60	173.90	

COUNTRY : LTU Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
LTU	LTU06100	D	55.66 23.79	0.70	0.60	176.00	

COUNTRY : LTU Down Link

Country symbol: **LVA**
Beam Identification: **LVA06100**
Orbital position: **23.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	57.90	24.40	21,25,29,33,37	Circular	Right	0.83	0.60	0.05	47.50	56.20	24.53
2	0	57.55	27.25									
3	0	56.15	27.96									
4	0	55.66	26.57									
5	0	56.25	24.25									
6	0	56.10	21.10									
7	0	57.50	21.75									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	57.90	24.40	21,25,29,33,37	Circular	Left	0.83	0.60	0.05	47.50	56.20	24.53
2	0	57.55	27.25									
3	0	56.15	27.96									
4	0	55.66	26.57									
5	0	56.25	24.25									
6	0	56.10	21.10									
7	0	57.50	21.75									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
LVA	LVA06100	D	56.20 24.53	0.83	0.60	0.05	

COUNTRY : LVA Feeder Link and Down Link

Country symbol: **MDA**
Beam Identification: **MDA06300**
Orbital position: **38.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	150	48.26	26.65	4, 8,12,16,20	Circular	Left	0.60	0.60	90.00	48.88	46.99	28.41
2	200	48.11	28.77									
3	10	46.37	30.07									
4	100	46.50	29.00									
5	30	45.50	28.17									
6	50	47.20	27.80									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	150	48.26	26.65	4, 8,12,16,20	Circular	Right	0.60	0.60	90.00	48.88	46.99	28.41
2	200	48.11	28.77									
3	10	46.37	30.07									
4	100	46.50	29.00									
5	30	45.50	28.17									
6	50	47.20	27.80									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
MDA	MDA06300	D	46.99	28.41	0.60	0.60	90.00

COUNTRY : MDA Feeder Link and Down Link

Country symbol: **MHL**
Beam Identification: **MHL00000**
Orbital position: **146.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	8.75	167.75	2, 6, 10, 14, 18	Circular	Left	2.07	0.90	157.42	41.75	9.83	167.64
2	0	7.12	171.37									
3	0	11.36	162.33									
4	0	11.24	169.85									
5												
6												
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	8.75	167.75	2, 6, 10, 14, 18	Circular	Right	2.07	0.90	157.42	41.75	9.83	167.64
2	0	7.12	171.37									
3	0	11.36	162.33									
4	0	11.24	169.85									
5												
6												
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
MHL	MHL00000	D	9.83 167.64	2.07	0.90	157.42	

COUNTRY : MHL Feeder Link and Down Link

Country symbol: **MKD**
Beam Identification: **MKD14800**
Orbital position: **34.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	270	41.99	21.45	22,26,30,34,38	Circular	Left	0.60	0.60	90.00	48.88	41.50	21.53
2	380	41.73	22.19									
3	154	41.16	22.51									
4	620	41.03	21.34									
5	797	41.12	20.80									
6	1741	41.99	20.90									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	1900	41.75	20.58	22,26,30,34,38	Circular	Right	0.60	0.60	90.00	48.88	41.56	21.61
2	2000	42.16	21.10									
3	1100	42.24	22.35									
4	1724	41.78	22.94									
5	665	41.37	22.87									
6	154	41.16	22.51									
7	1100	40.91	20.97									
8	1060	41.12	20.62									
9	660	41.53	20.53									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
MKD	MKD14800	U	41.50	21.53	0.60	0.60	90.00

COUNTRY : MKD Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
MKD	MKD14800	D	41.56	21.61	0.60 0.60	90.00	

COUNTRY : MKD Down Link

Country symbol: **PLW**
Beam Identification: **PLW00000**
Orbital position: **146.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	2.97	131.81	4, 8, 12,16	Circular	Left	1.29	0.60	55.84	45.55	5.52	132.99
2	0	3.01	131.17									
3	0	4.32	132.31									
4	0	5.35	132.22									
5	0	7.50	134.60									
6	0	8.09	134.71									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	2.97	131.81	4, 8,12,16	Circular	Right	1.29	0.60	55.84	45.55	5.52	132.99
2	0	3.01	131.17									
3	0	4.32	132.31									
4	0	5.35	132.22									
5	0	7.50	134.60									
6	0	8.09	134.71									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
PLW	PLW00000	D	5.52 132.99	1.29	0.60	55.84	

COUNTRY : PLW Feeder Link and Down Link

Country symbol: **RUS**
Beam Identification: **RUSRSA11**
Orbital position: **38.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right	5.26	2.40	178.31	33.43	52.54	46.42
2	0	59.10	28.00									
3	0	54.44	20.00									
4	0	49.00	40.05									
5	2000	41.40	47.82									
6	0	51.00	55.80									
7	0	54.23	75.77									
8	0	64.10	86.15									
9	0	72.40	78.00									
10	0	67.14	52.04									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Left	3.43	2.14	172.40	35.80	53.24	39.12
2	0	59.10	28.00									
3	0	54.70	22.00									
4	0	54.40	22.70									
5	0	43.50	41.59									
6	2000	43.50	45.00									
7	0	46.40	48.90									
8	0	51.60	55.00									
9	0	60.00	51.00									
10	0	68.00	50.00									

Country symbol: **RUS**
Beam Identification: **RUSRSA12**
Orbital position: **38.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left	5.26	2.40	178.31	33.43	52.54	46.42
2	0	59.10	28.00									
3	0	54.44	20.00									
4	0	49.00	40.05									
5	2000	41.40	47.82									
6	0	51.00	55.80									
7	0	54.23	75.77									
8	0	64.10	86.15									
9	0	72.40	78.00									
10	0	67.14	52.04									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Right	3.43	2.14	172.40	35.80	53.24	39.12
2	0	59.10	28.00									
3	0	54.70	22.00									
4	0	54.40	22.70									
5	0	43.50	41.59									
6	2000	43.50	45.00									
7	0	46.40	48.90									
8	0	51.60	55.00									
9	0	60.00	51.00									
10	0	68.00	50.00									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
RUS	RUS00001	U	52.54	46.42	5.26 2.40	178.31	

COUNTRY : RUS Feeder Link Beam Identification: **RUSRSA11 / RUSRSA12**

ITU Digitized World Map.			ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
RUS	RUS00001	D	53.24 39.12	3.43 2.14	172.40	

COUNTRY : RUS Down Link Beam Identification: **RUSRSA11 / RUSRSA12**

Country symbol: **RUS**
Beam Identification: **RUSRSA21**
Orbital position: **56.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right	7.93	2.52	177.28	31.43	50.95	62.76
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.00	50.00	25,27,29,31,33, 35,37,39	Circular	Left	3.41	1.49	1.81	37.38	58.01	61.95
2	0	60.00	51.00									
3	0	51.60	50.00									
4	0	51.00	55.80									
5	0	54.23	75.77									
6	0	64.10	86.15									
7	0	72.40	78.00									
8												
9												
10												

Country symbol: **RUS**
Beam Identification: **RUSRSA22**
Orbital position: **56.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left	7.93	2.52	177.28	31.43	50.95	62.76
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.00	50.00	26,28,30,32,34, 36,38,40	Circular	Right	3.41	1.49	1.81	37.38	58.01	61.95
2	0	60.00	51.00									
3	0	51.60	50.00									
4	0	51.00	55.80									
5	0	54.23	75.77									
6	0	64.10	86.15									
7	0	72.40	78.00									
8												
9												
10												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
RUS	RUS00002	U	50.95	62.76	7.93 2.52	177.28	

COUNTRY : RUS Feeder Link Beam Identification: **RUSRSA21 / RUSRSA22**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
RUS	RUS00002	D	58.01	61.95	3.41	1.49	1.81

COUNTRY : RUS Down Link Beam Identification: **RUSRSA21 / RUSRSA22**

Country symbol: **RUS**
Beam Identification: **RUSRSA31**
Orbital position: **86.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right	8.06	2.49	7.80	31.42	50.63	73.14
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	25,27,29,31,33, 35,37,39	Circular	Left	3.41	1.75	174.31	36.70	58.00	93.94
2	0	60.88	77.00									
3	0	54.00	79.50									
4	3000	49.22	87.30									
5	2000	51.00	104.00									
6	1000	59.00	114.50									
7	0	73.00	110.00									
8	0	73.28	96.00									
9												
10												

Country symbol: **RUS**
Beam Identification: **RUSRSA32**
Orbital position: **86.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left	8.06	2.49	7.80	31.42	50.63	73.14
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	26,28,30,32,34, 36,38,40	Circular	Right	3.41	1.75	174.31	36.70	58.00	93.94
2	0	60.88	77.00									
3	0	54.00	79.50									
4	3000	49.22	87.30									
5	2000	51.00	104.00									
6	1000	59.00	114.50									
7	0	73.00	110.00									
8	0	73.28	96.00									
9												
10												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
RUS	RUS00003	U	50.63	73.14	8.06	2.49	7.80

COUNTRY : RUS Feeder Link Beam Identification: **RUSRSA31 / RUSRSA32**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
RUS	RUS00003	D	58.00 93.94	3.41	1.75	174.31	

COUNTRY : RUS Down Link Beam Identification: **RUSRSA31 / RUSRSA32**

Country symbol: **RUS**
Beam Identification: **RUSRSA41**
Orbital position: **110.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	25,27,29,31,33, 35,37,39	Circular	Right	7.58	2.49	174.41	31.69	51.52	118.22
2	0	60.88	77.00									
3	3000	49.22	87.30									
4	2000	51.00	104.00									
5	0	42.42	130.62									
6	0	43.93	145.56									
7	0	54.50	168.08									
8	0	62.68	179.50									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	71.20	112.00	25,27,29,31,33, 35,37,39	Circular	Left	3.59	1.65	165.75	36.73	57.81	127.76
2	500	63.50	108.00									
3	0	48.05	130.70									
4	1000	63.85	145.64									
5	0	68.00	158.20									
6	0	73.29	128.00									
7												

Country symbol: **RUS**
Beam Identification: **RUSRSA42**
Orbital position: **110.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	26,28,30,32,34, 36,38,40	Circular	Left	7.58	2.49	174.41	31.69	51.52	118.22
2	0	60.88	77.00									
3	3000	49.22	87.30									
4	2000	51.00	104.00									
5	0	42.42	130.62									
6	0	43.93	145.56									
7	0	54.50	168.08									
8	0	62.68	179.50									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	71.20	112.00	26,28,30,32,34, 36,38,40	Circular	Right	3.59	1.65	165.75	36.73	57.81	127.76
2	500	63.50	108.00									
3	0	48.05	130.70									
4	1000	63.85	145.64									
5	0	68.00	158.20									
6	0	73.29	128.00									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
RUS	RUS00004	U	51.52	118.22	7.58	2.49	174.41

COUNTRY : RUS Feeder Link Beam Identification: **RUSRSA41 / RUSRSA42**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
RUS	RUS00004	D	57.81 127.76	3.59	1.65	165.75	

COUNTRY : RUS Down Link Beam Identification: **RUSRSA41 / RUSRSA42**

Country symbol: **RUS**
Beam Identification: **RUSRSA51**
Orbital position: **140.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	60.88	77.00	25,27,29,31,33, 35,37,39	Circular	Right	7.92	2.32	7.26	31.80	52.22	130.78
2	3000	49.22	87.30									
3	2000	50.60	107.50									
4	0	42.42	130.62									
5	0	43.93	145.56									
6	0	54.50	168.08									
7	0	62.68	179.50									
8	0	66.10	-170.00									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	1000	63.85	145.64	25,27,29,31,33, 35,37,39	Circular	Left	3.31	2.03	21.22	36.18	55.34	154.04
2	0	43.93	145.56									
3	0	46.85	151.86									
4	0	50.77	156.02									
5	0	54.50	168.08									
6	0	62.68	179.50									
7	0	66.10	-170.00									
8	0	70.01	168.31									
9	0	69.62	162.46									
10	0	46.02	143.42									

Country symbol: **RUS**
Beam Identification: **RUSRSA52**
Orbital position: **140.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	60.88	77.00	26,28,30,32,34, 36,38,40	Circular	Left	7.92	2.32	7.26	31.80	52.22	130.78
2	3000	49.22	87.30									
3	2000	50.60	107.50									
4	0	42.42	130.62									
5	0	43.93	145.56									
6	0	54.50	168.08									
7	0	62.68	179.50									
8	0	66.10	-170.00									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	1000	63.85	145.64	26,28,30,32,34, 36,38,40	Circular	Right	3.31	2.03	21.22	36.18	55.34	154.04
2	0	43.93	145.56									
3	0	46.85	151.86									
4	0	50.77	156.02									
5	0	54.50	168.08									
6	0	62.68	179.50									
7	0	66.10	-170.00									
8	0	70.01	168.31									
9	0	69.62	162.46									
10	0	46.02	143.42									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
RUS	RUS00005	U	52.22 130.78	7.92	2.32	7.26	

COUNTRY : RUS **Feeder Link** Beam Identification: **RUSRSA51 / RUSRSA52**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID:10.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
RUS	RUS00005	D	55.34 154.04	3.31	2.03	21.22	

COUNTRY : RUS Down Link Beam Identification: **RUSRSA51 / RUSRSA52**

Country symbol: **SLM**
Beam Identification: **SLM00000**
Orbital position: **146.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-7.04	155.85	1, 5, 9,13	Circular	Right	1.50	1.18	140.48	41.98	-8.40	159.32
2	0	-5.48	159.71									
3	0	-8.37	162.72									
4	0	-10.83	162.39									
5	0	-11.64	160.12									
6	0	-8.82	158.17									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-7.04	155.85	1, 5, 9,13	Circular	Left	1.50	1.18	140.48	41.98	-8.40	159.32
2	0	-5.48	159.71									
3	0	-8.37	162.72									
4	0	-10.83	162.39									
5	0	-11.64	160.12									
6	0	-8.82	158.17									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
SLM	SLM00000	D	-8.40 159.32	1.50	1.18	140.48	

COUNTRY : SLM Feeder Link and Down Link

Country symbol: **SVK**
Beam Identification: **SVK14400**
Orbital position: **-1.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	145	48.38	16.85	3, 7,11,15,19	Circular	Right	0.74	0.60	3.50	47.99	48.74	19.63
2	134	48.03	17.10									
3	110	47.77	17.75									
4	108	47.77	18.67									
5	101	48.43	22.06									
6	538	49.05	22.50									
7	425	49.42	21.60									
8	875	49.55	19.47									
9	469	49.43	18.75									
10	175	48.80	17.20									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	145	48.38	16.85	3, 7,11,15,19	Circular	Left	0.74	0.60	3.50	47.99	48.74	19.63
2	134	48.03	17.10									
3	110	47.77	17.75									
4	108	47.77	18.67									
5	101	48.43	22.06									
6	538	49.05	22.50									
7	425	49.42	21.60									
8	875	49.55	19.47									
9	469	49.43	18.75									
10	175	48.80	17.20									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
SVK	SVK14400	D	48.74	19.63	0.74	0.60	3.50

COUNTRY : SVK Feeder Link and Down Link

Country symbol: **SVN** [1]
Beam Identification: **SVN14800**
Orbital position: **34.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	2032	46.35	13.47	4, 8,12,16,20	Circular	Left	0.60	0.60	90.00	48.88	46.18	15.01
2	1277	46.63	15.05									
3	272	46.85	16.30									
4	153	46.50	16.55									
5	273	45.47	15.32									
6	3	45.50	13.58									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters (BR and S. Rapporteur)					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	2032	46.35	13.47	4, 8,12,16,20	Circular	Right	0.60	0.60	90.00	48.88	46.18	15.01
2	1277	46.63	15.05									
3	272	46.85	16.30									
4	153	46.50	16.55									
5	273	45.47	15.32									
6	3	45.50	13.58									

[1] L'Administration de SVN précise que: "la position orbitale nominale serait aussi proche que possible de la longitude du territoire de la République de Slovénie (14 à 16° E)".
The Administration of SVN has stated "the nominal orbital position would be as close as possible to the longitude of the territory of the Republic of Slovenia (14 to 16° E)".
La Administración de SVN ha declarado que "la posición orbital nominal estaría los más cerca posible de la longitud del territorio de la República de Eslovenia (14 a 16° E)".

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
SVN	SVN14800	D	46.18	15.01	0.60	0.60	90.00

COUNTRY : SVN Feeder Link and Down Link

Country symbol: **TJK**
Beam Identification: **TJK06900**
Orbital position: **44.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	37.00	67.90	1, 5, 9, 13,17	Circular	Right	1.25	0.76	159.15	44.65	38.37	71.14
2	0	36.69	71.84									
3	0	37.30	75.10									
4	0	38.47	74.84									
5	0	41.03	70.43									
6	0	39.47	67.41									
7	0	39.46	73.68									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	37.00	67.90	1, 5, 9, 13,17	Circular	Left	1.25	0.76	159.15	44.65	38.37	71.14
2	0	36.69	71.84									
3	0	37.30	75.10									
4	0	38.47	74.84									
5	0	41.03	70.43									
6	0	39.47	67.41									
7	0	39.46	73.68									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
TJK	TJK06900	D	38.37	71.14	1.25 0.76	159.15	

COUNTRY : TJK Feeder Link and Down Link

Country symbol: **TKM**
Beam Identification: **TKM06800**
Orbital position: **44.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	35.23	62.54	23,27,31,35,39	Circular	Left	2.25	0.99	164.51	40.94	38.84	59.18
2	0	37.40	66.50									
3	0	38.30	57.30									
4	0	42.65	58.78									
5	0	37.40	53.89									
6	0	41.80	52.50									
7	0	38.00	66.75									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	35.23	62.54	23,27,31,35,39	Circular	Right	2.25	0.99	164.51	40.94	38.84	59.18
2	0	37.40	66.50									
3	0	38.30	57.30									
4	0	42.65	58.78									
5	0	37.40	53.89									
6	0	41.80	52.50									
7	0	38.00	66.75									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
TKM	TKM06800	D	38.84	59.18	2.25	0.99	164.51

COUNTRY : TKM Feeder Link and Down Link

Country symbol: **TUV**
Beam Identification: **TUV00000**
Orbital position: **176.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-7.20	177.17	2, 6,10,14	Circular	Right	0.94	0.60	137.58	46.93	-7.11	177.61
2	0	-7.50	178.70									
3	0	-5.67	176.08									
4	0	-7.47	178.68									
5	0	-6.28	176.30									
6	0	-6.10	177.30									
7	0	-8.50	179.20									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	-7.20	177.17	2, 6, 10,14	Circular	Right	0.94	0.60	137.58	46.93	-7.11	177.61
2	0	-7.50	178.70									
3	0	-5.67	176.08									
4	0	-7.47	178.68									
5	0	-6.28	176.30									
6	0	-6.10	177.30									
7	0	-8.50	179.20									

ITU Digitized World Map.			ELLIPSE PROGRAM			ZOOMED PERSPECTIVE	GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
TUV	TUV00000	D	-7.11 177.61	0.94	0.60	137.58	

COUNTRY : TUV Feeder Link and Down Link

Country symbol: **UKR**
Beam Identification: **UKR06300**
Orbital position: **38.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	44.80	34.10	3, 7,11,15,19	Circular	Right	2.32	0.95	177.32	41.01	48.19	31.82
2	0	50.46	37.45									
3	0	49.11	39.34									
4	0	51.24	29.48									
5	0	44.40	34.00									
6	0	48.40	22.10									
7	0	51.53	23.64									
8	0	49.60	40.20									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	45.49	28.16	3, 7,11,15,19	Circular	Left	2.29	0.96	177.78	41.01	48.22	31.74
2	0	49.60	40.20									
3	0	48.40	22.10									
4	0	51.53	23.64									
5	0	52.05	30.98									
6	0	44.40	34.00									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
UKR	UKR06300	U	48.19 31.82	2.32	0.95	177.32	

COUNTRY : UKR Feeder Link

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
UKR	UKR06300	D	48.22	31.74	2.29 0.96	177.78	

COUNTRY : UKR Down Link

Country symbol: **UZB**
Beam Identification: **UZB07100**
Orbital position: **44.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	37.24	67.72	3, 7, 11,15,19	Circular	Right	2.67	0.96	163.32	40.37	41.21	64.01
2	0	40.80	73.10									
3	0	42.22	71.23									
4	0	41.14	61.87									
5	0	41.30	56.00									
6	0	45.00	56.00									
7	0	45.54	58.54									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	37.24	67.72	3, 7,11,15,19	Circular	Left	2.67	0.96	163.32	40.37	41.21	64.01
2	0	40.80	73.10									
3	0	42.22	71.23									
4	0	41.14	61.87									
5	0	41.30	56.00									
6	0	45.00	56.00									
7	0	45.54	58.54									

ITU Digitized World Map.			ELLIPSE PROGRAM	ZOOMED PERSPECTIVE			GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
UZB	UZB07100	D	41.21 64.01	2.67	0.96	163.32	

COUNTRY : UZB Feeder Link and Down Link

Country symbol: **YEM**
Beam Identification: **YEM26600**
Orbital position: **11.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	14.00	44.50	2, 6,10,14,18	Circular	Left	0.77	0.60	104.23	47.78	15.70	44.36
2	0	15.00	45.50									
3	0	17.40	44.16									
4												
5												
6												
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	14.00	44.50	2, 6,10,14,18	Circular	Right	0.80	0.60	114.88	47.66	15.67	44.00
2	0	15.00	45.50									
3	0	15.38	42.56									
4	0	17.21	43.18									
5	0	17.40	44.16									
6												
7												

ITU Digitized World Map.			ELLIPSE PROGRAM	ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES	ORIENTATION	
YEM	YEM26600	U	15.70 44.36	0.77 0.60	104.23	

COUNTRY : **YEM** **Feeder Link** Beam Identification: **YEM26600**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES	ORIENTATION	
YEM	YEM26600	D	15.67	44.00	0.80 0.60	114.88	

COUNTRY : YEM Down Link Beam Identification: **YEM26600**

Country symbol: **YEM**
Beam Identification: **YEM26700**
Orbital position: **11.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (14 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	12.31	53.72	1, 3, 5, 7, 9	Circular	Right	1.68	1.44	157.35	40.61	14.42	48.61
2	0	12.64	43.40									
3	0	13.50	46.50									
4	0	15.00	45.50									
5	0	16.60	52.60									
6	0	18.40	49.50									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	12.64	43.40	1, 5, 9, 13, 17	Circular	Left	1.68	1.44	157.35	40.61	14.42	48.61
2	0	15.00	45.50									
3	0	18.40	49.50									
4	0	16.60	52.60									
5	0	12.31	53.72									
6	0	13.50	46.50									
7												

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
YEM	YEM26700	U	14.42	48.61	1.68	1.44	157.35

COUNTRY : YEM Feeder Link Beam Identification: **YEM26700**

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)	AXES		ORIENTATION	
YEM	YEM26700	D	14.42 48.61	1.68	1.44	157.35	

COUNTRY : YEM Down Link Beam Identification: **YEM26700**

Country symbol: **YUG**
Beam Identification: **YUG14800**
Orbital position: **-7**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude(°) plus for N minus for S	Longitude (°) plus for E minus for W
1	87	45.90	18.80	1, 5, 9, 13,17	Circular	Left	0.91	0.60	145.16	47.07	43.98	20.50
2	80	46.13	20.22									
3	38	44.20	22.70									
4	1000	42.33	22.43									
5	1650	41.80	20.50									
6	2	41.90	19.30									
7	0	42.40	18.50									
8	80	44.85	18.99									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	87	45.90	18.80	21,25,29,33,37	Circular	Right	0.91	0.60	145.16	47.07	43.98	20.50
2	80	46.13	20.22									
3	38	44.20	22.70									
4	1000	42.33	22.43									
5	1650	41.80	20.50									
6	2	41.90	19.30									
7	0	42.40	18.50									
8	80	44.85	18.99									

ITU Digitized World Map.			ELLIPSE PROGRAM		ZOOMED PERSPECTIVE		GRID: 2.0
CTRY	BEAM	LINK	BORESIGHT(LAT/LONG)		AXES		ORIENTATION
YUG	YUG14800	D	43.98	20.50	0.91	0.60	145.16

COUNTRY : YUG Feeder Link and Down Link

Country symbol: **D**
Beam Identification: **D 08700**
Orbital position: **-19.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	52.50	13.20	2, 6,10,14,18	Circular	Right	1.62	0.72	147.0	43.78	49.90	9.60
2	0	53.70	7.00									
3	0	50.74	6.02									
4	0	47.60	7.80									
5	0	48.92	13.63									
6	0	54.75	9.97									
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	52.50	13.20	2, 6,10,14,18	Circular	Left	1.62	0.72	147.0	43.78	49.90	9.60
2	0	53.70	7.00									
3	0	50.74	6.02									
4	0	47.60	7.80									
5	0	48.92	13.63									
6	0	54.75	9.97									
7												

ITU World Reference Map. BSS2D.UD2 BOTH PLATE-CARREE

UP	D	08700	-19.00	9.60	49.90	1.62	.72	147.00
DOWN	D	08700	-19.00	9.60	49.90	1.62	.72	147.00

Scale: 11444406 GRID: 5.0

100 500

Country symbol: **D**
Beam Identification: **D2-21600**
Orbital position: **-1.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	54.60	13.40	21,25,29,33,37	Circular	Right	2.0	2.0	0	38.43	51.80	17.20
2	0	54.00	10.80									
3	0	50.60	9.90									
4	0	48.95	13.60									
5	0	53.30	14.40									
6												
7												

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	54.50	12.50	21,25,29,33,37	Circular	Left	0.83	0.63	172.00	47.26	52.10	12.60
2	0	53.38	14.39									
3	0	51.00	15.00									
4	0	50.50	13.00									
5	0	51.40	9.90									
6	0	54.00	11.00									
7												

ITU World Reference Map. BSS2D.UD2 UP PLATE-CARREE Scale: 27135080 GRID: 5.0

UP D2-21600 -1.00 17.20 51.80 2.00 2.00 .00

100 500 1000

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 6731923 GRID: 1.0

DOWN D2-21600 -1.00 12.60 52.10 .83 .63 172.00

100 500

Country symbol: **RUS**
Beam Identification: **RUSRSA11**
Orbital position: **38.0 ***
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right				38.40		
2	0	59.10	28.00									
3	0	54.44	20.00									
4	0	49.00	40.05									
5	2000	41.40	47.82									
6	0	51.00	55.80									
7	0	54.23	75.77									
8	0	64.10	86.15									
9	0	72.40	78.00									
10	0	67.14	52.04									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Left	3.0	3.0	0	34.90	53.00	38.00
2	0	59.10	28.00									
3	0	54.70	22.00									
4	0	54.40	22.70									
5	0	43.50	41.59									
6	2000	43.50	45.00									
7	0	46.40	48.90									
8	0	51.60	55.00									
9	0	60.00	51.00									
10	0	68.00	50.00									

* Les caractéristiques de ces antennes sont provisoires et ont été établies à partir d'informations fournies par l'Administration de la Fédération de Russie pour une position orbitale de 36° E.
This antenna data is provisional and has been based on information provided by the Rusian Federation Administration for a orbital position of 36° E.
La información relacionada con las características de la antena es provisional y se ha basado en la información suministrada por la Administración de la Federación de Rusia para la posición orbital 36° E.

Country symbol: **RUS**
Beam Identification: **RUSRSA12**
Orbital position: **38.0 ***
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left				38.40		
2	0	59.10	28.00									
3	0	54.44	20.00									
4	0	49.00	40.05									
5	2000	41.40	47.82									
6	0	51.00	55.80									
7	0	54.23	75.77									
8	0	64.10	86.15									
9	0	72.40	78.00									
10	0	67.14	52.04									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Right	3.0	3.0	0	34.90	53.00	38.00
2	0	59.10	28.00									
3	0	54.70	22.00									
4	0	54.40	22.70									
5	0	43.50	41.59									
6	2000	43.50	45.00									
7	0	46.40	48.90									
8	0	51.60	55.00									
9	0	60.00	51.00									
10	0	68.00	50.00									

* Les caractéristiques de ces antennes sont provisoires et ont été établies à partir d'informations fournies par l'Administration de la Fédération de Russie pour une position orbitale de 36° E.
This antenna data is provisional and has been based on information provided by the Rusian Federation Administration for a orbital position of 36° E.
La información relacionada con las características de la antena es provisional y se ha basado en la información suministrada por la Administración de la Federación de Rusia para la posición orbital 36° E.

Satellite Network : RUS*1 Satellite Orbital Position : 38.00 Deg Notifying Administration : RUS Notification Reason : C Polarization discriminator : C Beam Name : COP Emission/Reception Flag : R	Map Type: Full Satellite View GSO View Point: 38.00 Deg Minimum Longitude: -43.31 Deg Maximum Longitude: 119.31 Deg Minimum Latitude: -81.31 Deg Maximum Latitude: 81.31 Deg Longitude/Latitude Spacing: 20/20 Deg

-2.0
-4.0
-6.0
-10.0
-20.0
-30.0
-38.4
Sat.
Bore

*Satellite Network : RUS*1*	*Map Type: Full Satellite View*
Satellite Orbital Position : 38.00 Deg	*GSO View Point: 38.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -43.31 Deg*
Notification Reason : C	*Maximum Longitude: 119.31 Deg*
Polarization discriminator : X	*Minimum Latitude: -81.31 Deg*
Beam Name : COP	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

ITU World Reference Map. ST2A1NA.TXT DOWN PLATE-CARREE Scale: 38644636

DOWN RUSRSA11 38.00 38.00 53.00 3.00 3.00 .00

500 1000

ITU World Reference Map. ST2A1NA.TXT DOWN PLATE-CARREE Scale: 38644636

DOWN RUSRSA12 38.00 38.00 53.00 3.00 3.00 .00

500 1000

Country symbol: **RUS**
Beam Identification: **RUSRSA21**
Orbital position: **56.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right				38.40		
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.00	50.00	25,27,29,31,33, 35,37,39	Circular	Left	3.0	3.0	0	34.90	63.00	65.00
2	0	60.00	51.00									
3	0	51.60	50.00									
4	0	51.00	55.80									
5	0	54.23	75.77									
6	0	64.10	86.15									
7	0	72.40	78.00									
8												
9												
10												

Country symbol: **RUS**
Beam Identification: **RUSRSA22**
Orbital position: **56.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left				38.40		
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.00	50.00	26,28,30,32,34, 36,38,40	Circular	Right	3.0	3.0	0	34.90	63.00	65.00
2	0	60.00	51.00									
3	0	51.60	50.00									
4	0	51.00	55.80									
5	0	54.23	75.77									
6	0	64.10	86.15									
7	0	72.40	78.00									
8												
9												
10												

Satellite Network : RUS2 Satellite Orbital Position : 56.00 Deg Notifying Administration : RUS Notification Reason : C Polarization discriminator : C Beam Name : 2 Emission/Reception Flag : R	Map Type: Full Satellite View GSO View Point: 56.00 Deg Minimum Longitude: -25.31 Deg Maximum Longitude: 137.31 Deg Minimum Latitude: -81.31 Deg Maximum Latitude: 81.31 Deg Longitude/Latitude Spacing: 20/20 Deg

-2.0
-4.0
-6.0
-10.0
-20.0
-30.0
-38.4
Sat.
Bore

Satellite Network : RUS2	*Map Type: Full Satellite View*
Satellite Orbital Position : 56.00 Deg	*GSO View Point: 56.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -25.31 Deg*
Notification Reason : C	*Maximum Longitude: 137.31 Deg*
Polarization discriminator : X	*Minimum Latitude: -81.31 Deg*
Beam Name : 2	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-8.4
Sat.
Bore

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 31377010 GRID:10.0

DOWN RUSRSA21 56.00 65.00 63.00 3.00 3.00 .00

100 500 1000

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 31377010 GRID:10.0

DOWN RUSRSA22 56.00 65.00 63.00 3.00 3.00 .00

100 500 1000

Country symbol: **RUS**
Beam Identification: **RUSRSA31**
Orbital position: **86.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	25,27,29,31,33, 35,37,39	Circular	Right				38.40		
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	25,27,29,31,33, 35,37,39	Circular	Left	3.0	3.0	0	34.90	62.00	97.00
2	0	60.88	77.00									
3	0	54.00	79.50									
4	3000	49.22	87.30									
5	2000	51.00	104.00									
6	1000	59.00	114.50									
7	0	73.00	110.00									
8	0	73.28	96.00									
9												
10												

Country symbol: **RUS**
Beam Identification: **RUSRSA32**
Orbital position: **86.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	68.92	29.00	26,28,30,32,34, 36,38,40	Circular	Left				38.40		
2	0	54.44	20.00									
3	0	49.00	40.05									
4	2000	41.40	47.82									
5	0	51.00	55.80									
6	0	54.23	75.77									
7	3000	49.22	87.30									
8	2000	50.60	107.50									
9	1000	59.00	116.00									
10	0	71.20	112.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	26,28,30,32,34, 36,38,40	Circular	Right	3.0	3.0	0	34.90	62.00	97.00
2	0	60.88	77.00									
3	0	54.00	79.50									
4	3000	49.22	87.30									
5	2000	51.00	104.00									
6	1000	59.00	114.50									
7	0	73.00	110.00									
8	0	73.28	96.00									
9												
10												

Satellite Network : RUS3	*Map Type: Full Satellite View*
Satellite Orbital Position : 86.00 Deg	*GSO View Point: 86.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: 4.69 Deg*
Notification Reason : C	*Maximum Longitude: 167.31 Deg*
Polarization discriminator : C	*Minimum Latitude: -81.31 Deg*
Beam Name : 3	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-10.0
-20.0
-30.0
-38.4
Sat.
Bore

Satellite Network : RUS3	*Map Type: Full Satellite View*
Satellite Orbital Position : 86.00 Deg	*GSO View Point: 86.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: 4.69 Deg*
Notification Reason : C	*Maximum Longitude: 167.31 Deg*
Polarization discriminator : X	*Minimum Latitude: -81.31 Deg*
Beam Name : 3	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-8.4
Sat.
Bore

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 31960810 GRID:10.0

DOWN RUSRSA31 86.00 97.00 62.00 3.00 3.00 .00

100 500 1000

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 31960810 GRID:10.0

DOWN RUSRSA32 86.00 97.00 62.00 3.00 3.00 .00

100 500 1000

Country symbol: **RUS**
Beam Identification: **RUSRSA41**
Orbital position: **110.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	25,27,29,31,33, 35,37,39	Circular	Right				38.40		
2	0	60.88	77.00									
3	3000	49.22	87.30									
4	2000	51.00	104.00									
5	0	42.42	130.62									
6	0	43.93	145.56									
7	0	54.50	168.08									
8	0	62.68	179.50									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	71.20	112.00	25,27,29,31,33, 35,37,39	Circular	Left	3.0	3.0	0	34.90	57.00	127.00
2	500	63.50	108.00									
3	0	48.05	130.70									
4	1000	63.85	145.64									
5	0	68.00	158.20									
6	0	73.29	128.00									
7												

Country symbol: **RUS**
Beam Identification: **RUSRSA42**
Orbital position: **110.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	72.40	78.00	26,28,30,32,34, 36,38,40	Circular	Left				38.40		
2	0	60.88	77.00									
3	3000	49.22	87.30									
4	2000	51.00	104.00									
5	0	42.42	130.62									
6	0	43.93	145.56									
7	0	54.50	168.08									
8	0	62.68	179.50									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	71.20	112.00	26,28,30,32,34, 36,38,40	Circular	Right	3.0	3.0	0	34.90	57.00	127.00
2	500	63.50	108.00									
3	0	48.05	130.70									
4	1000	63.85	145.64									
5	0	68.00	158.20									
6	0	73.29	128.00									
7												

Satellite Network : RUS4	*Map Type: Full Satellite View*
Satellite Orbital Position : 110.00 Deg	*GSO View Point: 110.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -168.69 Deg*
Notification Reason : C	*Maximum Longitude: 28.69 Deg*
Polarization discriminator : C	*Minimum Latitude: -81.31 Deg*
Beam Name : 4	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-10.0
-20.0
-30.0
-38.4
Sat.
Bore

Satellite Network : RUS4	*Map Type: Full Satellite View*
Satellite Orbital Position : 110.00 Deg	*GSO View Point: 110.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -168.69 Deg*
Notification Reason : C	*Maximum Longitude: 28.69 Deg*
Polarization discriminator : X	*Minimum Latitude: -81.31 Deg*
Beam Name : 4	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-8.4
Sat.
Bore

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 34948864 GRID:10.0

DOWN RUSRSA41 110.00 127.00 57.00 3.00 3.00 .00

500 1000

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 34948864 GRID:10.0

DOWN RUSRSA42 110.00 127.00 57.00 3.00 3.00 .00

500 1000

Country symbol: **RUS**
Beam Identification: **RUSRSA51**
Orbital position: **140.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	60.88	77.00	25,27,29,31,33, 35,37,39	Circular	Right				38.40		
2	3000	49.22	87.30									
3	2000	50.60	107.50									
4	0	42.42	130.62									
5	0	43.93	145.56									
6	0	54.50	168.08									
7	0	62.68	179.50									
8	0	66.10	-170.00									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	1000	63.85	145.64	25,27,29,31,33, 35,37,39	Circular	Left	3.0	3.0	0	34.90	55.00	156.00
2	0	43.93	145.56									
3	0	46.85	151.86									
4	0	50.77	156.02									
5	0	54.50	168.08									
6	0	62.68	179.50									
7	0	66.10	-170.00									
8	0	70.01	168.31									
9	0	69.62	162.46									
10	0	46.02	143.42									

Country symbol: **RUS**
Beam Identification: **RUSRSA52**
Orbital position: **140.0**
(plus for E, minus for W)

Test Point No.	Alt. (mts.)	Feeder Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels (17 GHz)	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	0	60.88	77.00	26,28,30,32,34, 36,38,40	Circular	Left				38.40		
2	3000	49.22	87.30									
3	2000	50.60	107.50									
4	0	42.42	130.62									
5	0	43.93	145.56									
6	0	54.50	168.08									
7	0	62.68	179.50									
8	0	66.10	-170.00									
9	0	69.62	162.46									
10	0	73.29	128.00									

Test Point No.	Alt. (mts.)	Down Link			Polarization		Ellipse parameters					
											Beam Boresight	
		Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W	Channels	Type	Sense	Major Axis (°)	Minor Axis (°)	Orientation (°)	Maximum Antenna Gain (dB)	Latitude (°) plus for N minus for S	Longitude (°) plus for E minus for W
1	1000	63.85	145.64	26,28,30,32,34, 36,38,40	Circular	Right	3.0	3.0	0	34.90	55.00	156.00
2	0	43.93	145.56									
3	0	46.85	151.86									
4	0	50.77	156.02									
5	0	54.50	168.08									
6	0	62.68	179.50									
7	0	66.10	-170.00									
8	0	70.01	168.31									
9	0	69.62	162.46									
10	0	46.02	143.42									

Satellite Network : RUS5	*Map Type: Full Satellite View*
Satellite Orbital Position : 140.00 Deg	*GSO View Point: 140.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -138.69 Deg*
Notification Reason : C	*Maximum Longitude: 58.69 Deg*
Polarization discriminator : C	*Minimum Latitude: -81.31 Deg*
Beam Name : 5	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

-2.0
-4.0
-6.0
-10.0
-20.0
-30.0
-38.4
Sat.
Bore

Satellite Network : RUS5	*Map Type: Full Satellite View*
Satellite Orbital Position : 140.00 Deg	*GSO View Point: 140.00 Deg*
Notifying Administration : RUS	*Minimum Longitude: -138.69 Deg*
Notification Reason : C	*Maximum Longitude: 58.69 Deg*
Polarization discriminator : X	*Minimum Latitude: -81.31 Deg*
Beam Name : 5	*Maximum Latitude: 81.31 Deg*
Emission/Reception Flag : R	*Longitude/Latitude Spacing: 20/20 Deg*

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 35272424 GRID:10.0

DOWN RUSRSA51 140.00 156.00 55.00 3.00 3.00 .00

500 1000

ITU World Reference Map. BSS2D.UD2 DOWN PLATE-CARREE Scale: 35272424 GRID:10.0

DOWN RUSRSA52 140.00 156.00 55.00 3.00 3.00 .00

500 1000

*** **L'Administration russe a indiqué ce qui suit:**
The Russian Administration has indicated:
La Administración rusa ha indicado lo siguiente:

1. Pour desservir le territoire russe, il est proposé de conserver le même nombre de positions sur l'OSG que celui prévu par la CAMR-77, à savoir cinq. Les positions 36°E, 56°E, 86°E, 110°E et 140°E seraient préférables.

   To serve the Russian territory it is proposed to maintain the same number of GSO positions which was provided for in the WARC-77 Plan, namely, five. Positions 36°E, 56°E, 86°E, 110°E, and 140°E would be preferable.

   Para dar servicio al territorio ruso se propone mantener el mismo número de posiciones de órbita de los satélites geoestacionarios que se estableció en el Plan de la CMR-77, esto es, cinco. Las posiciones preferibles serían las de 36°E, 56°E, 86°E, 110°E, y 140°E.

2. Sur chaque position orbitale, il est prévu d'utiliser un même modèle d'engin spatial ayant les caractéristiques principales suivantes:
   In each orbital position it is planned to use unified spacecraft with the same major parameters:
   En cada posición orbital está previsto utilizar satélites unificados con los mismos parámetros principales:

   - diagramme d'antenne de satellite à -3 dB
     -3 dB satellite antenna pattern:
     diagrama de antena de satélite a -3 dB

   - pour l'antenne d'émission :
     for transmit antenna : 3.0°
     para antena de transmisión :

   - pour l'antenne de réception :
     for receive antenna : 2.0°
     para antena de recepción :

   - p.i.r.e max. :
     max e.i.r.p. : 55.0 dBW
     p.i.r.e máx :

   - canaux utilisés : de 25 à 40 dans les Plans de la CAMR-77 et de la CAMR-88
     frequency channels used: from 25 to 40 in WARC-77 and WARC-88 Plans
     canales de frecuencias utilizados : de 25 a 40 en los Planes de la CAMR-77 y la CAMR-88

   - nombre de canaux : au moins 16
     number of frequency channels : no less than 16
     número de canales de frecuencias : no menos de 16

La couverture requise du territoire russe avec des faisceaux tels que définis au point 2 est assurée à partir des positions orbitales décrites au point 1 avec les coordonnées des points de visée des antennes d'émission de satellite suivantes:

The required coverage of the Russian territory with beams as defined in item 2 is provided from the orbital positions described in item 1 with the following coordinates of satellite transmit antenna boresights:

La cobertura requerida del territorio ruso con los haces definidos en el punto 2 se obtiene a partir de las posiciones orbitales descritas en el punto 1 con las siguientes coordenadas de los ejes de punteria de las antenas de transmisión de los satélites:

Position orbitale Orbital position Posición orbital (grados)	Longitude Longitude Longitud (grados)	Latitude Latitude Latitud (grados)
36° E	38.0	53.0
56° E	65.0	63.0
86° E	97.0	62.0
110° E	127.0	57.0
140° E	156.0	55.0

Pour la liaison descendante, la zone hydrométéorologique conforme à l'annexe 5 de l'appendice 30 est également indiquée.
For dowlink the Rain Climatic Zone in accordance with Annex 5 of Appendix 30 is also shown.
Para el enlace descendente se muestra también la zona hidrometeorológica de acuerdo con el anexo 5 del apéndice 30.

L'Administration russe propose d'utiliser des antennes de réception de station spatiale avec faisceau orientable, la zone de service étant déterminée par les points de mesure pour la liaison montante.

The Russian Administration proposes to use space station receiving antennas with a steerable beam, the service area of which is determined by the test points for the uplink.

La Administración rusa propone utilizar las antenas de recepción de las estaciones espaciales con un haz orientable, cuya zona de servicio viene determinada por los puntos de prueba para el enlace ascendente.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 5

FIRST REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1 Working Group 5A has held four meetings since the last meeting of Committee 5.

2 The terms of reference for Working Group 5A are as agreed in DT/6.

3 The list of contributions considered by the Working Group can be found in DT/1, DT/4 and DT/17.

4 The attached proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

5 The next meeting of Working Group 5A is scheduled for Monday, 3 November to follow the meeting of Committee 5.

R. TAYLOR
Chairman, Working Group 5A

1

MOD S5.391 In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, administrations shall not introduce high density mobile systems, as described in Recommendation ITU-R **SA.1154,** and shall take this Recommendation into account ~~Resolution **211 (WARC-92)**~~for the introduction of any other type of mobile system.

2

ARTICLE S5

MOD

MHz
400.15 – 410

Allocation to Services		
Region 1	Region 2	Region 3
401 - 402	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile	
402 - 403	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile	

[3

ARTICLE S5

MOD

MHz
890 – 1 240

Allocation to Services		
Region 1	Region 2	Region 3
1 215 – 1 240	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) S5.330 S5.331 ~~[S5.333]~~ADD S5.332	

MOD

MHz
1 240 – 1 452

Allocation to Services		
Region 1	Region 2	Region 3
1 240 – 1 260	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur S5.330 S5.331 ADD S5.332 ~~[S5.333]~~ S5.334 ADD S5.335	
1 260 – 1 300	RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur S5.282 S5.330 S5.331 ADD S5.332 ~~[S5.333]~~ S5.334 ADD S5.335	

ADD S5.332 In the band 1 215 - 1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service or the radionavigation-satellite service.]

ADD S5.335 In the United States in the band 1 240 - 1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service.

4

ARTICLE S5

MOD

MHz
4 500 – 5 470

Allocation to Services		
Region 1	Region 2	Region 3
5 250 – ~~5 255~~5 350	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) ~~Space Research~~ ~~[S5.333] S5.448~~ S5.448A	
~~**5 255 – 5 350**~~	~~RADIOLOCATION~~ ~~[S5.333] S5.448~~ S5.448A	

ADD S5.448A Spaceborne active sensors operating in the band 5 250 - 5 350 MHz shall not constrain the future development and deployment of the radiolocation service.

5

ARTICLE S5

MOD

MHz
4 500 – 5 470

Allocation to Services		
Region 1	Region 2	Region 3
5 350 – 5 460	AERONAUTICAL RADIONAVIGATION S5.449 EARTH EXPLORATION-SATELLITE (active) ADD S5.448A Radiolocation	

ADD S5.448A Stations of the earth exploration-satellite service shall not cause harmful interference to, nor constrain the development of, the aeronautical radionavigation service in the band 5 350 - 5 460 MHz.

6

ARTICLE S5

MOD

MHz
8 175 – 8 750

Allocation to Services		
Region 1	Region 2	Region 3
8 500 – ~~8 750~~8 550	RADIOLOCATION ~~[S5.333]~~ S5.468 S5.469	
~~8 500 – 8 750~~8 550 – 8 650	RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) ~~[S5.333]~~ S5.463A S5.468 S5.469	
~~8 500~~8 650 – 8 750	RADIOLOCATION ~~[S5.333]~~ S5.468 S5.469	

ADD S5.463A In the band 8 550 - 8 650 MHz, the stations of the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to stations of the radiolocation services nor constrain their use and development.

7

ARTICLE S5

MOD

MHz
8 750 – 10 000

Allocation to Services		
Region 1	Region 2	Region 3
9 500 – 9 800	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) ~~[S5.333]~~ S5.476A	

ADD S5.476A In the band 9 500 - 9 800 MHz, the stations of the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to stations of the radionavigation and radiolocation services nor constrain their use and development.

8 Working Group 5A adopted Resolution [COM5-1] (WRC-97) which is attached, concerning agenda items that could be considered within this Working Group due to the incomplete status of preparatory studies.

9 Note from the Chairman of Working Group 5C, Drafting Group 3

9.1 The following bands were identified by TG 8/2 and accepted by CPM-97 without objection:

40 - 80 MHz

440 - 450 with special concern for space operation service No. S5.286

904 - 928 in Region 2 only

1 235 - 1 241 with special concern to RNSS (GLONAS and GPS L2 frequency)

1 270 - 1 295

1 300 - 1 375

9.2 There have been no proposals for the entire band 40 - 80 MHz, but CEPT countries have proposed the narrower band 46 - 68 MHz.

As the band 46 - 68 MHz is *not* allocated to the radiolocation service, and as wind profiler radars have been determined to be in the radiolocation service, a footnote allocation must be made to permit such operation.

The footnote could be worded as follows:

ADD S5.162A *Additional allocation:* The band 46 - 68 MHz is also allocated to the radiolocation service on a secondary basis. The use is limited to the operation of wind profiler radars.

It is not necessary to add cautions concerning avoidance of interference to other services because the allocation would be on a "secondary basis".

Several delegates have said they do not want wind profiler radars in this band or any television broadcasting band. Note that this is a domestic decision. If a country does not want wind profilers in this band its administration need not apply the footnote in their domestic allocations. In any event, the administration is in full control of its assignments and can disapprove any licence applications for wind profiler radars in its territory.

9.3 The band 440 - 450 MHz is already allocated to the radiolocation service on a secondary basis. As wind profiler radars operate in the radiolocation service, there is no necessity for a footnote permitting it. In fact, permissive footnotes were discontinued upon the recommendation of the VGE.

Nevertheless, it is worthwhile letting administrations and other readers of the Radio Regulations know that the band 440 - 450 MHz has been studied by the ITU-R and found to be suitable for wind profiler operation. That appears to be best done by noting that in a recommendation.

Again, if a country does not want any wind profiler radars in this band, it has the option of not implementing them.

9.4 Germany has proposed a country footnote to allocate the band 470 - 495 MHz to the radiolocation service on a secondary basis. (The band is not presently allocated to the radiolocation service but to broadcasting. Tests conducted in Germany and found technically valid by the Task Group showed that a wind profiler could operate at a frequency of 482 MHz and not interfere with TV reception provided sufficient separation distance.)

In Working Group 5C, at the urging of other administrations, the delegate of Germany amended that proposal to the band 470 - 494 MHz in order to make the upper boundary coincide with the top of European TV channel.

The Drafting Group should consider whether to recommend the approval of this country footnote.

9.5 The band 904 - 928 MHz has been studied by the ITU-R and found to be suitable for use by wind profiler radars but only in Region 2. The band is not allocated to the radiolocation service in Regions 1 and 3.

As it is already allocated to the radiolocation service in Region 2 on a secondary basis, no footnote allocation is needed. As in the case of the band 440 - 450 MHz, identification in a Recommendation would be desirable.

9.6 The band 1 238 - 1 241 MHz was studied by the ITU-R and identified as a candidate principally because one administration at the time of the studies had no other options for a band around 1 GHz, although there were concerns about interference to GNSS receivers. At CPM-97, the administration mentioned the possibility of withdrawing it from consideration. Subsequently, no proposal for this band has been received from any administration and the band need no longer be considered.

9.7 The band 1 270 - 1 295 MHz was recommended by the Task Group and CPM-97. It was the result of the Task Group's analysis of the entire band 1 215 - 1 300 MHz, which is allocated to the radiolocation service on a primary basis.

As the band is already allocated to the radiolocation service, no allocation footnote is needed. The band should be listed in a recommendation.

Note also that the band is also allocated on a primary basis to the radionavigation-satellite (space-to-Earth) service with footnote S5.329 (on the condition that no harmful interference is caused to the radionavigation services authorized under No. S5.331).

The Task Group found that the band 1 270 - 1 295 MHz was the part of the band 1 215 - 1 300 MHz causing the fewest incompatibilities with other services in the band. This is not a perfect solution but determined by the Task Group to be the best choice.

The lingering problem is that wind profilers operating in the band 1 270 - 1 295 MHz could cause interference to some synthetic aperture radars (SARs) operating in the EESS (active), now secondary but under consideration by this WRC for upgrade to primary. Such interference can be mitigated by signal processing techniques in the analysis of results of SAR operations.

The operation of wind profiler radar in the band 1 270 - 1 295 MHz should be tempered by the information that conventional terrestrial radars operate at much higher e.i.r.p.s than those for wind profilers. Wind profiler antennas are directed upward (straight upward or a slight tilt); their side lobes are greatly attenuated. Conventional high-power radars designed to detect aircraft may have vertical radiation patterns with main lobes from the horizon to zenith. The conclusion of the studies was that the potential of wind profiler radar interfering with SARs is lower than existing conventional terrestrial radars.

9.8 The band 1 300 - 1 375 MHz has been proposed by Japan. The band has been studied by the ITU-R and found suitable for wind profiler radar operation as an alternative to the band 1 270 - 1 295 MHz.

The band 1 300 - 1 350 MHz is already allocated to the radiolocation service on a secondary basis, while the band 1 350 - 1 375 MHz is allocated on a primary basis. Thus, no footnote is necessary. It would be desirable to note the band in a recommendation.

9.9 A replacement for Recommendation 621 (WARC-92) is necessary. It should have three main functions:

a) to recommend against use of bands around 404 MHz to eliminate interference to COSPAS-SARSAT;

b) to identify the bands recommended for wind profiler radar operation;

c) to recommend that wind profiler operations should be in accordance with Recommendations ITU-R M.1226, ITU-R M.1085-1 or ITU-R M.1227 for the bands around 50 MHz, 400MHz or 1 000 MHz respectively.

The replacements for Recommendation 621 proposed by Canada and the United States could be used as a basis of a modified recommendation.

RESOLUTION [COM5-1] (WRC-97)

CONSIDERATION BY A FUTURE COMPETENT WORLD RADIOCOMMUNICATION CONFERENCE OF ISSUES DEALING WITH ALLOCATIONS TO SCIENCE SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that WRC-97 recognized the importance of proper consideration of science service issues based on technical and operational criteria developed in ITU-R study groups;

b) that circumstances did not enable the completion of all necessary studies relating to a number of science proposals;

c) that a deficiency in telecommand (uplink) frequency allocations exists, compared to available telemetry (downlink) allocations in the 100 MHz to 1 GHz range;

d) that additional frequency bands above 71 GHz are needed to satisfy user requirements for passive sensing of the Earth's environmental conditions,

resolves

that, based on proposals from administrations and taking into account the results of studies in ITU-R study groups and the Conference Preparatory Meeting (CPM-99), the 1999 World Radiocommunication Conference should consider the following matters:

1) provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operations services in the frequency range 100 MHz to 1 GHz;

2) allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive) and space research (passive) services and the radio astronomy service,

invites ITU-R study groups

to complete the necessary studies, as a matter of urgency, taking into account the present use of allocated bands, with a view to presenting, at the appropriate time, the technical information likely to be required as a basis for the work of the Conference,

instructs the Secretary-General

to bring this Resolution to the attention of the international and regional organizations concerned.

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COMMITTEE 5

NOTE FROM CHAIRMAN OF WG 5A TO CHAIRMAN OF C5

Working Group 5A could not decide on the following agenda items due to the incomplete nature of ITU-R studies required to ensure proper consideration.

– Agenda item 1.9.2, Resolution 712 (Rev.WRC-95), *resolves* 1 concerning provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operation services in the frequency range 100 MHz to 1 GHz.

– Agenda item 1.9.4.1, allocation of frequency bands above 50 GHz to the earth exploration-satellite (passive) service.

The Working Group recognized that this Conference may well act to address the earth exploration-satellite (passive) service requirements between 50.2 and 71 GHz, and requests that Committee 5 forward to GT Plen 1 a request for the following items to be added to the draft agenda of items for consideration by WRC-99:

1) provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operation services in the frequency range 100 MHz to 1 GHz;

2) allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive), space research (passive) and radio astronomy services.

R. TAYLOR
Chairman of Working Group 5A

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COMMITTEE 4

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 4

(REGULATORY AND ASSOCIATED ISSUES)

Wednesday, 29 October 1997, at 1430 hours

Chairman: Mr. E. GEORGE (Germany)

Subjects discussed		**Documents**
1	Consideration of draft Resolution [IRN-1] relating to the entry into force of the simplified Radio Regulations	44
2	Oral reports by the Working Group Chairmen	-
3	Note by the Chairman of Committee 3	111
4	Sponsorship of proposals for the work of the Conference	-
5	Allocation of Documents 5 and 62	-

1 Consideration of draft Resolution [IRN-1] relating to the entry into force of the simplified Radio Regulations (Document 44)

1.1 The **Chairman** invited the Committee to consider draft resolution [IRN-1] contained in Annex 1 to Document 44, submitted by the Islamic Republic of Iran (proposal IRN/44/33).

1.2 The **delegate of the Islamic Republic of Iran**, introducing the draft resolution, recalled that the Voluntary Group of Experts (VGE) had provided WRC-95 with a report setting out a suggested simplification of the Radio Regulations. In its report, the VGE had sought to achieve a fair and balanced transformation of the Radio Regulations into a new simplified form. The report had been substantially modified during the course of WRC-95, although lack of time had prevented a thorough examination of the implications of those modifications. Since WRC-95, further changes had been suggested. He drew attention, in particular, to the close linkage between Article **S9** concerning coordination procedures and Article **S11** concerning notification, and the fact that amendment of one of those articles could have direct or indirect repercussions on the effect of the other. While not opposing the changes made to the revised Radio Regulations, he sought to postpone entry into force from 1 June 1998 to after WRC-99 in order to allow further in-depth study of the implications of those changes by an intersessional group of experts, which should submit a report to WRC-99.

1.3 The **delegate of Morocco** supported the draft resolution, perhaps not in its entirety but certainly in its spirit and purpose. His delegation had participated actively in the work on simplification of the Radio Regulations. It was possible, however, that the process had gone too far, as many countries, including Morocco, had experienced difficulties in implementing the new regulations. In addition, modifications had been considered at different stages - by the VGE, at WRC-95 and by the CPM - which had compounded the difficulty experienced by some countries in identifying the provenance of modified provisions. More time was thus required to consider the content of the revised Radio Regulations, and it would be appropriate to form a group of experts for that purpose. Decisions on whether specific provisions should enter into force on 1 June 1998 could be taken on a case-by-case basis but he advocated strongly that Articles **S8**, **S9** and **S11** should not enter into force prior to 1999.

1.4 The **delegate of Luxembourg** recalled that the simplification of the Radio Regulations had already been studied by the VGE and examined at WRC-95. Because of the number of changes introduced at WRC-95, it had been agreed to allow additional time to study the revised Regulations and to defer their date of entry into force until after WRC-97. Item 1.2 of the Conference agenda did refer to some additional changes, but they would be far fewer than had been put forward at WRC-95. It would be safe to assume, therefore, that the revised Radio Regulations were close to being acceptable to all. Recognizing that there would remain some areas where decisions were unclear, the European countries had proposed that the agendas of future World Radiocommunication Conferences should include a standing item: to make any necessary changes to the simplified Radio Regulations and associated appendices as a result of any problems reported by the Radio Regulations Board as a part of updating its Rules of Procedure. Such an item would allow future conferences to correct any deficiencies identified by the Board. To defer entry into force for a further two years would create uncertainty, and he therefore proposed that the planned date of 1 June 1998 should be maintained.

1.5 The **delegate of the United Kingdom** supported the comments made by the delegate of Luxembourg: it was important to make progress on the matter. Some items had been deferred from WRC-95 in order to ensure that consistency was maintained throughout the Regulations. The work

done since CPM-97 should allow discussion on those items to be brought to a conclusion at the present Conference. He opposed the draft resolution put forward by the Islamic Republic of Iran.

1.6 The **delegate of Saudi Arabia** supported the draft resolution submitted by the Islamic Republic of Iran and the views expressed by the delegate of Morocco. He recalled that certain amendments, which would have been of substantial advantage of a number of countries, had been rejected at WRC-95 following a formal vote. The entry into force of the revised Regulations should therefore be approached with caution.

1.7 The **delegate of France** supported the views expressed by the delegates of Luxembourg and the United Kingdom: acceptance of the proposal by the Islamic Republic of Iran might lead to the indefinite postponement of a decision on the date of entry into force. Since the setting up of the VGE eight years previously, a great deal of work had been done on simplification of the Radio Regulations. The present Conference was close to reaching agreement on the subject and few new proposals differed from those originally put forward. It was time for a decision to be made. Referring to the comment by the delegate of Saudi Arabia, he agreed that it had been unfortunate that WRC-95 had been obliged to resort to a vote to decide on an amendment concerning the status of assignments. However, debate had not come to an end, and proposals to amend Article **S8.3** had been submitted to the Conference for consideration. The European proposal for a standing agenda item would allow any problem arising from the entry into force of the revised Radio Regulations to be examined at future conferences.

1.8 The **delegates of Australia, New Zealand, Japan, Sweden, Brazil, Germany, the Netherlands, Portugal, the Republic of Korea, Italy, Ukraine, Mexico, Finland, Malta, Denmark** and **Malaysia** supported the delegate of Luxembourg's view that the date of entry into force of the revised Radio Regulations should not be postponed.

1.9 The **delegate of the United States** did not foresee a need for further study of Chapter **SIII** of the Radio Regulations. However, he saw no difficulty in deferring the date of entry into force indicated in Article **S59** of the Radio Regulations.

1.10 The **delegate of Russia** said that it was necessary to base ITU's work on a document that reflected the current reality of telecommunications in the world. Although the revised Radio Regulations required fine-tuning, that was no reason for postponing their date of entry into force. Perfect Radio Regulations were an impossibility and future conferences could always make any changes that were necessary. He considered that the revised Radio Regulations should be adopted at the present Conference.

1.11 The **delegate of Canada** said that, despite a certain sympathy for the Iranian position, he was not in favour of deferring entry into force. The proposal to establish a mechanism to deal with anomalies or inconsistencies should, however, be given further consideration. That view was shared by the **delegates of Indonesia, Qatar** and **Morocco** who were in favour of setting up a group of experts for the purpose. The **delegate of the United Kingdom** said that he would prefer a regular review at each World Radiocommunication Conference.

1.12 The **delegates of Indonesia, Qatar, Syria, Kuwait, Jordan, Lebanon, Morocco** and **Algeria** all expressed support for the Iranian draft resolution.

1.13 The **delegate of Algeria** pointed out that some countries with limited resources faced great difficulty in training personnel to deal with the revised Radio Regulations, and recalled that it had taken years to train staff to handle the former Radio Regulations. The postponement of the date of entry into force was therefore required in order to smooth out such implementation difficulties and harmonize the work. Similar implementation problems were described by the **delegate of Jordan**.

1.14 The **delegate of Morocco** said that the discussion reflected a clear division between the developed countries which supported the revised Radio Regulations and a group of developing countries which advocated greater caution in reviewing their effects. He gave two examples illustrating his reasons for supporting the Iranian proposal. First, draft Article **S8** proposed by the VGE to ensure that the Radio Regulations would contain a clear definition of the status of assignments recorded in the Master Register or appearing in a plan, and that those assignments would be recognized as benefiting from international protection, had not been approved by WRC-95. Through pressure of time and an unfortunate vote, provision **S8.2** affording the said international protection had been suppressed. Similarly, the VGE's proposal to retain former No. 1218 of the Radio Regulations in a different form, thereby ensuring the right to international protection by developing countries in their use of selected frequencies in the HF band, had been suppressed at WRC-95. Secondly, under No. 1001 of the Radio Regulations, the Rules of Procedure of the RRB were open to comment by administrations, while Resolution 35 provided for a review of all relevant findings in the event of disagreement by an administration over the substantive contents of the Technical Standards or Rules of Procedure, and for the Board to take consequential action following a decision by a conference. Nevertheless, the decision taken by WRC-95 regarding No. 2674 of the Radio Regulations had not been applied retroactively: the assignments recorded before 18 November 1995 continued to benefit from the previous findings of the Board. There were many other items of a similar nature which had the result of changing drastically the effect of the Radio Regulations. The implications of those modifications were not yet known. A number of amendments had been proposed by the Arab countries in Document 76, but he considered that the Iranian proposal was more appropriate.

1.15 The **Vice-Chairman of the Radio Regulations Board**, clarifying the Board's action concerning No. 2674 of the Radio Regulations, said that WRC-95 had not categorized the Board's earlier application of the provision as erroneous but had produced a different formulation, which had been fully applied by the BR and was reflected in the new Rules of Procedure adopted by the RRB following WRC-95.

1.16 The **delegate of Luxembourg** said that the decision by WRC-95 concerning provision **S8.2** should not prevent acceptance of 1 June 1998 as the date of entry into force. Moreover, Article **S14** retained the essence of former provision, in a simplified form, allowing for a review of findings as a result of decisions taken by a conference.

1.17 The **delegate of France** saw no justification for establishing a group of experts.

1.18 The **Chairman** reminded the Committee that there would be an opportunity to discuss specific provisions in the respective working groups. However, as a clear majority of those who had taken the floor had spoken against the Iranian draft resolution, he would be obliged to rule that the working groups of Committee 4 should base their deliberations on the date of entry into force of the revised Radio Regulations as decided by WRC-95, namely 1 June 1998.

1.19 The **delegate of the Islamic Republic of Iran** requested that draft Resolution [IRN-1] be considered in the Plenary Meeting. It had been recognized by many speakers that inconsistencies resulting from WRC-95 decisions still existed, and that there might be others in connection with Appendices 30 and 30A. He stressed that more time was needed for analysis.

1.20 The **Chairman** said that he would include the request from the delegate of the Islamic Republic of Iran in his report to the Chairman of the Conference, who would take appropriate action.

1.21 The **delegate of Syria** said that, as many delegates had not yet taken the floor, he supported the proposal to refer the matter to the Plenary.

1.22 The **delegate of Morocco** said that, as the working groups would have to continue their work on the basis of the Chairman's ruling, he reserved the right to raise the matter again in the Plenary Meeting. He requested the Chairman to indicate to Working Group 4A that consideration of the Radio Regulations should be on the basis of the VGE Report, introducing any modification to that report that the present Conference might consider appropriate.

2 Oral reports by the Working Group Chairmen

2.1 The **Chairman of Working Group 4A** said that one meeting had been held so far, during which all relevant documents had been introduced. At its next meeting Working Group 4A would continue consideration of those documents on the basis of discussions held in Committee 4.

2.2 The **Chairman of Working Group 4B** said that at its first meeting the Working Group had begun consideration of three topics, namely Appendix **S18**, Appendix **S13** and coordination procedures for NAVTEX. A drafting group had been set up to resolve problems encountered with regard to the latter. The main obstacle to progress was the fact that not all documentation was available in the different working languages, and there seemed to be little opportunity for working group meetings. The Working Group would nonetheless endeavour to do its best under the circumstances.

2.3 The **Chairman of Working Group 4C** said that, at its first meeting, Working Group 4C had divided its work into several main subject areas: Article **S12** and related information; the bringing forward of the date of the use of the extension bands decided by WARC-92; the use of single-sideband (SSB) and other modulation techniques; and consideration of resolutions and recommendations relating to HF broadcasting in connection with agenda item 1.4. About half of the proposals on Article **S12** had already been introduced and there seemed to be considerable support for the procedure outlined in the CPM Report. Proposed amendments to the article would probably be discussed in detail at the forthcoming meeting. In general, work on Article **S12** had been greatly facilitated by the collective proposals submitted by groups of countries.

2.4 The **Chairman of Working Group 4D** said that, in the two meetings held, all documentation on regulatory/procedural issues and planning had been introduced. Decisions would need to be taken without further delay on plans and the criteria to be used in them and on the different approaches to the regulatory/procedural issues under consideration. Discussion would continue on the proposal made at the last meeting for a new plan for some countries by 1999 based on a bandwidth of around 400 MHz.

2.5 The **delegate of Morocco** pointed out that the proposal in question did not apply to some countries, but to all countries in Regions 1 and 3.

2.6 The **Chairman** said that the work of Working Group 4D was especially difficult. If, in order to expedite its work, the Group needed any matter to be taken up at committee level, it should not hesitate to request Committee 4 to convene a meeting for that purpose.

3 Note by the Chairman of Committee 3 (Document 111)

3.1 The **Chairman** introduced Document 111, which contained a note by Chairman of Committee 3 on the need to inform that committee promptly of any decisions that might give rise to

post-conference work and thus have financial implications. He drew particular attention to the very limited budgetary provision authorized by the 1997 session of the Council for post-conference work.

3.2 Document 111 was **noted**.

4 Sponsorship of proposals for the work of the Conference

4.1 Following a request by the **delegate of Algeria** for his country's name to be added to the list of sponsors of the proposals contained in Document 76, the **Secretary** explained the standard procedure in this regard. Delegations wishing to sponsor proposals should submit a signed copy of the relevant document to the Documents Control Office.

4.2 The **Chairman** said that proposals could be sponsored at any juncture of the Conference, in accordance with that procedure.

5 Allocation of Documents 5 and 62

5.1 The **Chairman** said that, following informal discussions with the Chairman of the Conference, a compromise had been reached on the allocation of Documents 5 and 62. It had been agreed that the review of Resolution 506 as well as issues relating to the protection of Appendices 30 and 30A Plans came under the purview of Committee 4 only. Furthermore, with regard to the proposals for the accommodation of NGSO FSS systems, it had been decided that Committee 5 should deal only with those proposals relating to bands that were not covered by the Plans under consideration in Committee 4. However, the matter of power flux-density limits for the protection of those plans would be taken up by Committee 4.

The meeting rose at 1600 hours.

The Secretary:
T. GAVRILOV

The Chairman:
E. GEORGE

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 4
COMMITTEE 5
WORKING GROUP 2 OF THE PLENARY

Turkey

PROPOSALS FOR THE WORK OF THE CONFERENCE

1 Agenda item 1.4 - Examination of, and taking necessary decisions on, the question of the HF bands allocated to the broadcasting service in the light of developments to date and the results of the studies carried out by the Radiocommunication Sector, and review of Article 17 [S12] of the Radio Regulations in accordance with Resolution 530 (WRC-95)

Introduction

CPM-97 has recommended in Chapter 2 of the CPM Report to WRC-97, a set of modified seasonal planning procedures based upon coordination procedures related to the HFBC issue.

The HFBC coordination meetings held by various groups until now have proven to be successful in reducing the incompatibilities among HFBC transmissions. Hence the coordination procedure proposed in Chapter 2 of the CPM-97 Report should be supported.

Due to the long distance propagation characteristics of the HFBC service and to the fact that a coordination procedure can be much more effective with all HFBC requirements coordinated in one meeting with the maximum possible participation, expanding the coordination process to a global process, is essential.

Some improvements to this recent practice may be considered.

Consideration of the coordination principles

I For the principles of coordination, the following points should be noted:

– the coordination process carried out in regional meetings is actually global with regard to the target areas of the requirements;

– in regional meetings, not being able to conduct coordination on the requirements which are not introduced in the meeting, decreases the efficiency of the achievements. The efficiency is expected to improve at a global level;

– in the regional coordination process, financial shortages confronted by some members of the group and sometimes other non-technical considerations can decrease the participation in the meetings, a case which would be expected to improve at global level;

– the regional coordination groups set up for the coordination of HFBC schedules need flexibility, both in their composition and in specific HF broadcasting requirements which they address. Therefore, no formalization and/or no criteria are required in the composition of regional groups, until having a global coordination;

– there exist a number of HFBC propagation prediction softwares based on different prediction methods giving out different results to the same input. This situation can cause difficulties in reaching compromises on incompatibilities.

II There are no clearly defined criteria upon which the bilateral/multilateral negotiations should be based. Some criteria may be defined for the coordination process, such as:

i) the minimum field strength values should be set in the notifications of the HF requirements to define the coverage area of the submitted requirement taking the first and higher number of hops into consideration, i.e. it should not be submitted only for defining the target area of transmissions;

ii) the parallel HF requirements, that are targeted to the same CIRAF zone, at the same time, with the same programme content, should be limited. The requirements that do not have any alternatives should have a higher priority compared to those parallel requirements;

iii) the power limitations, in relation to the distances to the target area, may be considered. Priorities to be applied in coordinations to solve the incompatibilities, can be developed accordingly.

TUR/140/1

The following complementary measures are proposed for the coordination procedures described in Chapter 2 of the CPM Report:

– to develop a user-friendly propagation prediction software to be used by the HFBC frequency management bodies/broadcasters in the coordination processes;

– to develop a user-friendly software to manage the ITU HF database;

– to organize meetings to train the personnel of the administrations/broadcasters in different parts of the world on the above-mentioned softwares;

– to develop common negotiation criteria and priorities given in paragraph II, to be applied in coordinations to solve the incompatibilities;

– to urge and encourage all administrations/broadcasters to take part actively in the regional coordination processes, before the year 2000;

– to instruct ITU-R to provide technical assistance during the regional coordination meetings;

– to hold a global coordination conference not later that the year 2000 for either seasonal schedule B or seasonal schedule A;

– to prepare a report on the feasibility of a global coordination conference, and to submit this report to a future competent WRC for consideration.

2 Agenda item 7 - To consider the final report of the Director of the Radiocommunication Bureau on activities related to Resolution 18 (Kyoto, 1994)

The aim of this proposal is to define a value for the coordination arc, beyond which no coordination is required, as a complementary proposal to the European Common Proposal EUR/5/22.

TUR/140/2

ΔT/T criteria does not seem to be realistic to determine the satellite networks to be considered in the coordination step as this concept increases the burden on administrations, seeking a coordination from others, some of which are not vital to be coordinated with.

Therefore, in order to simplify this problem and reduce the number of administrations from which coordination agreements are needed to be sought, the Turkish Administration proposes that, ITU-R identifies affected satellite networks by taking into account the coordination arc of ±10 beyond which no coordination is required. As any satellite network that has initiated coordination, will coordinate only with those networks within ±10 arc of its position which will improve orbit flexibility and GSO satellite characteristics efficiency.

Further to this, the coordination with satellite networks within the aforementioned arc will also reduce or remove probable harmful interferences to those networks beyond this arc.

3 Agenda item 1.9.1 - Use of the bands 18.9 - 19.3/28.6 - 29.1 GHz by NGSO/FSS systems. Resolution 118 (WRC-95)

TUR/140/3

The purpose of this proposal is to try to find a way to reach a consensus between all parties in order to ease the work of the Conference on the use of the bands 18.9 - 19.3/28.6 - 29.1 GHz by NGSO/FSS systems. For this aim, the Turkish Administration would agree the shared use of the Ka-band by NGSO/FSS and GSO/FSS systems, provided that there is no harmful NGSO/FSS interference into GSO/FSS systems and the possible interference is reduced to an acceptable level by means of some interference mitigation techniques, such as satellite or site diversity, GSO arc avoidance from NGSO/FSS systems etc.

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WORKING GROUP 4B

Spain

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.5: FLEXIBLE AND EFFICIENT USE OF THE RADIO SPECTRUM BY FS AND SOME MOBILE SERVICES IN THE MF AND HF BANDS USING BLOCK ALLOCATIONS FOR ADAPTIVE SYSTEMS

A frequency adaptive system is a radiocommunication system using an automatic frequency selection procedure in each selective transmission including calling, link establishment, link maintenance during the connection and subsequent automatic disconnection. This calls for a high degree of flexibility in the selection of frequencies.

The bands identified for use of this system are those of the fixed and aeronautical mobile (OR) services, on which many countries base their long-distance communications. However, a number of countries have, with excellent results, recently expended much effort in establishing channelling arrangements for the fixed service in the HF band at national level, and the introduction in the short term of adaptive systems in the band 1.6 - 28 MHz would necessitate in a new and costly effort to reaccomodate users who have only recently been accommodated in the said frequency range.

In addition, spectrum occupancy by adaptive systems will depend on the number of units that will be operating in the range 1.6 - 28 MHz, it being possible that saturation could occur at the national, or even global, level in the bands allocated to the fixed and aeronautical mobile (OR) services. It is, moreover, possible that the in-flight safety of aircraft using frequencies of the aeronautical mobile (OR) service could be jeopardized were those frequencies to be used by adaptive systems.

E/141/1

We therefore propose that the Conference should take account of the view that it is necessary to monitor transmissions, with international coordination by the Bureau, on account of the propagation and use characteristics of the band in question, with respect to the number of frequencies to be used and their specific values, it being necessary, at all events, that the maritime mobile and aeronautical mobile bands should be excluded on account of their safety significance. It is also necessary that adaptive systems should be compatible with existing equipment and that they should not cause interference to transmissions by the latter.

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COMMITTEE 4

Greece

PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-97 agenda item 1.6.1 - Incorporation of GMDSS operators' certificates for the non-compulsory GMDSS fitted vessels into the Radio Regulations

Greece supports the European common proposal contained in Document CMR97/5 for the development of the two GMDSS certificates for the non-compulsory fitted vessels using GMDSS equipment. However, we would like to clarify that these certificates shall not be suitable for vessels which carry GMDSS equipment subject to **international agreements or national regulations** (e.g. passenger, fishing, tug, etc. vessels engaged in domestic voyages).

Therefore we propose to add the following modification to Annex 3 to Recommendation 7 (see proposal EUR/5/63 MOD S48.7):

GRC/142/1
MOD S48.7 § 5. The personnel of ship stations and ship earth stations for which a radio installation is not compulsory under international agreements or national regulations and which use the frequencies and techniques prescribed in Chapter **SVII** shall be adequately qualified and certificated in accordance with the administration's requirements. Guidance concerning appropriate qualifications and certification, is provided in Resolution [EUR-3]. This Resolution describes two appropriate certificates, for use by personnel of ship stations and ship earth stations for which a radio installation is not compulsory.

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COMMITTEE 4
COMMITTEE 5

Mongolia

PROPOSALS FOR THE WORK OF THE CONFERENCE

1 The Administration of Mongolia wishes to make the following proposal for the work of the Conference.

MNG/143/1

MOD S5.194 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Lebanon, Moldova, ~~Mongolia,~~ Uzbekistan, Kyrgyzstan, Syria, Russia, Somalia, Tajikistan, Turkmenistan, Turkey and Ukraine, the band 104 - 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis.

2 Agenda item - Resolution 118, Use of the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz by non-geostationary fixed-satellite service systems

At WRC-95, 400 MHz was available for the immediate NGSO FSS by waiving RR S22.2 and envisaging the application of Resolution 46 coordination procedures with an additional 100 MHz frozen until WRC-97. Technical studies were also called for to ascertain the extent to which sharing of the frequency band 20/30 GHz is possible between GSO and NGSO systems.

NGSO broadband systems will enable high-speed access to rural areas and in particular for delivery of low-cost services to schools, hospitals, and commercial and governmental centres that cannot be adequately served by other means.

MNG/143/2

Taking account of the ITU-R studies and the potential offerings, Mongolia shares the view of other administrations that in order to achieve cost-effective performance, NGSO FSS systems require an adequate amount of spectrum.

Noting the information in the CPM Report (Section 4.4.1.2), Mongolia supports the availability of 500 MHz between 18.8 - 19.3 GHz and 28.6 - 29.1 GHz by the non-geostationary fixed-satellite service systems, with the application of Resolution 46 and the waivure of provision S22.2 [2613].

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COMMITTEE 5

Note by the Secretary-General

IUCAF INFORMATION PAPER

I have the honour to bring to the attention of the Conference, the annexed information paper from the Inter-Union Commission on the Allocation of Frequencies for Radio Astronomy and Space Science.

PEKKA TARJANNE
Secretary-General

Annex: 1

ANNEX

INTER-UNION COMMISSION ON THE ALLOCATION OF FREQUENCIES FOR RADIO ASTRONOMY AND SPACE SCIENCE

IUCAF POSITION FOR THE ITU WRC-97

CONTENTS

1 Introduction

2 IUCAF positions on items on the WRC-97 agenda

3 Summary of IUCAF positions

1 Introduction

1.1 This document addresses the IUCAF position on issues of interest to the worldwide radio astronomy and passive remote sensing community, which appear in the agenda for this Conference. This position has been developed on the basis of the agenda for WRC-97, as contained in Resolution 718 of WRC-95, and as considered by CPM-97. The IUCAF positions have been presented in Section 2 of this document. A summary can be found in Section 3.

2 IUCAF position on the items on the WRC-97 agenda

2.1 WRC-97 agenda item 1.7 "Review of Appendix S3 of the RR taking into account Recommendation 66 *(Rev.WARC-92)*"

2.1.1 IUCAF has actively participated in the proceedings of Task Group 1/3 because Recommendation 66 (WARC-92) specifically addressed the issue of increased protection for stations in the Radio Astronomy Service. However, the results of TG 1/3 and the Recommendations of RM.329 provide inadequate protection from detrimental interference for stations of the RAS. IUCAF considers the general studies of limits for spurious emissions as an ongoing process, that will require continuous review in these periods of intensified spectrum use and that will benefit all spectrum users. Therefore, IUCAF considers that the studies of spurious emissions begun in TG 1/3 as unfinished. IUCAF recommends continuation of studies of spurious and out-of-band emissions as integrated items not only for the space services but instead for all bands as undertaken within Task Group 1/5.

IUCAF does not support the notion that "the protection of stations in the RAS should not unduly burden other spectrum users and particularly the space services". IUCAF considers the general suppression of unwanted emissions as a due burden for all (active) users in order to protect the more vulnerable groups among the spectrum users. Furthermore, IUCAF believes that the problems for the protection of safety services and the passive services can not be solved equitably on a "case-by-case" basis, because of the extreme vulnerability to interference of the RAS compared with other (active) services.

2.1.2 IUCAF positions

2.1.2.1 IUCAF is concerned that the protection of passive services has not been addressed adequately in Recommendation ITU-R SM.329 and the proposed changes for Appendix S3.

2.1.2.2 IUCAF does not object to the adoption of the modifications of Appendix S3 based on the recommendations contained in ITU-R RM.329 provided that a revision of Recommendation 66 includes a mandate for continuing integrated studies of both spurious and out-of-band emissions at all bands. A possible re-evaluation at a future conference of the recommendations on spurious emissions as contained in the modified Appendix S3 should be within the mandate of TG 1/5.

2.1.2.3 IUCAF supports the proposals to revise Recommendation 66 and also the proposed recommendations to review Appendix S3 as proposed by the CEPT countries (EUR/5/331). IUCAF finds the USA proposal to revise Recommendation 66 (USA/30/172) acceptable, except for the part that they preclude continuation of studies of spurious emissions for services other than the space services. IUCAF finds the CITEL proposals (IAP/40/115–116) unacceptable.

2.2 WRC-97 agenda item 1.9.1
***Resolution 717 (Rev.WRC-95),* "Frequency sharing in bands shared by the MSS and the FS, MS and other terrestrial services below 3 GHz"**
***Resolution 214,* "Sharing studies relating to consideration of the allocation of bands below 1 GHz to the non-GSO MSS"**

2.2.1 The CPM Report, Section 4.1.1, identified the 148 - 149.9 MHz, 149.9 - 150.05 MHz, 399.9 - 400.05 MHz and 401 - 406 MHz bands for sharing situations between the MSS and other services. Proposals have been made to consolidate these allocations and to apply operational pfd limits to protect other services in these bands. Radio astronomy operations in four bands below 1 GHz are protected from non-GSO MSS (sE) operations by S5.208A. Specific proposals have been made to allocate the 405 - 406 MHz band to MSS (sE) on a primary basis. New pfd values have been proposed for the 402 - 406 MHz band to protect the MetSat service in the 402 - 403 MHz band. If this proposal is to be accepted by the Conference, then the pfd levels relevant to the radio astronomy service referred to in S5.208A should be made binding for all MSS networks. A new footnote RR S5.265B (USA/30/84) would restrict the use of the MSS to narrow-band modulation systems in order to fully protect the RAS. In addition, rather relaxed coordination pfd threshold values are being applied to operating networks in the 137 - 138 MHz and 148 – 149.9 MHz bands.

Proposals submitted by India (IND/85/7, 8) address the urgency for protecting the radio astronomy service from MSS (sE) operations in the bands below 1 GHz. In the relevant footnote RR S5.208A, it is proposed to replace the text "shall take all practicable steps to protect the radio astronomy service" with "shall ensure protection of the radio astronomy service". Such text would bring the wording of footnote S5.208A in line with footnote S5.511A, which relates to adjacent bands for RAS and MSS at 15.4 GHz. Similar text has also been proposed for incorporation into Article 29.12 (IND/85/8), which deals with the radio astronomy service. At a minimum, the text "For information," should be deleted from both S5.208A and S29.12.

2.2.2 IUCAF positions

2.2.2.1 IUCAF does not object to further allocations for non-GSO MSS (sE) services in the 402 - 406 MHz bands under the condition that the pfd levels referred to in footnote S5.208A be made binding. The coordination between MSS and the RAS should continue be governed by RR S5.208A.

2.2.2.2 IUCAF strongly supports the proposals submitted by India (IND/85/7, 8) for modification of S29.12 and S5.208A.

2.2.2.3 IUCAF supports the application of a -158.3 dB(W/m^2/300 kHz) pfd limit at the Earth's surface as proposed for S5.265 (USA/30/82) for MSS operations in the whole 402 - 406 MHz band, rather than in the 402 - 405 MHz section only.

2.2.2.4 IUCAF strongly supports the limitation for the MSS in the 405 - 406 MHz band to use narrow-band modulation techniques as proposed in S5.265B (USA/30/84).

2.3 WRC-97 agenda item 1.9.1
***Resolution 717 (Rev.WRC-95),* "Relating to frequency sharing in bands shared by the MSS and FS, MS and other terrestrial services below 3 GHz"**

2.3.1 Frequency sharing in the 1 610.6 - 1 613.8 MHz and 1 660 - 1 660.5 MHz bands between the MSS (Earth-to-space) and the radio astronomy service has been discussed in the CPM Report, Section 4.1.1.10. A new Recommendation ITU-R M.[Document 8/56] describes the

principles and methodology of using Monte Carlo methods to study the traffic patterns and consequential interference caused by mobile earth stations to the operations of the radio astronomy service. However, the radio astronomy community strongly feels that this Recommendation requires further study and experimental verification of the methodology, before it can become an acceptable part of the Radio Regulations.

2.3.2 IUCAF position

2.3.2.1 IUCAF does not support the incorporation of the new Recommendation ITU-R M.[Document 8/56] as part of the Radio Regulations until further studies have been completed.

2.4 WRC-97 agenda item 1.9.1 "Sharing studies between existing services and non-GSO MSS below 1 GHz feeder links using FDMA transmissions in certain bands near 1 400 MHz"

2.4.1 The CPM Report, Section 4.1.1.12, discusses the issue of non-GSO MSS feeder link allocations near 1 400 MHz and clearly states that further studies are necessary before any specific band can be taken into consideration. The passive service communities are very concerned that satellite feeder links in bands adjacent to any passive band, and particularly the 1 400 - 1 427 MHz band, will cause harmful interference.

2.4.2 IUCAF position

2.4.2.1 IUCAF could support studies to consider possible allocations for non-GSO feeder links in bands close to the 1 400 - 1 427 MHz passive band.

2.5 WRC-97 agenda item 1.9.1 *Resolution 116 (WRC-95)*, "Allocation of frequencies to the FSS (space-to-Earth) in the band 15.4 - 15.7 GHz for feeder links of non-geostationary-satellite networks in the MSS" *Resolution 117 (WRC-95)*, "Allocation of frequencies to the FSS (space-to-Earth) in the band 15.45 - 15.65 GHz for use by feeder links of non-geostationary-satellite networks operating in the MSS"

2.5.1 The band 15.4 - 15.7 GHz has been provisionally allocated to the fixed-satellite service in the space-to-Earth direction at WRC-95 subject to further study on sharing with existing aeronautical radionavigation operations and the RAS. Two pfd limits are specified in S5.511A: a pfd limit of -111 dB(W/m^2/MHz) in the 15.45 - 15.65 GHz range and -146 dB(W/m^2/MHz) in the outer parts of the band. The CPM Report, Section 4.3.2, suggests that a downward shift of 20 MHz of the inner portion of the band from 15.45 - 15.65 GHz to 15.43 - 15.63 GHz would accommodate the sharing with existing ARNS operations in the upper portion of the band. Current proposals (EUR/5/303-308 and USA/30/116-122) implement this CPM recommendation and propose to delete the FSS from the outer band sections 15.0 - 15.3 and 15.63 - 15.70 GHz. In addition, it has been proposed that FSS (Es) be added to the allocation in the central section of the band. Alternatively, ICAO supports a limit of -146 dB(W/m^2/MHz) for FSS (Es) in S5.511A in the whole 15.4 - 15.7 GHz band but with –127 dB(W/m^2/MHz) for FSS (sE) in the 15.4 - 15.63 GHz band.

The text of S5.511A contains the binding reference to the interference levels for protection of the RAS in the 15.35 - 15.4 GHz band, as contained in ITU-R RA.769. The radio astronomy community is concerned that the downward shift of the FSS (sE) section of the band to 15.43 GHz will results in interference into the RAS band. Current experience with satellite downlinks shows

that in practice a 30 MHz guard band would not be enough to protect the RAS operations in the 15.35 - 15.4 GHz band. The added text in modified S5.511.A (EUR/5/304) addresses similar concerns.

2.5.2 IUCAF Position

2.5.2.1 IUCAF does not object to the downward shift of 20 MHz for the FSS (sE) allocation to the 15.43 - 15.63 GHz band provided that RAS operations are fully protected. IUCAF fully supports the elimination of the FSS (sE) allocation in the 15.4 - 15.43 GHz band.

2.5.2.2 IUCAF is strongly concerned about the practical protection provide to stations of the RAS operating in the 15.35 - 15.4 GHz band from transmissions in the 15.4 – 15.7 GHz band. IUCAF suggests that the detrimental pfd limit from ITU-R RA.769 be retained in S5.511A as a hard limit to protect the radio astronomy service. IUCAF considers it probable, that additional guardbands need to be maintained for FSS (sE) operations in the lower part of the allocated band in order to secure protection for the RAS operations. IUCAF strongly supports a call to modify S5.511A (EUR/5/304) for the use of band rejection filters and other means by the FSS operators.

2.6 WRC-97 agenda item 1.9.2 *Resolution 712 (Rev.WRC-95), resolves* 2: Consideration of "provision of up to 3.5 MHz of frequency spectrum to the earth exploration-satellite service (active) in the frequency range 420 - 470 MHz"

2.6.1 An allocation for the EESS (active) in the band 420 - 470 MHz would require sharing with existing operations in these bands, which also includes upward-looking atmospheric radars at various locations in the USA and radio astronomical observations in the 420 – 440 MHz band. The CPM Report, Section 5.4.2.3.2, suggests that further study is needed before allocations can be made for the EESS in this band.

2.6.2 IUCAF position

2.6.2.1 IUCAF supports the position that no allocations to the EES should be made in the 420 - 470 MHz band until further studies are completed within the ITU-R.

2.7 WRC-97 agenda item 1.9.2 *Resolution 712 (Rev.WRC-95), resolves* 3: Consideration of "Use of existing allocations by space-based active sensors operating in the earth exploration-satellite and space research services in the frequency bands shared with the radiolocation or radionavigation services, between 1 and 25 GHz, with the view to the possibility of establishing common worldwide primary allocations"

2.7.1 The band 3 100 - 3 300 MHz has been proposed for a worldwide allocation for the EES and SR services for active sensors (USA/30/139-140). Stations of the RAS are currently using this band on a non-interference basis for observations of the abundant molecule Methyladyne CH for Galactic and extra-galactic research. Three transitions for this molecule have been included in the list of "Spectral Lines of Greatest Importance to Radio Astronomy" in the ITU-R Handbook on Radio Astronomy and these also appear in the list of important spectral lines of the International Astronomical Union. No allocations have been obtained for these spectral lines, but they have been included in RR S5.149. Coordination between the RAS and the EES and SR services may provide access to this band for radio astronomical observations. The frequencies of the three CH transitions occur at 3 263.794, 3 335.481, and 3 349.193 MHz with the first one being the strongest line.

2.7.2 IUCAF position

2.7.2.1 IUCAF does not object to a worldwide allocation of the 3 100 - 3 300 MHz band for active space-borne sensor applications for the EES and SR services. IUCAF requests that operations in this band by the EES and SR services start at the bottom end of the band, and that the EES and SR operations be coordinated with stations of the RAS operating in the 3 260 – 3 267 MHz and 3 332 – 3 352.5 MHz bands.

2.8 WRC-97 Agenda Item 1.9.2
***Resolution 712 (Rev.WRC-95), resolves* 5: Consideration of "provision of up to 500 MHz of frequency spectrum around 35 GHz and up to 1 GHz of frequency spectrum around 95 GHz for use by space-based active Earth sensors".**

2.8.1 The allocation of the 94 -94.1 GHz band for space-based active earth sensors has been extensively coordinated with the radio astronomy community, which uses this band on a non-interference basis extensively. Coordination between the use of the down-looking cloud radar and of stations in the radio astronomy service has been agreed upon, including turning off the radar during RAS operations, while in line-of-sight of the RAS station. The much narrower window of 94 - 94.1 GHz has been chosen to reduce the potential impact of the cloud radar on spectral line studies. This band should only be used for EESS space-borne cloud radars (S5.562 (USA/30/160) or S5.561A (ASP/14/196)).

2.8.2 IUCAF position

2.8.2.1 IUCAF does not object to the allocation of the 94 - 94.1 GHz band for EESS space-borne cloud radars and supports the restriction on the use of this band as proposed for RR S5.561A or S5.562

2.8.2.2 IUCAF requests that RR S5.149 and RR S5.556 be maintained for the whole 92 - 95 GHz band.

2.9 WRC-97 agenda item 1.9.4.1
"Allocations of frequencies above 50 GHz to the EESS (passive) services"

2.9.1 The bands between 50.2 and 71 GHz have extensively been considered during the recent study periods. The bands above 71 GHz need extensive consideration with regard to further allocations for EESS (passive) but also with regard to the use of these bands by the RAS. The CPM Report, Section 5.8, indicates the need to postpone the discussion of bands for scientific use above 71 GHz. Currently discussions are in progress between the Earth exploration community and the radio astronomy community to align the needs for scientific use of the frequency bands above 71 GHz.

2.9.2 IUCAF position

2.9.2.1 IUCAF supports proposals to postpone the discussion on the allocation of frequencies for the EESS (passive) above 71 GHz to a future conference.

2.9.2.2 IUCAF supports the addition of frequency allocations for scientific use above 71 GHz for both the EESS (passive) and the RAS to the agenda for WRC-99.

2.10 WRC-97 agenda item 1.9.4.3
"The existing frequency allocations near 60 GHz and, if necessary, their re-allocation, with a view to protecting the earth exploration-satellite (passive) service systems operating in the unique oxygen absorption frequency range from about 50 GHz to about 70 GHz"

2.10.1 Extensive studies have been done to realign the allocations in the 50.2 - 71 GHz bands as described in the CPM Report, Section 5.10. The current proposals adequately accommodate the earth exploration-satellite service (passive) and space research (passive) as well as other active services in the high-opacity oxygen absorption bands. In the current band allocation plan, radio astronomy may be carried out in purely passive bands as described in RR S5.340 and S5.556. The proposed realignment reduces the total band space for purely passive use from 4.85 GHz to 3.65 GHz. Since ground-based radio astronomy is rather difficult at these frequencies, space-based telescopes are being considered for observations. Space-based telescopes could share spectrum with terrestrial services and EESS (passive) and SR (passive).

2.10.2 IUCAF position

2.10.2.1 IUCAF does not object to the re-alignment plans as proposed by CEPT countries (EUR/5/252-257) and the USA (USA/30/166-171) as coordinated with the remote sensing community.

2.10.2.2 IUCAF is concerned about the reduction of passive bands within this region and urges the Conference to make provisions for possible ground-based radio astronomy observing systems or future systems aboard space stations. IUCAF notes that the changes made to the allocations in the 50.1 – 71 GHz band require revision of RR S5.556.

2.11 WRC-97 agenda item 1.9.6
"The identification of suitable frequency bands above 30 GHz for use by the fixed service for high-density applications"

2.11.1 Proposals have been submitted for the allocation of 2 x 300 MHz for high-density fixed service (HDFS) applications using high altitude (15 - 80 km) platforms (HAP) within an existing fixed allocation (EUR/5/344-350, ASP/14/207-210, J/29/55-60, IAP/40/109,110). The bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz have been designated for this application by the addition of footnotes S5.552A and S5.552B. The CPM Report, Section 7.5, indicates that such new service applications require extensive study to develop appropriate provisions for the Radio Regulations. Broadband applications with beam forming antennas as proposed for HAPs are inherently subject to generate unwanted (intermod) emissions, which will require the development of new filtering techniques for their suppression.

2.11.2 IUCAF position

2.11.2.1 IUCAF is strongly concerned that, because of the technology used, the proposed HDFS operations from HAP systems will interfere with sensitive services in adjacent bands and particularly with operations in the 42.5 – 43.5 GHz and 48.94 - 49.04 MHz bands allocated to the RAS. IUCAF suggests that stringent pfd limits be applied for out-of-band and spurious emissions for these applications.

3 Summary of IUCAF positions

WRC-97 agenda item 1.7

IUCAF is concerned that the protection of passive services has not been addressed adequately in Recommendation ITU-R SM.329 and the proposed changes for App. S3.

IUCAF does not object to the adoption of the modifications of Appendix S3 based on the Recommendations contained in ITU-R RM.329 provided that a revision of Recommendation 66 includes a mandate for continuing integrated studies of both spurious and out-of-band emissions at all bands. A possible re-evaluation at a future conference of the recommendations on spurious emissions as contained in the modified Appendix S3 should be within the mandate of TG 1/5.

IUCAF supports the proposals to revise Recommendation 66 and also the proposed Recommendations to review Appendix S3 as proposed by the CEPT countries (EUR/5/331). IUCAF finds the USA proposal to revise Recommendation 66 (USA/30/172) acceptable, except for the part that they preclude continuation of studies of spurious emissions for services other than the space services. IUCAF finds the CITEL proposals (IAP/40/115–116) unacceptable.

WRC-97 agenda item 1.9.1

IUCAF does not object to further allocations for non-GSO MSS (sE) services in the 402 - 406 MHz bands under the condition that the pfd levels referred to in footnote S5.208A be made binding. The coordination between MSS and the RAS should continue be governed by RR S5.208A.

IUCAF strongly supports the proposals submitted by India (IND/85/7, 8) for modification of S29.12 and S5.208A.

IUCAF supports the application of a -158.3 dB(W/m^2/300 kHz) pfd limit at the Earth's surface as proposed for S5.265 (USA/30/82) for MSS operations in the whole 402 - 406 MHz band, rather than in the 402 - 405 MHz section only.

IUCAF strongly supports the limitation for the MSS in the 405 - 406 MHz band to use narrow-band modulation techniques as proposed in S5.265B (USA/30/84).

Resolution 717 (Rev. WRC-95)

IUCAF does not support the incorporation of the new Recommendation ITU-R M.[Doc. 8/56] as part of the Radio Regulations until further studies have been completed.

IUCAF could support studies to consider possible allocations for non-GSO feeder links in bands close to the 1400 - 1427 MHz passive band.

Resolution 116 (WRC-95) and Resolution 117 (WRC-95)

IUCAF does not object to the downward shift of 20 MHz for the FSS (sE) allocation to the 15.43 - 15.63 GHz band provided that RAS operations are fully protected. IUCAF fully supports the elimination of the FSS (sE) allocation in the 15.4 - 15.43 GHz band.

IUCAF is strongly concerned about the practical protection provide to stations of the RAS operating in the 15.35 - 15.4 GHz band from transmissions in the 15.4 – 15.7 GHz band. IUCAF suggests that the detrimental pfd limit from ITU-R RA.769 be retained in S5.511A as a hard limit to protect the radio astronomy service. IUCAF considers it probable, that additional guard bands need to be maintained for FSS (sE) operations in the lower part of the allocated band in order to secure

protection for the RAS operations. IUCAF strongly supports a call to modify S5.511A (EUR/5/304) for the use of band rejection filters and other means by the FSS operators.

WRC-97 agenda item 1.9.2

***Resolution 712 (Rev.WRC-95), resolves* 2**

IUCAF supports the position that no allocations to the EES should be made in the 420 – 470 MHz band until further studies are completed within the ITU-R.

***Resolution 712 (Rev.WRC-95), resolves* 3**

IUCAF does not object to a worldwide allocation of the 3 100 - 3 300 MHz band for active space-borne sensor applications for the EES and SR services. IUCAF requests that operations in this band by the EES and SR services start at the bottom end of the band, and that the EES and SR operations be coordinated with stations of the RAS operating in the 3 260 – 3 267 MHz and 3 332 – 3 352.5 MHz bands.

***Resolution 712 (Rev.WRC-95), resolves* 5**

IUCAF does not object to the allocation of the 94 - 94.1 GHz band for EESS space-borne cloud radars and supports the restriction on the use of this band as proposed for RR S5.561A or S5.562.

IUCAF requests that RR S5.149 and RR S5.556 be maintained for the whole 92 - 95 GHz band.

WRC-97 agenda item 1.9.4.1

IUCAF supports proposals to postpone the discussion on the allocation of frequencies for the EESS (passive) above 71 GHz to a future conference.

IUCAF supports the addition of frequency allocations for scientific use above 71 GHz for both the EESS (passive) and the RAS to the agenda for WRC-99.

WRC-97 agenda item 1.9.4.3

IUCAF does not object to the re-alignment plans as proposed by CEPT countries (EUR/5/252-257) and the USA (USA/30/166-171) as coordinated with the remote sensing community.

IUCAF is concerned about the reduction of passive bands within this region and urges the Conference to make provisions for possible ground-based radio astronomy observing systems or future systems aboard space stations. IUCAF notes that the changes made to the allocations in the 50.1 – 71 GHz band require revision of RR S5.556.

WRC-97 agenda item 1.9.6

IUCAF is strongly concerned that, because of the technology used, the proposed HDFS operations from HAP systems will interfere with sensitive services in adjacent bands and particularly with operations in the 42.5 – 43.5 GHz and 48.94 - 49.04 MHz bands allocated to the RAS. IUCAF suggests that stringent pfd limits be applied for out-of-band and spurious emissions for these applications.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 3

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 3

(BUDGET CONTROL)

Thursday, 30 October 1997, at 0930 hours

Chairman: Mr. M. LANDSMANN (Ukraine)

Subjects discussed		**Documents**
1	Terms of reference of the Committee	103
2	Financial responsibilities of conferences	32, 111
3	Budget of the World Radiocommunication Conference	33(Rev.1)
4	Contribution of entities and organizations to defraying the expenses of the Conference	31(Rev.1)
5	Situation of the accounts of the World Radiocommunication Conference (WRC-97) as at 24 October 1997	110

1 Terms of reference of the Committee (Document 103)

1.1 The **Chairman** read out the paragraph of Document 103 concerning the Committee's terms of reference.

1.2 The terms of reference of the Committee as set out in Document 103 were **noted**.

2 Financial responsibilities of conferences (Documents 32, 111)

2.1 The **Chairman** read out Article 34 of the Convention (Geneva, 1992) relating to the financial responsibilities of conferences.

2.2 The financial responsibilities of the Conference, as set out in Document 32, were **noted**.

2.3 The **Secretary**, introducing Document 111, said that the Committee would be required to submit a report to the Plenary showing the estimated total expenditure of the Conference, as well as an estimate of the expenditure that would arise from implementation of the decisions taken by the Conference. Committees 4 and 5 and Working Group PLEN-1 should therefore inform Committee 3, by 14 November 1997 at the latest, of any decision likely to give rise to post-conference work and to have financial implications, with an indication of the order of priority for such work. The Council had granted an appropriation of 500 000 Swiss francs in the 1998-1999 budget for post-conference work.

2.4 The **delegate of Canada**, supported by the **delegates of Russia** and **the United States**, emphasized how important it was for Committee 3 and participants in the Conference to be fully informed about the decisions taken by the other committees and the Working Group PLEN-1 with regard to the agenda of the next WRC and post-conference work, as well as the financial implications of those decisions. In his view, it was extremely difficult to set priorities in respect of the preparatory work for the next conference; attention should focus on the financial implications of that work.

2.5 The **representative of BR** said that a distinction should be made between the appropriation of 500 000 Swiss francs pertaining to the preparatory work for the next WRC and the appropriations which might have to be granted if the Conference took decisions entailing an increase in the Bureau's workload in the field of regular activities.

2.6 The **Secretary** said that, if such decisions were taken, it would be up to the Council to decide, in 1998, on the authorization of new appropriations, since the 1998-1999 budget had already been approved. With regard to the possibility of spending in excess of the appropriation of 500 000 Swiss francs for WRC-99 preparatory work, it would also be for the Council to consider that question at its May 1998 session.

2.7 The **delegate of Spain** said that every effort should be made to ensure that the ceiling of 500 000 Swiss francs was not exceeded.

2.8 The **Deputy Secretary-General** said that the role of the Budget Control Committee in that connection was made all the more important by the fact that the Union was going through a period of budgetary constraint and that, for example, the appropriations for documentation for the current Conference had already been exceeded.

2.9 The **delegate of Canada** said that participants should be fully aware of the fact that, if BR's workload for the preparation of the next conference was too heavy, some of the Bureau's regular

activities benefiting all the Union's membership might get lower priority. The financial implications of decisions should therefore remain in the forefront of the Conference's concerns.

2.10 The **delegate of Russia** advocated bringing forward the date by which the committees and the Working Group PLEN-1 were to inform Committee 3 of decisions liable to have financial implications, so that Committee 3 and the Conference would have time to check that the decisions ultimately taken would not jeopardize highly important BR and ITU activities.

2.11 The **Secretary** said that that proposal would be considered by the Steering Committee.

3 Budget of the World Radiocommunication Conference (Document 33(Rev.1))

3.1 The **Secretary**, introducing Document 33(Rev.1), said that the Conference budget for 1996-1997 had been approved by the Council at its 1995 session.

3.2 Document 33(Rev.1) was **noted**.

4 Contribution of entities and organizations to defraying the expenses of the Conference (Document 31(Rev.1))

4.1 The **Secretary** said that, on the basis of the budget which the Committee had just noted, the contributory unit for entities and organizations amounted to 10 300 Swiss francs. He urged all entities and organizations to announce their contributions to the Secretary of the Committee by 10 November at the latest so that they could be indicated in the Committee's report to Plenary.

4.2 The **delegate of Canada** asked whether an estimate existed of the cost of participating in a conference like WRC and whether that information could be brought to the attention of the Council and subsequently of the Plenipotentiary Conference. The **Secretary** explained that the amount of 10 300 Swiss francs corresponded to the direct costs of the Conference and of documentation, without any allocation for the costs of BR and the General Secretariat. The Council would be informed of those costs, as had been the case for the 1998-1999 budget.

4.3 Document 31(Rev.1) was **noted**.

5 Situation of the accounts of the World Radiocommunication Conference (WRC-97) as at 24 October 1997 (Document 110)

5.1 The **Chairman** said that the Secretary-General had drawn attention to the fact that the volume of documentation for the Conference was such that the allocated budget was already exhausted.

5.2 The **Secretary**, introducing Document 110, said that the Conference had already recorded a cost overrun of 245 000 Swiss francs. That amount would be updated at the next meeting of the Committee on the basis of the latest information available.

5.3 The **delegate of the United States** asked whether there was any provision for making good the shortfall within the framework of the overall budget of the Union, and whether it was possible to use part of the appropriation of 500 000 Swiss francs for that purpose.

5.4 The **Secretary** said that the amount of 500 000 Swiss francs was entered in the 1998-1999 budget and could not therefore be used to cover expenditure relating to the financial period 1996-1997. As far as the direct costs of the Conference were concerned, the bulk of the appropriations in respect of staff expenditure had already been committed. Overtime and night and weekend meetings with interpretation should be avoided as far as possible. With regard to documentation, the Secretariat was faced with something of a *fait accompli* and it might therefore be advisable to draw the matter to the attention of the Steering Committee.

5.5 The **delegate of the United States** recalled that WRC-95 had also exceeded its budget but that, conversely, savings had been achieved by the Radiocommunication Assembly, resulting in an overall balance. He wondered whether the situation might not be the same in 1997.

5.6 The **Secretary** said that the terms of reference of Committee 3 precluded addressing other parts of the Union budget. It was true that the Radiocommunication Assembly had achieved substantial savings, but those were to some extent offset by the increase in study group meeting expenditure. The ITU Coordination Committee would make every effort to ensure that, in compliance with the Financial Regulations, the overall budget of the Union for 1996-1997 was not exceeded.

5.7 The **Chairman** suggested that the Committee should take note with concern of the fact that the Conference budget had already been exceeded and urge all committees and working groups to limit their meeting and documentation expenditure so as not to worsen the situation.

5.8 It was so **agreed**.

The meeting rose at 1030 hours.

The Secretary:
A. TAZI-RIFFI

The Chairman:
M. LANDSMANN

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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5 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 2

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 2

(CREDENTIALS)

Thursday, 30 October 1997, at 1035 hours

Chairman: Mr. A. MAPUNDA (Tanzania)

Subjects discussed		**Documents**
1	Terms of reference of the Committee	103
2	Organization of work	-
3	Transfer of powers	98
4	Credentials of the Republic of Hungary	-

1 Terms of reference of the Committee (Document 103)

1.1 The **Chairman** said that the Committee was set up in accordance with the rules of procedure of the conferences and other meetings of the Union. He drew attention, in particular, to No. 361 of the Convention relating to the appointment of the Credentials Committee and to the circular-letter of 29 September 1997 by which the Secretary-General of the Union had invited all participants in WRC-97 to bring with them credentials that were in order.

1.2 The terms of reference of the Committee, as contained in Document 103, were **noted**.

2 Organization of work

2.1 The **Secretary** announced that the Secretariat had received the credentials of 64 Members of the Union, of the 120 present at the Conference to date. He proposed that a small working group be set up to examine the credentials received and prepare a report which the Committee would submit to the Plenary on 18 November 1997.

2.2 It was **agreed** to set up such a working group which would be composed of the Chairman, the Vice-Chairman and the delegates of Spain, the United States and Japan, to examine the credentials received and prepare a report thereon, for submission to the Plenary on 18 November.

2.3 The **Chairman** indicated that the working group thus constituted was open to any delegation that wished to take part in its work.

2.4 He said that, so as to be able to submit its report to the Plenary on 18 November 1997, the Committee would hold its second meeting during the third week of the Conference.

3 Transfer of powers (Document 98)

3.1 The **Chairman** said that the Federated States of Micronesia, which were unable to send a delegation to the Conference, had given the delegation of the United States of America powers to represent it.

3.2 The **Secretary** said that the instrument for the transfer of powers was in order. It would be submitted to the Committee's working group.

3.3 Document 98 was **noted**.

4 Credentials of the Republic of Hungary

4.1 The **delegate of Hungary**, referring to Document 99 which indicated that Hungary had lost its right to vote because it had not ratified the Convention and Constitution by the prescribed deadline, was pleased to announce that his country's Government had ratified the Constitution and Convention on 22 October and had instructed the Minister of Foreign Affairs to deposit the instrument of ratification with the Secretary-General as soon as possible. Nevertheless, under Hungarian law, Hungary's credentials could only be deposited after the deposit of the instrument of ratification. Although the accreditation procedure was under way, the Head of the Hungarian delegation would not be able to submit the credentials until his arrival in Geneva, shortly before the signing ceremony. Participants were requested to take those considerations into account and accept the late date of deposit of credentials.

4.2 The **Secretary** suggested that the Hungarian delegation should transmit its credentials by fax, pending deposit of the originals with the Secretariat by the Head of delegation.

4.3 That suggestion was **noted**.

4.4 Further to a question by the **delegate of the United States** concerning the deadline for depositing credentials and suspension of the right to vote, the **representative of the Legal Adviser** said that, for Members who were entitled to vote, suspension of the right to vote for failing to deposit credentials took effect only on the date on which the Credentials Committee submitted its report, which was set beforehand by the Plenary (18 November in the present case).

The meeting rose at 1055 hours.

The Secretary:
A. BOUSSAID

The Chairman:
A. MAPUNDA

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 6

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 6

(EDITORIAL)

Thursday, 30 October 1997, at 1130 hours

Chairman: Ms. A.-M. NEBES (France)

Subjects discussed		**Documents**
1	Terms of reference of the Committee	DT/2
2	Organization of work	121

1 Terms of reference of the Committee (Document DT/2)

1.1 The **Chairman** said that the terms of reference of the Editorial Committee were laid down in Nos. 362 and 363 of the Convention.

1.2 The Committee's terms of reference, as contained in Document DT/2, were **noted**.

2 Organization of work (Document 121)

2.1 The **Chairman** said that she would alert the Chairmen of the various working groups and committees of the Conference to the need to forward texts to the Editorial Committee as soon as they were approved. Delegations' proposals should be based on Document 2. The annex to Document 121 contained a registration form, which interested delegations should complete and return to the secretariat of the Committee by 1800 hours on Friday, 31 October. Only persons registered would be convened to meetings of the Committee.

2.2 Document 121 was **noted**.

The meeting rose at 1135 hours.

The Secretary:
A. PEÑARANDA

The Chairman:
A.-M. NEBES

INTERNATIONAL TELECOMMUNICATION UNION

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31 October 1997
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COMMITTEE 4

Israel (State of)

THE RESPONSE OF THE DELEGATION OF ISRAEL TO A PROPOSAL
OF THE DELEGATION OF LEBANON IN DOCUMENT 114

1 In Proposal 29 of Document 114, the Lebanese delegation states: "The Lebanon proposes to consider Palestine as a new country".

2 The State of Israel strongly protests this proposal, which is completely contrary to the legal norms which are applicable both within ITU and within the framework of the United Nations organizations. The full position of the State of Israel regarding this point was presented in Document 135 and is repeated herein.

3 The legal status of the PLO observer delegation in ITU conferences

The legal status of the PLO observer delegation in ITU fora is extremely well-defined in ITU Council Resolution 741, inspired by three UN General Assembly resolutions which are applied in a consistent and unified manner throughout the UN system. The acceptance of, or recognition of, an entity which is not a State (such as the PLO) by ITU - including WRC-97 - in any degree whatsoever would require, as a pre-requisite, and at the very least fundamental changes in all of these documents.

4 The legal impact of the Interim Agreement between Israel and the PLO on the work of ITU

The Interim Agreement of 28 September 1995, which was signed by Israel and the PLO and which is applied on a daily basis between them, contains a full section on telecommunication matters and provides specifically for "the growing future needs of the Palestinian side" (Article B (6)). In addition, according to Article IX (5) of the Interim Agreement, the Palestinian Council (which replaced the Palestinian Authority) does not have any powers or responsibilities in the sphere of foreign relations. Consequently, it cannot become a member of ITU, or even apply for such membership.

Furthermore, Article XXXI (7) of the Interim Agreement stipulates that "Neither side shall initiate or take any step that will change the status of the West Bank and Gaza Strip pending the outcome of the permanent status negotiations". Therefore, the PLO's status as observer in ITU may not be upgraded, since such would imply a change in the status of the West Bank and the Gaza Strip. It follows, then, that granting membership in ITU to either the Palestinian Council or the PLO would result in a grave violation of the Interim Agreement. In addition, this would be contrary to the provision of Article 2 of the ITU Constitution, which stipulates that only States may be Members of ITU.

5 In view of the above, the delegation of Israel strongly reiterates its objection to Lebanese Proposal 114 (29) and proposes that it be disregarded.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 149-E
29 October 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Note by the Secretary-General

INFORMATION DOCUMENT

LOSS OF RIGHT TO VOTE AND MATTERS CONCERNING CREDENTIALS

During the first Plenary Meeting of WRC-97, the two subject matters referred to above were raised in the same context. It appears that there is some confusion with regard to these two issues, and that they have been mixed up to a certain extent, when in fact they are two completely different matters producing different results and consequences. I should like to provide delegations with the following explanatory notes which have been prepared by the ITU Legal Adviser, Mr. A. Noll:

A Loss of the right to vote

"Each Member State of the Union shall have one vote at all world conferences" such as WRC-97, but this is "subject to the provisions of Nos. 169 and 210" of the Constitution of the ITU (CS) (see CS No. 27). In this respect, specific reference is made to Document 99 on the "Loss of the right to vote" which reflects the situation as of 27 October 1997. Listed therein are the 71 Member States (out of the Union's 188 Member States, only 121 of which, however, were registered at the present Conference as at 29 October 1997) that, up to 27 October last, were not entitled to vote.

In this context, it should be understood by all that the constitutional provisions referred to above are mandatory, and they cannot be amended, disregarded or adjusted in any way by the present Conference, the participants of which are obliged to respect them fully.

The only way in which a Member State's status, as reflected in Document 99, could be changed during the course of the present Conference, would be if its delegation, in cooperation with its national authorities, undertook to rectify its situation of having lost the right to vote, by:

i) ensuring the deposit of the sole instrument of ratification of the 1992 Geneva Constitution and Convention of the ITU or the equivalent instrument of accession thereto as soon as possible, which would enable the Member State to once again exercise its right to vote prior to the end of the Conference;

ii) if a Member State's right to vote is lost because it is in arrears regarding the payment of its contributions for an amount equal to or exceeding the sum of its contribution due for the preceding two years, the lost right to vote could be regained if the Member State reduces the amount of its arrears to below the aforementioned levels.

There is no other way for a Member State, during WRC-97, to regain a lost right to vote.

B Credentials

A completely different matter is that of the credentials required for the present Conference, in accordance with the provisions of Article 31 of the 1992 Convention of the ITU (CV). The attention of all members of delegations present is drawn to the specific and detailed provisions of the said Article, which are basically self-explanatory. All credentials presented by the Member States of the Union will be submitted to the Credentials Committee, referred to in CV No. 361, for verification. The latter Committee will report to the Plenary Meeting on its conclusions by Tuesday, 18 November. In conformity with CV No. 334, "pending the decision of the Plenary Meeting thereon, any delegation shall be entitled to participate in the Conference and to exercise the right to vote of the Member concerned", but, of course, only if the Member State in question has not already lost its right to vote for the reasons given under A above.

Once the Plenary Meeting has made its decision on the basis of the report of the Credentials Committee, then there are two situations which might arise:

i) "A delegation whose credentials are found to be in order by the Plenary Committee shall be allowed to exercise the right to vote of the Member concerned", but again "subject to the provisions of Nos. 169 and 210 of the Constitution", i.e. provided that it has not lost its right to vote for reasons given under A above. This delegation shall also have the right to sign the Final Acts of the Conference (see CV No. 332).

ii) "A delegation whose credentials are found not to be in order by the Plenary Meeting shall not be entitled to exercise the right to vote", even if it otherwise possesses the right to vote, "or to sign the Final Acts until the situation has been rectified", i.e. until such time as the credentials have been resubmitted, duly amended or modified, so as to be found in order by the Plenary Meeting examining the report or additional report of the Credentials Committee. Again, all this would have to take place prior to the concluding ceremony of the Conference in which the Final Acts of the WRC-97 will be signed (see CV No. 333).

I hope that the foregoing explanatory remarks will be helpful, and that they will serve as a guideline to all delegations regarding the necessary steps and actions which should be taken to ensure that each Member State's delegation can exercise and fully enjoy its right to vote during this Conference, and sign the Final Acts thereof.

Pekka TARJANNE
Secretary-General

INTERNATIONAL TELECOMMUNICATION UNION

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3 November 1997

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LIST OF DOCUMENTS

(Documents 101 - 150)

Doc.	Source	Title	Destination
101	SG	Chairmanship of the Conference	-
102	SG	Secretariat of the Conference	-
103	SG	Conference structure of the World Radiocommunication Conference (WRC-97)	-
104	MEX	Proposals for the work of the Conference	C5, WG PL2
105	BFA	Proposals for the work of the Conference	C4, C5
106	C4	Organization of the work of Committee 4	C4
107(Rev.1)	SG	General schedule of the work of the Conference	-
108	NIG	Proposals for the work of the Conference	C5
109	C5	Organization of the work of Committee 5	C5
110	SG	Situation of the accounts of the World Radiocommunication Conference (WRC-97) as at 24 October 1997	C3
111	C3	Note by the Chairman of Committee 3 to the Chairmen of Committees 4 and 5 and Working Group 1 of the Plenary	C4, C5, WG PL1
112	CAN	Proposals for the work of the Conference	PL
113	GRC	Proposals for the work of the Conference	C4
114+Add.1	LBN	Proposals for the work of the Conference	C4, C5
115	CTI	Proposals for the work of the Conference	C4, C5
116	NOR	Proposals for the work of the Conference	C5

Doc.	Source	Title	Destination
117	APT	Information Document	PL
118	SG	Minutes of the first Plenary Meeting	PL
119	SG	Summary record of the first meeting of Committee 4	C4
120	SG	Summary record of the first meeting of Committee 5	C5
121	C6	Note by the Chairman of Committee 6	C6
122	BR	Report from the ITU Radiocommunication Assembly	PL
123+Add.1	KAZ	Proposals for the work of the Conference	C4, C5
124	TON	Proposals for the work of the Conference	WG PL2
125	ZMB	Proposals for the work of the Conference	C4, C5
126	SUI	Proposals for the work of the Conference	C5
127	-	Not allocated	-
128	Chairm. of the Conf.	Future WRC agendas	WG PL1
129	AUT, FIN, SUI	Proposals for the work of the Conference	C5
130	UKR	Proposals for the work of the Conference	C5
131	C4	Allocation of documents for Committee 4	C4
132	WG 4A	First report from Working Group 4A to Committee 4	C4
133	UKR	Proposals for the work of the Conference	C5
134	THA	Proposals for the work of the Conference	C5
135	ISR	Proposals for the work of the Conference	C4
136+Add.1 *)	SG	Circular-Letter CR/76	C4
137	WG 5A	First report from Working Group 5A to Committee 5	C5
138	WG 5A	Note from the Chairman of Working Group 5A to the Chairman of Committee 5	C5

*) Distribution to Heads of Delegation

Doc.	Source	Title	Destination
139	SG	Summary record of the second meeting of Committee 4	C4
140	TUR	Proposals for the work of the Conference	C4, C5, WG PL2
141	E	Proposals for the work of the Conference	WG 4B
142	GRC	Proposals for the work of the Conference	C4
143	MNG	Proposals for the work of the Conference	C4, C5
144	IUCAF	Information Document	C5
145	SG	Summary record of the first meeting of Committee 3	C3
146	SG	Summary record of the first meeting of Committee 2	C2
147	SG	Summary record of the first meeting of Committee 6	C6
148	ISR	Proposals for the work of the Conference	C4
149	SG	Loss of the right to vote and matters concerning credentials	PL
150	SG	List of documents (101-150)	-

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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COMMITTEE 4

Note by the Chairman of Committee 4

CUT-OFF DATE FOR THE RECEIPT OF INFORMATION ON SUCCESSFUL COORDINATION IN ACCORDANCE WITH ARTICLE 4 OF APPENDICES 30 AND 30A

1 Under provisions 4.3.17 of Appendix 30 and 4.2.18 of Appendix 30A, assignments from administrations that have successfully completed coordination referred to in Article 4 of those Appendices "… shall enjoy the same status as those appearing in the appropriate Regional Plan and will be considered as a frequency assignment in conformity with the Plan".

2 Under paragraph 5.4 of Annex 1 to Resolution 531 the Bureau is required to include, in Step 1 of its Planning Exercises, the assignments for which the coordination procedure has been successfully completed, which have been notified under paragraph 5.1 of Article 5 of Appendix 30 (respectively 30A), and for which the entry into service has been confirmed to the Bureau under paragraph 5.2.8 of Appendix 30 (respectively 30A). The Bureau would do this after having completed the examination of the results of coordination submitted to ensure that the provisions of Appendices 30/30A are fully met.

3 In view of the fact that some time is needed to analyse properly requests from administrations for publication of information referred to in Section 2 above, it is required that a final cut-off time be determined for receipt of such information, which will be used for further updating of the Step 1 situation.

4 Committee 4, at its third meeting on 31 October 1997, unanimously agreed to set the following cut-off time for the receipt of such information:

Monday, 3 November 1997, 2000 hours (local time of Geneva).

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

France

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.1

F/152/1
SUP S5.313

Reasons: In view of the fact that Spain is withdrawing its country name from footnote S5.313 (Proposal E/10/6) and that France is doing likewise, there is no longer any need to maintain this footnote.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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COMMITTEE 5

FIRST REPORT OF WORKING GROUP 5B TO COMMITTEE 5

The following proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

1 Frequency range 6 700 - 7 075 MHz

MOD S22.5A § 5. In the frequency band 6 700 - 7 075 MHz, the maximum aggregate power flux-density produced at the geostationary-satellite orbit and within ±5° of inclination around the geostationary-satellite orbit by a non-geostationary-satellite system in the fixed-satellite service shall not exceed -168 dB(W/m^2) in any 4 kHz band. The maximum aggregate power flux-density shall be calculated in accordance with Recommendation ITU-R S.1256.

For information, the text of Recommendation ITU-R S.1256 can be found in Document 4/BL/8.

2 Frequency range 14 - 14.5 GHz

MOD

GHz
12.5 – 14.25

Allocation to Services		
Region 1	Region 2	Region 3
14 – 14.25	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505	

MOD

GHz
14.25 – 14.8

Allocation to Services		
Region 1	Region 2	Region 3
14.25 – 14.3	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505 S5.508 S5.509	
14.3 – 14.4 FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED-SATELLITE (Earth-to-space) S5.506 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite
14.4 – 14.47	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research (space-to-Earth)	
14.47 – 14.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radio Astronomy S5.149	

Associated draft Resolution

DRAFT RESOLUTION [COM5-2]

POSSIBLE EXTENSION OF THE SECONDARY ALLOCATION TO MOBILE SATELLITE (EARTH-TO-SPACE) IN THE BAND 14.0 - 14.5 GHz TO COVER AERONAUTICAL APPLICATIONS

The World Radiocommunication Conference (Geneva 1997),

considering

a) that the band 14.0 - 14.5 GHz was allocated to the land mobile satellite (Earth-to-space) on a secondary basis prior to WRC-97;

b) that WRC-97 modified this allocation to the mobile satellite (Earth-to-space) except aeronautical, on a secondary basis;

c) that the band 14.0 - 14.5 GHz is also allocated to the fixed satellite (Earth-to-space), radionavigation, fixed and mobile except aeronautical mobile;

d) that there is a demand for possible use of the same type of terminals now used for land and maritime applications, on board aircraft to provide location and two way messaging functions;

e) that such demand justifies the consideration of possible extension of the allocation to include aeronautical application at a future competent conference;

f) that studies on the feasibility of such an extension must be completed before the relevant competent conference, with participation of ICAO and other relevant entities;

g) that Recommendation **34 (WRC-95)** states that future world radiocommunication conferences, whenever possible, should allocate frequency bands to the most broadly defined services with a view to providing the maximum flexibility in spectrum use,

resolves

that WRC-99 shall examine the possibility of the extension of the secondary allocation to "mobile-satellite service (Earth-to-space) except aeronautical" in the 14.0 - 14.5 GHz band to incorporate aeronautical use, subject to the satisfactory outcome of technical compatibility studies,

resolves further

that the allocation shall remain on a secondary basis,

resolves to invite ITU-R

to complete in time for WRC-99 the technical and operational studies on the feasibility of sharing of the band 14.0 - 14.5 GHz between the services referred to in *considering* c) above and the aeronautical mobile-satellite service, on secondary basis,

instructs the Director

to invite the relevant organizations (e.g., ICAO) to participate in these studies.

Y. ITO
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5C
TO THE CHAIRPERSON OF COMMITTEE 5

Working Group 5C considered Conference agenda item 1.3 - "to review Appendix 28 (S7) to the Radio Regulations, taking into account Resolution 60 (WARC-79), Resolution 712 (Rev.WRC-95) and Recommendation 711 (WARC-79)".

Working Group 5C concurred with the CPM Report and agreed that there is not sufficient material at this stage for updating Appendix 28 (S7). Therefore, Working Group 5C asked that Committee 5 forward to WG PL1 a request for the inclusion in the draft agenda for WRC-99 the review of Appendix 28 (S7).

N. KISRAWI
Chairman of Working Group 5C

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COMMITTEE 4

Report by the Chairman of Working Group 4B

FIRST REPORT FROM WORKING GROUP 4B TO COMMITTEE 4

At its second meeting on 31 October 1997, the Working Group reviewed the texts of Article S53 and Appendix S13 of the Simplified Radio Regulations and considered the transfer of the coordination of operational aspects of NAVTEX services from ITU to IMO. Resolution 339 (WRC-95) and Article S5 were modified accordingly.

The agreed texts, as reproduced in the following, are submitted to Committee 4 for consideration.

R.L. SWANSON
Chairman of Working Group 4B

ARTICLE S53

Order of Priority of Communications

MOD S53.1 ~~The order of priority for communications[1]~~ All stations in the maritime mobile service and the maritime mobile-satellite service shall be ~~as follows, except where impracticable in a fully automated system in which, nevertheless, category 1 shall receive priority:~~capable of performing four levels of priority in the following order:

1. Distress calls, distress messages, and distress traffic.
2. Urgency ~~C~~communications ~~preceded by the urgency signal~~.
3. Safety ~~C~~communications ~~preceded by the safety signal~~.
4. ~~Communications relating to radio direction-finding.~~Other communications.
5. ~~Communications relating to the navigation and safe movement of aircraft engaged in search and rescue operations.~~
6. ~~Communications relating to the navigation, movements and needs of ships and aircraft, and weather observation messages destined for an official meteorological service.~~
7. ~~ETATPRIORITENATIONS – Radiotelegrams relating to the application of the United Nations Charter.~~
8. ~~ETATPRIORITE – Government radiotelegrams with priority and Government calls for which priority has been expressly requested.~~
9. ~~Service communications relating to the working of the telecommunication service or to communications previously exchanged.~~
10. ~~Government communications other than those shown in 8 above, ordinary private communications, RCT[2] radiotelegrams and press radiotelegrams.~~

SUP S53.1.1

SUP S53.1.2

ADD S53.1A In a fully automated system, where it is impracticable to offer all four levels of priority, category 1 shall receive priority until such time as intergovernmental agreements[1] remove exemptions granted for such systems from offering the complete order of priority.

ADD S53.1A.1 [1] Requirements and performance standards for radio systems and equipment for maritime distress and safety radiocommunications are developed and adopted by the International Maritime Organization.

APPENDIX S13*

Distress and Safety Communications (Non-GMDSS)

(see Article **S30**)

PART A

Part A1. General Provisions

MOD § 1. The provisions specified in this Appendix are obligatory (see Resolution **331(~~Mob-87~~Rev.WRC-97)**) in the maritime mobile service for stations using the frequencies and techniques prescribed in this ~~Chapter~~Appendix and for communications between these stations and aircraft stations. However, stations of the maritime mobile service, when additionally fitted with any of the equipment used by stations operating in conformity with the provisions specified in Chapter **SVII** shall, when using that equipment, comply with the appropriate provisions of that Chapter. The provisions of this Appendix are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

NOC § 2. to § 8.

NOC § 9.

MOD *a)* until the full implementation of the global maritime distress and safety system (GMDSS), of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions[1] or, on the carrier frequency 4 125 kHz, transmitting and receiving J3E emissions or, on the frequency 156.8 MHz, transmitting and receiving class G3E emissions (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**);

NOC § 9. *b)*

MOD § 10. ~~Until the full implementation of the GMDSS and until a competent conference decides otherwise, a~~All provisions of the Radio Regulations pertaining to the ~~present~~ distress, urgency and safety communications ~~shall~~using the techniques and frequencies described in this Appendix should be maintained in force for all stations using these techniques and frequencies for distress, urgency and safety communications (see Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

Part A2. Frequencies for Distress and Safety

Section I. Availability of Frequencies

C. 2 182 kHz

MOD § 2. (1) The carrier frequency 2 182 kHz~~2~~ is an international distress frequency for radiotelephony (see also Nos. **S5.108** and **S5.111**); it shall be used for this purpose by ship, aircraft and survival craft stations and by emergency position-indicating radiobeacons using frequencies in the authorized bands between 1 605 kHz and 4 000 kHz when requesting assistance from the maritime services. It is used for distress calls and distress traffic, for signals of emergency position-indicating radiobeacons, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2 182 kHz. The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be ~~H3E~~J3E. ~~Class of emission A3E may continue to be used by apparatus intended solely for distress, urgency and safety purposes (see No. **S51.53**).~~ The class of emission to be used by emergency position-indicating radiobeacons shall be as specified in Appendix **S19** (see also Part A5, paragraph 3). ~~The class of emission J3E may be used for the exchange of d~~Distress traffic on 2 182 kHz following the ~~acknowledged~~ reception of a distress call using ~~digital selective calling techniques on 2 187.5 kHz taking~~ DSC should take into account that ~~other~~some shipping in the vicinity may not be able to receive this traffic (see also Appendix **S15** and Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

SUP ~~2 Where administrations provide at their coast stations a watch on 2 182 kHz for receiving class J3E emissions as well as class A3E and H3E emissions, ship stations may communicate with them using class J3E emissions.~~

Section II. Protection of Distress and Safety Frequencies

B. 500 kHz

MOD § 15. (1) Apart from the transmissions authorized on 500 kHz, and taking account of No. **S52.28**, all transmissions on the frequencies included between ~~490~~495 kHz and ~~510~~505 kHz are forbidden ~~(see No. **S5.81** and Resolution **210 (Mob-87)**)~~. From 1 February 1999 this band is reduced to the band between 495 kHz and 505 kHz.

Section III. Watch on Distress Frequencies

A. 500 kHz

MOD § 19. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz which employ Morse telegraphy shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at x h 15 and x h 45, Coordinated Universal Time (UTC), by an operator using headphones or loudspeaker (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

NOC § 19. (2)

MOD *a)* transmissions shall cease in the band between 490 kHz and 510 kHz ~~(see also Resolution **210 (Mob-87)**~~. From 1 February 1999 this band is reduced to the band between 495 kHz and 505 kHz;

ADD § 20A. The provisions of paragraphs 19 to 20 remain mandatory until 1 February 1999.

B. 2 182 kHz

MOD § 21. (1) Coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix on 2 182 kHz ~~shall~~should, during their hours of service, maintain a watch on 2 182 kHz (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch should be indicated in the List of Coast Stations.

MOD (2) These stations ~~shall~~should maintain this watch by means of an operator using some aural method, such as headphones, split headphones or loudspeaker.

MOD (3) In addition, ship stations should keep the maximum watch practicable on the carrier frequency 2 182 kHz for receiving by any appropriate means the radiotelephone alarm signal described in Part A5, paragraph 6(1), and the navigational warning signal described in Part A5, paragraphs 12(1), (2) and (3), as well as distress, urgency and safety signals. (See also Resolution **331 (Rev.WRC-97).**)

MOD § 22. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz (see also Resolution **331 (Rev.WRC-97)**).

MOD § 23. In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 1 605 kHz and 2 850 kHz ~~shall,~~using the techniques described in this Appendix for distress purposes, should during their hours of service, and as far as possible, take steps to keep watch on the

international distress carrier frequency 2 182 kHz for three minutes twice each hour beginning at x h 00 and x h 30, Coordinated Universal Time (UTC) (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by coast stations should be indicated in the List of Coast Stations.

ADD § 23B The provisions of paragraphs 21 to 23A. Remain mandatory until 1 February 1999.

MOD *C. 4 125 kHz ~~and~~, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 kHz*

MOD § 24. (1) All coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes may, during their hours of service, maintain a watch on the carrier frequencies 4 125 kHz or 6 215 kHz ~~or both~~, 8 291 kHz, 12 290 kHz and 16 420 kHz (see paragraphs 4(1) and 6 above, as well as Table **S15.1** of Appendix **S15**). Such watch should be indicated in the List of Coast Stations.

D. 156.8 MHz

MOD § 25. (1) A coast station providing an international maritime mobile radiotelephone service in the band 156 - 174 MHz and which forms an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix should, during its working hours in that band, maintain an efficient aural watch on 156.8 MHz (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)** and Recommendation **306**). Such watch should be indicated in the List of Coast Stations.

MOD (2) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz, using the techniques and frequencies described in this Appendix. Ship stations fitted only with radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

MOD (3) Ship stations, when in communication with a port station, using the techniques and frequencies described in this Appendix may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch, on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by port stations should be indicated in the List of Coast Stations.

MOD (4) Ship stations, when in communication with a coast station in the ship movement service using the techniques and frequencies described in the Appendix, and subject to the agreement of the administrations concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided the watch on 156.8 MHz is being maintained by the coast station (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by coast stations in the ship movement service should be indicated in the List of Coast Stations.

MOD

kHz
315 – 495

Allocation to Services		
Region 1	Region 2	Region 3
315 – 325 AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) S5.73 S5.72 S5.75	**315 – 325** MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical Radionavigation	**315 – 325** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73
325 – 405 AERONAUTICAL RADIONAVIGATION S5.72	**325 – 335** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) **335 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
405 – 415 RADIONAVIGATION S576 S5.72	**405 – 415** RADIONAVIGATION S5.76 Aeronautical Mobile	
415 – 435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION S5.72 **435 – 495** MARITIME MOBILE S5.79 ADD S.79A Aeronautical Radionavigation S5.72 S5.81 S5.82	**415 – 495** MARITIME MOBILE S5.79 ADD S5.79A Aeronautical Radionavigation S5.80 S5.77 S5.78 S5.81 S5.82	

MOD

kHz
495 – 1 606.5

Allocation to Services		
Region 1	Region 2	Region 3
495 – 505	MOBILE (distress and calling) S5.83	
505 – 526.5 MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION S5.72 S5.81 ~~S5.84~~	**505 – 510** MARITIME MOBILE S5.79 S5.81	**505 – 526.5** MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Land Mobile S5.81
	510 – 525 MOBILE ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION	
526.5 – 1 606.5 BROADCASTING S5.87	**525 – 535** BROADCASTING S5.86 AERONAUTICAL RADIONAVIGATION	**526.5 – 535** BROADCASTING Mobile S5.88
	535 – 1 605 BROADCASTING	**535 – 1 606.5** BROADCASTING

MOD

kHz
4 063 – 5 450

Allocation to Services		
Region 1	Region 2	Region 3
4 063 – 4 438	MARITIME MOBILE ADD S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 S5.128 S5.129	
4 438 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 – 4 650** FIXED MOBILE except aeronautical mobile
4 650 – 4 700	AERONAUTICAL MOBILE (R)	
4 700 – 4 750	AERONAUTICAL MOBILE (OR)	
4 750 – 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING S5.113	**4 750 – 4 850** FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113	**4 750 – 4 850** FIXED BROADCASTING S5.113 Land Mobile
4 850 – 4 995	FIXED LAND MOBILE BROADCASTING S5.113	
4 995 – 5 003	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	
5 003 – 5 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
5 005 – 5 060	FIXED BROADCASTING S5.113	
5 060 – 5 250	FIXED Mobile except aeronautical mobile S5.133	
5 250 – 5 450	FIXED MOBILE except aeronautical mobile	

ADD S5.79A When establishing coast stations in the NAVTEX service in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution **339 (Rev.WRC-97)**).

MOD S5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution **331 (~~Mob-87~~Rev.WRC-97)**), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles **S31** and **S52**~~, and Resolution **339 (WRC-95)**~~. In using the band 415 - 495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz.

MOD S5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **S31** and **S52** and in Appendix **S13** ~~(see Resolution **339 (WRC-95)**)~~.

MOD S5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques ~~(see Resolution **339 WRC-95**)~~.

MOD

RESOLUTION 339 (~~WRC-95~~Rev.WRC-97)

COORDINATION OF NAVTEX SERVICES

The World Radiocommunication Conference (Geneva, ~~1995~~1997),

considering

a) that the Voluntary Group of Experts (VGE) has suggested that, in the interests of simplification, this Conference may decide that it is no longer necessary for ITU to continue frequency coordination of NAVTEX services in addition to the operational coordination undertaken by the International Maritime Organization (IMO);

b) that ~~the~~ IMO has established a Coordinating Panel on NAVTEX to, *inter alia*, coordinate the operational aspects of NAVTEX services such as allocation of transmitter identification character (B1) and time schedules in the planning stages for transmissions on the frequencies 490 kHz, 518 kHz or 4 209.5 kHz;

c) that coordination in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz is essentially operational;

d) ~~that consideration should be given to an effective means of publishing and recording information on frequency assignments for NAVTEX services, if ITU no longer undertakes coordination of NAVTEX services,~~that Article **14A** of the Radio Regulations has been suppressed by WRC-95 with effect from 18 November 1995;

e) that the frequency band 510 - 525 kHz is also allocated to the aeronautical radionavigation service on a primary basis;

f) that WRC-95 resolved in its Resolution **23 (WRC-95)** that, with effect from 18 November 1995, the Bureau shall not examine with respect to Nos. **1241-1245** of the Radio Regulations, and shall not apply the related provisions to frequency assignment notices in the non-planned bands below 28 000 kHz,

resolves

~~1. to abrogate the current Article **14A** of the Radio Regulations with immediate effect and to replace the related procedures with those contained in the Annex to this Resolution;~~

~~2. that~~ to invite administrations to apply the procedures ~~in the Annex to this Resolution may also be applied~~established by the International Maritime Organization (IMO), taking into account the IMO's NAVTEX Manual, for coordinating the use of the ~~frequency~~frequencies 490 kHz, 518 kHz and 4 209.5 kHz ~~for NAVTEX-type transmissions as well as for the use of the frequency 490 kHz, when it becomes available for NAVTEX-type transmissions~~,

instructs the Secretary-General

1. to ~~arrange for the necessary consultations with~~invite IMO ~~on the need for ITU to continue frequency~~to provide the ITU with information on a regular basis on operational coordination for NAVTEX services ~~and report the results to WRC-97 to enable it to decide on this item~~in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz;

2. to publish this information in the List of Coast Stations (see **S20.7**).

SUP

ANNEX TO RESOLUTION 339 (WRC-95)

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
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PLENARY MEETING

NOTE BY THE SECRETARY-GENERAL

ITU-R RECOMMENDATIONS AND INCORPORATION BY REFERENCE

1 Legal considerations

1.1 The concept of incorporation by reference and the principles underlying its application were clearly identified and approved by WRC-95 (Resolutions 27 (see the annex thereto in particular) and 28).

1.2 The annex provides in particular that, if a WRC decides to incorporate a text by mandatory reference, the text in question "must be adopted by the Plenary" … "but should not be part of the Final Acts".

1.3 Under No. 462 of the Convention, only the texts of "Final Acts" shall be considered final when they have been approved at the second reading in Plenary Meeting. Conversely, texts which are not part of "Final Acts" are not subject to this obligation. This is therefore the case for the texts of Recommendations incorporated by reference.

1.4 Furthermore, while the principle set out in No. 374 provides that proposals presented after the opening of the Conference shall be published and distributed as Conference documents, No. 378 mitigates this principle inasmuch as it gives the Chairman of the Conference or of the relevant committee or working group discretion to decide whether a proposal submitted during a meeting should or should not be published and distributed as a Conference document.

1.5 It may therefore be considered, *a fortiori*, that the Conference is entitled to take a similar decision in respect of texts which are not to be reproduced in the "Final Acts".

1.6 Moreover, the texts of such Recommendations cannot be amended by the WRC, which has no mandate to do so. It can therefore only adopt the text or one or more parts thereof "as they stand".

1.7 It may be concluded from the above that, in order for a Plenary Meeting to be able duly to adopt the text of a Recommendation incorporated by reference, it is necessary and sufficient that the delegations participating in the Plenary Meeting should have been provided access to the text in question, which does not necessarily mean that the texts should be published as official Conference documents.

1.8 On the other hand, it is essential that references to Recommendations liable to be incorporated should be published as Conference documents, and approved on second reading by the Plenary Meeting in cases where WRC wishes them to be definitively incorporated by reference.

2 Logistical constraints

On the basis of Annex 2 to the CPM Report it is estimated that the ITU-R Recommendations for incorporation by reference could potentially amount to 1 000 pages per language, or 3 000 pages in the three languages. Thus, the estimated total volume of pages for distribution to all delegates would amount to five million. Reproduction of five million pages would occupy the complete reproduction facility for approximately 120 hours and would cost 210 000 Swiss francs, not counting overtime.

3 Conclusion and practical arrangements

3.1 In the light of the legal, technical and logistical considerations described above, it is suggested that the Plenary Meeting should apply the following procedure:

a) a list of the numbers of Recommendations proposed for incorporation by reference shall be published and constantly updated (by means of addenda) in the light of developments in the work of the Conference's working groups and committees. This list is published in Document 170.

b) the full texts of all the Recommendations referred to in the list mentioned in subparagraph a) above may be consulted by all participants at the Conference, in their final English, Spanish and French versions, at any time, on the WWW (www.itu.ch/bredh/cmr-ar-97/index.html), and on paper on working days in office J.124, between 0800 hours and 2000 hours.

3.2 Accordingly, by adopting (at the second reading) a reference to a Recommendation, the Plenary Meeting shall be deemed to have formally adopted the text of the Recommendation.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 158-E
3 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4
COMMITTEE 5

Israel (State of)

A NEW CATEGORY OF SPACE NETWORK

QUASI-GEOSTATIONARY-SATELLITE NETWORK INTRINSICALLY COMPATIBLE WITH GEOSTATIONARY-SATELLITE NETWORKS

Definitions are given in the Radio Regulations for orbits in space (RR 176), including the geostationary orbit (RR 182) and for satellites in such orbits (RR 180, 181). Although it is possible to define quasi-geostationary orbits, it is more convenient to describe a quasi-geostationary-satellite network in which radiocommunication satellites operate sequentially from one or more regions in space that appear approximately fixed relative to the Earth. This implies that when the satellite leaves that region in space from which it appears approximately fixed relative to the Earth, it ceases operation and is replaced immediately in that region by another switched-on satellite with identical characteristics. In this way continuous 24-hour per day service is maintained from a region in space that appears approximately fixed relative to the Earth. The number of satellite planes in the quasi-geostationary orbit will determine the number of satellite operating slots that appear approximately fixed relative to the Earth. **In order to achieve such regions in space in which satellites appear approximately fixed relative to the Earth, and are intrinsically compatible with geostationary-satellite networks, quasi-geostationary-satellite networks will maintain more than 30 degrees separation from the equatorial plane, or from geostationary satellites in this orbit plane**.

The geostationary-satellite network is characterized by a satellite over the Earth's equator at a given longitude. Geostationary satellites of different networks reuse the frequency spectrum even over the same service area on the Earth on the basis of their respective earth stations having antennas that can discriminate between satellites on the basis of their orbital longitudinal separation. A coordination process as described in the Radio Regulations is required before any new geostationary-satellite network can be entered in the International Master Frequency Register and thereby receive international recognition to operate without harmful interference.

The quasi-geostationary-satellite network intrinsically compatible with geostationary-satellite networks is characterized by satellites operating sequentially from slots in space that appear approximately fixed with respect to the Earth, **and that are more than 30 degrees separated from the equatorial plane**. These slots may be described in terms of Earth longitude and latitude. Quasi-geostationary satellites of different networks may reuse the frequency spectrum even over the

same service area on the Earth on the basis of their respective earth stations having antennas that can discriminate between satellites on the basis of their orbital longitudinal and latitudinal separation. **The coordination process for geostationary-satellite networks may be applied for quasi-geostationary-satellite networks both among quasi-geostationary networks and for quasi-geostationary networks vis-à-vis geostationary-satellite networks, where compatibility is almost automatic given the minimum 30 degree separation from the equatorial plane**.

Other non-geostationary-satellite networks operate from regions in space that are not fixed with respect to the Earth, and it appears unlikely that they can reuse the frequency spectrum neither among themselves nor in relation to geostationary-satellite networks. Coordination of such networks using the same spectrum requires new procedures in order to ensure operation without harmful interference.

There has been proposed another class of non-geostationary-satellite network that ensures its compatibility with geostationary-satellite networks by switching off the particular satellite when it appears within a certain number (±10) of degrees of the equatorial plane. Continuity for this satellite network is achieved by always having more than one operating satellite in view over its service area on the Earth. **Such a non-geostationary network is not a quasi-geostationary-satellite network,** and in order to make it compatible with quasi-geostationary-satellite networks, it will require considerable additional switching to that required to make it compatible with the geostationary-satellite networks.

Conclusion

A new class of space networks, the quasi-geostationary-satellite network has been presented, similar in operation to the geostationary-satellite network working in the equatorial plane of the Earth, and different from other non-geostationary-satellite networks.

The quasi-geostationary-satellite network operates in a similar manner to the geostationary-satellite networks, and should be treated by similar procedures of the Radio Regulations, distinct to those applied for general non-geostationary-satellite networks. Furthermore quasi-geostationary-satellite networks, by operating at least 30 degrees from the Earth's equatorial plane will be intrinsically compatible with satellite networks in the geostationary orbit, and open up the spectrum to many new systems, while still maintaining the full integrity of the present geostationary satellites.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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12 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

MINUTES

OF THE

SECOND PLENARY MEETING

Thursday, 30 October 1997, at 1630 hours

Chairman: Mr. R. SMITH (Australia)

Subjects discussed		**Documents**
1	Oral reports by the Chairmen of Committees and Working Groups of the Plenary	-
2	Work schedule of the Conference	107
3	Announcement by the French delegation	-

1 Oral reports by the Chairmen of Committees and Working Groups of the Plenary

1.1 The **Chairman of Committee 2** said that the Committee had held one meeting at which it had taken note of its terms of reference and created a small working group to expedite its work. Thus far, 64 Member States had deposited their credentials, and he urged all countries to respect the deadline for submission of credentials to enable the Committee to make its final report on 18 November.

1.2 The **Chairman of Committee 4** said that the Committee had already held two meetings and had established four working groups: Working Group 4A on the simplified Radio Regulations, Working Group 4B on maritime mobile and maritime mobile-satellite services and other issues related to non-broadcasting services in the MF/HF bands, Working Group 4C on HF broadcasting and Working Group 4D on the broadcasting-satellite service. At its second meeting, the Committee had discussed at length the proposal submitted by the Islamic Republic of Iran (proposal IRN/44/33) to defer the entry into force of the revised Radio Regulations until after WRC-99. Although the proposal had received support, there had been quite considerable opposition to it for a number of reasons, in particular because the Voluntary Group of Experts (VGE) and WRC-95 had carried out extensive work on the simplification of the Radio Regulations and any remaining inconsistencies and deficiencies could be corrected at the present Conference. It had, furthermore, been proposed that the agendas of future world radiocommunication conferences should include a standing item on the review of the simplified Radio Regulations. Since a majority had appeared to be against deferring entry into force, it had been decided not to accept the Iranian proposal. The Iranian delegation had reserved the right to raise the matter again in the Plenary Meeting.

1.3 With regard to the discussions in Working Group 4D, an urgent matter had been raised which, in his opinion, required an immediate decision by the Plenary. The Bureau was required under paragraph 5.4 of Annex 1 to Resolution 531 to include in Step 1 of its planning exercises assignments for which the Article 4 modification procedure in Appendices 30 and 30A of the Radio Regulations had been applied successfully. However, it would need time to complete the examination of the results of coordination to ensure that the provisions of Appendices 30 and 30A are met. It was therefore indispensable that a date limit be established for the receipt of information used for updating further the Step 1 situation and it had been proposed that a deadline be set at 1800 hours that afternoon.

1.4 The **delegate of Morocco** said that it was inappropriate to raise the substance of discussions in Working Group 4D at the Plenary, since the subject of a date limit had not yet been considered by Committee 4. With regard to the Iranian proposal, the Chairman of Committee 4 had only referred to the arguments against, and he would expect a more balanced account of the discussions that had taken place. The proposal had not been rejected by a majority since there had not been a vote; rather, the discussions had concluded with the Chairman's ruling, which he would question, and he requested that the proposal submitted by the Islamic Republic of Iran be taken up at a subsequent Plenary Meeting.

1.5 The **delegate of Syria** endorsed the views expressed by the delegate of Morocco. The deadline for submission of information should be discussed by Committee 4 prior to consideration of the matter by the Plenary. The **delegate of Saudi Arabia** added that, since Working Group 4D had not yet completed its work, the deadline proposed was inappropriate.

1.6 The **Chairman of Committee 4**, responding to the comments by the delegate of Morocco, said that it was of fundamental importance that a deadline be set to enable the Bureau to do essential work on the Plans, he had raised the matter exceptionally in the Plenary Meeting in order to expedite the work of the Conference, not to avoid discussion of the issue in Committee 4. Having confirmed that the delegations of Morocco and Syria had reserved the right to raise the Iranian proposal in the Plenary, he apologised if he had failed to give a well-balanced account of the discussions. The proposal had been supported because several issues, such as international recognition and protection of assignments, required further consideration. Moreover, some administrations had not had sufficient time to study in depth all the implications of the revised Radio Regulations. Finally, no vote had been requested and he had made his ruling because a clear majority of speakers had appeared to be against the proposal submitted by the Islamic Republic of Iran.

1.7 The **delegate of Syria** said that, as yet, the Secretary-General had provided no information to the Conference on Members' responses as to whether they agreed to be bound by the provisions of the revised Radio Regulations, as required by Resolution 24 (WRC-95). If only a minority of Members had agreed, it would be appropriate to defer the date of entry into force as proposed by the Islamic Republic of Iran.

1.8 The **Deputy Secretary-General** suggested that the Secretariat should look into the matter of Resolution 24 further and report to the next Plenary Meeting.

1.9 It was so **agreed**.

1.10 The **Chairman**, in response to the **delegate of the Islamic Republic of Iran**, suggested that the matter of further consideration of the Iranian proposal by the Plenary Meeting should be referred to the Steering Committee.

1.11 It was so **agreed**.

1.12 The **delegate of Morocco** pointed out that before determining a date limit for the receipt of submissions in relation to the revision of the Plans it would be essential to know precisely what would be included in the planning exercises. He suggested that the Director of the Radiocommunication Bureau should be requested to prepare a document providing the necessary information prior to any decision.

1.13 The **Chairman** confirmed that he would take the matter up with the Director of the Radiocommunication Bureau. He suggested that, in view of the objections voiced regarding the setting of a date limit, the Steering Committee should be requested to consider how best to proceed, in particular as to whether the matter should be considered first by Committee 4 as a whole or whether it should be transmitted directly to the Plenary Meeting.

1.14 It was so **agreed**.

1.15 The **Chairman of Committee 3** reported that the Committee had noted its terms of reference at its first meeting held that morning. It had also examined Document 111 which contained a note to the Chairmen of Committees 4 and 5 and Working Group PLEN-1 requesting information on decisions with financial implications. Given that the expenditure for the Conference was already expected to exceed the budget approved by the Council, all committees and working groups were urged to restrain their requirements for meetings and documentation.

1.16 The **Chairman of Committee 5** reported that the Committee had organized its work by establishing three working groups. Working Group 5A had already completed discussion of a number of issues relating to space science services and earth exploration-satellite service requirements, including WARC-92 Resolutions 211, 710 and 711, and Resolution 712 (Rev.WRC-95). Two items for WRC-99 had also been identified and would be submitted to Working Group 1 of the Plenary. Working Group 5B on mobile-satellite and fixed-satellite services had formed two subgroups: one dealing with MSS below 1 GHz, the other with MSS between 1 and 3 GHz. Harmonization of allocations to the mobile-satellite service in the 2 GHz range was currently being discussed informally. The issues being considered by Working Group 5B were all highly complex. Working Group 5C on other allocation matters had already established drafting groups on spurious emissions, aeronautical services in the band 136 - 137 MHz and wind profiler radars. Discussion had also begun that afternoon on the complex issue of high density fixed services above 30 GHz.

1.17 The **delegate of France** stressed the importance of scheduling additional meetings of Working Group 5B in order to allow time for consideration of the sensitive issue of the non-geostationary fixed-satellite service. Perhaps an additional working group might be needed.

1.18 The **Chairman** said that progress had to be made on so crucial an issue, and gave his assurance that the matter would be brought to the attention of the Steering Committee.

1.19 The **Chairman of Committee 6** said that the Committee had held one meeting. She drew attention to the need for documents which should be prepared on the basis of Document 2, to be submitted to the Committee as early as possible to ensure the progress of the Conference.

1.20 The **Chairman of Working Group PLEN-1** reported that at its first meeting the Working Group had considered the report of the Director of the Radiocommunication Bureau and all proposals from administrations had been introduced. A revised list of the proposals for agenda items for conferences was in preparation. Of the 77 proposals already received, six were standing items, 33 required no input from Committees 4 and 5 and would be considered at the Working Group's next meeting, and 38 required prior consideration by Committees 4 and 5. In respect of the latter, contributions from Committees 4 and 5 would be needed by 11 November 1997 to allow sufficient time for the Working Group to complete its work. He urged administrations to examine whether their proposals might be withdrawn or deferred in order to reduce the excessive numbers.

1.21 The **Chairman** added that he would be circulating a document making a similar appeal and outlining an appropriate procedure in that regard.

1.22 The **Chairman of Working Group PLEN-2** said that the Working Group had held one meeting and had begun consideration of the recommendations made to the Conference by the Director of the Radiocommunication Bureau in respect of Resolution 18 (Kyoto, 1994), in particular those recommendations related to reduction of the regulatory time limit for bringing satellites into use, and to streamlining and simplifying the advance publication stage. He hoped that discussion of those topics would be conducted at the second meeting, before the working group went on to consider the more sensitive questions related to overfiling, "paper" satellites and due diligence.

2 Work schedule of the Conference (Document 107)

2.1 The **Chairman**, introducing Document 107, said that it was necessary to set certain deadlines for the work of the Plenary Meeting, the Committees and their Working Groups in order to ensure the smooth progress of the Conference. Document 107 would be considered by the Steering Committee with a view to issuing a revision setting more specific targets and deadlines for the various groups.

2.2 On that understanding, Document 107 was **noted**.

3 Announcement by the French delegation

3.1 The **delegate of France** was proud to announce the successful launch of Ariane 5 and its payload earlier that afternoon. Ariane 5 represented an important technological advance in gaining access to space.

The meeting rose at 1735 hours.

The Secretary:
Pekka TARJANNE

The Chairman:
R. SMITH

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 159-E
3 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

MINUTES

OF THE

SECOND PLENARY MEETING

Thursday, 30 October 1997, at 1630 hours

Chairman: Mr. R. SMITH (Australia)

Subjects discussed		**Documents**
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had formed two subgroups: one dealing with MSS below 1 GHz, the other with MSS between 1 and 3 GHz. Harmonization of allocations to the mobile-satellite service in the 2 GHz range was currently being discussed informally. The issues being considered by Working Group 5B were all highly complex. Working Group 5C on other allocation matters had already established drafting groups on spurious emissions, aeronautical services in the band 136 - 137 MHz and wind profiler radars. Discussion had also begun that afternoon on the complex issue of high density fixed services above 30 GHz.

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1.21 The **Chairman** added that he would be circulating a document making a similar appeal and outlining an appropriate procedure in that regard.

1.22 The **Chairman of Working Group PLEN-2** said that the Working Group had held one meeting and had begun consideration of the recommendations made to the Conference by the Director of the Radiocommunication Bureau in respect of Resolution 18 (Kyoto, 1994), in particular those recommendations related to reduction of the regulatory time limit for bringing satellites into use, and to streamlining and simplifying the advance publication stage. He hoped that discussion of those topics would be conducted at the second meeting, before the working group went on to consider the more sensitive questions related to overfiling, "paper" satellites and due diligence.

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2.1 The **Chairman**, introducing Document 107, said that it was necessary to set certain deadlines for the work of the Plenary Meeting, the Committees and their Working Groups in order to ensure the smooth progress of the Conference. Document 107 would be considered by the Steering Committee with a view to issuing a revision setting more specific targets and deadlines for the various groups.

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The Secretary:
Pekka TARJANNE

The Chairman:
R. SMITH

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 2 to
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

NOTE BY THE CHAIRMAN OF WORKING GROUP 4D

SUMMARY OF CONCLUSIONS REACHED BY WORKING GROUP 4D
AT THE END OF THE SIXTH AND SEVENTH MEETINGS
(4 November 1997)

The following are the results of the sixth and seventh meetings of Working Group 4D concerning the planning items included in Annex 2 to Document 56.

2.20 Consideration of assignments for future Members of the Union. Following a request by the Republic of Seychelles**,** it was **decided** to request the Bureau to try to provide for this future Member of the Union, assignments in the Plan as requested. Concerning the administrative issues involved, the Bureau will seek legal advice on the approach to be followed.

1.2.8 Double entries: It was **agreed** to treat the assignments to the Russian Federation as follows:

a) Those assignments successfully coordinated under Article 4 of Appendices 30 and 30A for satellite networks RST-1, 2, 3 and 5 at orbital positions 36° E, 56° E, 86° E and 140° E respectively, as assignments to be entered in Step 1 of the Plan, consequentially, the lapsing time of eight years will not be applied;

b) for orbital position 110° E the Principles used for "new countries" will apply to the Russian Federation;

c) in connection with the above decision **WG 4D ad hoc 3** under the chairmanship of Mr. Barton (Australia) **was formed and charged** with the task of reaching agreement on the equitable access to orbit/spectrum for Regions 1 and 3 countries in the BSS and FSS services. The Group will have representatives of Australia, India, Pakistan and the Russian Federation.

1.2.3 Modifications of Step 2 orbital positions during the Conference: the representative of the Bureau reported that **agreement has been reached** by the administrations concerned with this issue as follows: HRV, BIH and SVN will be located at orbital position 34°, while MKD will be located at 23° (Case 1). See Corrigendum 3 to Document 56 of the Bureau.

1.1.1 Minimization of the number of Plan options or alternatives:

– concerning Step 1, it was agreed to follow the "alternative Step 1 option";

– concerning Step 2, in view of decisions that were made earlier on the issues involved in the national preferences option it was agreed to merge those decisions with the "Baseline Option" and proceed accordingly.

KAZ and UKR referred to their Documents 123(Add.1) and 167 respectively in which they asked for additional channels to meet their needs. It was agreed to do the planning on the basis of five channels and the Bureau will see if other channels could be accommodated afterwards.

1.2.9 Number of channels per beam: Consequential to the choice of the baseline option for Step 2, in general, all new countries in Region 1 will be assigned five channels per orbital position and in Region 3, four channels.

1.2.6 Application of a lapsing time for additions/modifications, currently specified in Sections 4.2.5 of Appendix 30A and 4.3.5 of Appendix 30 taking into account the date of bringing into use.

a) With respect to footnote d) in Table 2 (Assignments type A) of Document 56 regarding assignments for Europsat-1 for which the Bureau has received comments from two administrations concerning the validity of the statement made regarding the date of bringing into use and the notified characteristics of this network, the Chairman suggested to the parties concerned to consult with the Chairman of Committee 4 to determine what options might be available.

b) With respect to Footnote a) in Table 4 (Assignments type D) of Document 56, information on the status of the entry for LUX-SAT at 19° W was requested. Luxembourg stated that the LUX-SAT network has been cancelled.

Progress of ad hoc Groups

The Chairman of ad hoc Group 1 stated that agreement has been reached on an entry in the Plan for Palestine. (The technical parameters will appear in Document DT/57.) The delegate of Syria questioned the reference to Resolution 741.

The Chairman of ad hoc Group 2 indicated that progress has been made and he was asked to hold another meeting to complete the work assigned to the Group. The Bureau was asked to do some calculations to help in analysing the impact of this request by Israel for orbital position 4° W.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 1 to
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Chairman of Working Group 4D

SUMMARY OF CONCLUSIONS REACHED BY WORKING GROUP 4D
AT THE END OF THE FIFTH MEETING
(3 NOVEMBER 1997)

The following conclusions were reached by WG 4D regarding Planning issues in Annex 2 to Document 56 which are urgently required by the BR before Planning may proceed:

1.2.3 Modification of Step 2 orbital positions during the Conference:

It was **decided** that the countries referred to in Cases 1 and 2 i.e: BIH, HRV, MKD, SVN, (pages 53 and 54 of document 56) will **be contacted** if possible by the Bureau which will bring the results to the tomorrow meeting of WG4D. Australia requested that in any event the impact of either case on Region 3 should be evaluated.

1.2.4.1 Relative priority of a Step 1 Plan entry resulting from the successful application of Article 4 and that of a Step 2 Plan entry. This issue is linked to the cut-off date for receipt of information on successful coordination in accordance with Article 4 of Appendices 30 and 30A referred to in document 151. It was concluded that Article 4 submissions received for publication of Part B after the above-mentioned cut-off date which have successfully completed coordination procedure of the current Article 4 should have to protect the revised Plan.

1.2.4.2 The need, or otherwise, for coordination of any changes to Step 1 assignments with respect to the existing Plan or Article 4 modifications/additions that are currently in process. It was considered that this issue is entrusted to WG 4D Ad Hoc 2 and is being further pursued within that sub-working group.

1.2.5 Consideration of the compatibility between the following entries to be carried out when draft Plan is being prepared

The following decisions were taken:

1.2.5.1 Two different entries in the revised Plan. It was **decided** to request the Bureau to carry out:

• For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked • to bring their copies to the meeting since no others can be made available.

a) OEPM and single entry C/I compatibility analysis between the assignments in Step 1. (Step 1 via à vis Step 1);

b) OEPM and single entry C/I compatibility analysis between the new assignments in Step 2. (Step 2 via à vis Step 2);

c) OEPM and single entry C/I compatibility analysis between the new assignments in Step 2 with respect to the assignments in Step 1 as well as in the opposite direction.

1.2.5.2 Entries in the revised Plan and Region 2 BSS Plan: It was **decided** to request the Bureau to carry out compatibility analysis between the assignments resulting from Steps 1 and 2 with respect to the assignments in the Region 2 BSS Plan as well as in the opposite direction.

1.2.5.3 Entries in the revised Plan and other services. It was **decided** to request the Bureau to perform compatibility analysis in both directions between the BSS assignments and other services to the extent that the required information is available to the Bureau. Concerning the compatibility analysis with respect to FSS assignments the representative of the Bureau stated that it will take into consideration:

FSS assignments in the MIFR, FSS assignments which are recorded in the Master Register or which have been coordinated or which are being coordinated under the relevant provisions of the Radio Regulations. In this connection it was mentioned that for assignments not processed by the Bureau , the identification of the administrations will be done in accordance with the procedure mentioned in paragraph 2.15 of the attachment 1 to Annex 2 of document 56.

India and Australia stated that the Bureau should ensure that FSS systems in overlapping bands will not be constrained. Further discussion of this matter will be taken up at future meeting of WG 4D.

1.2.6 The meeting **agreed** with the proposal that Australia's orbital positions 128 ° E and 98 °E be replaced by 152°E and 164 °E as requested by that administration provided that the latter orbital positions are regarded as the Plan orbital positions and thus 8 years lapsing time would not be applied in their regard.

1.2.7 Requests for revisions to the current Plan not submitted through the Article 4 process.

In dealing with the following cases the meeting agreed to apply the same compatibility assessment approach(es) which were used for the establishment of step 2.

1.2.7.1 The meeting **agreed** to the request of the Socialist Republic of **Viet Nam** to align downlink Plan entries with its feeder link Plan entry and the use of a fast roll off antenna (and if necessary an e.i.r.p. reduction) to minimise interference.

1.2.7.2 The meeting also **agreed** to the request of the **Republic of Korea** to modify two of its test points.

1.2.7.3 The meeting **agreed** to the request of the **Democratic People's Republic of Korea** to modify its test points using the current ellipse and taking the relevant rain climatic zone resulting from application of ITU-R Rec. P. 837-1.

1.2.7.4 Other cases that might bought to the attention of the Conference related to test points, beam, and other parameters. It was recognized that **there were no** such cases.

1.2.7.5 The meeting **agreed** to the request of an additional channel for the eastern **Malaysian** Plan entry (beam MLA22800).

1.2.8 Double entry cases

P**ending** for discussion on the next meeting of WG 4D Tuesday.

1.2.9 Number of channels per beam to be assigned in Region 1 and in Region 3 in Step 2 of the revision of the Plan. **It will be discussed** Tuesday together with item 1.1.1 of Annex 2 to Document 56.

1.2.10 Number of channels to be assigned to the Federated States of Micronesia and the Republic of Palau. It was **agreed** to assign 5 channels to each of Federated States of Micronesia and Republic of Palau in accordance with planning principle 2.1.2 of Annex 1 to Res.531 (WRC-95).

1.1.3 The meeting also agreed to the test point and ellipse data contained in document 136 and also additional test points submitted by the administration of China in document 38 Add.1

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 160-E
3 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Chairman, Working Group 4D

SUMMARY OF CONCLUSIONS REACHED BY WORKING GROUP 4D AT THE END OF THE FIRST WEEK (31 OCTOBER 1997)

The following conclusions were reached by WG 4D regarding Planning issues in Annex 2 to Document 56 which are urgently required by the BR before Planning may proceed:

1 Activities related to Steps 1 and 2

1.1 Technical parameters on which any Plan revision would be based

1.1.1 Minimization of the number of Plan options or alternatives: still **pending**

1.1.2 Use of Recommendation 521 (WRC-95) technical parameters for planning: **adopted**. Three comments were made:

a) Iran said that the new technical parameters should apply to replacement satellites after the physical lifetime of existing satellites;

b) Morocco agreed to the technical parameters within the framework of all other planning issues;

c) France agreed with proceeding with the technical parameters for planning at the Conference but not for the coordination methods thereafter.

1.1.3 Test points and ellipse parameters for Step 2 countries contained in Circular-letter CR/76: it was decided to defer this issue pending the availability of Circular-letter CR/76 as a Conference document. One copy per delegation was subsequently provided and administrations were asked to contact the Bureau for any comments on their entries.

1.1.4 Improved feeder-link parameters: Recommendations ITU-R BO.1295 and ITU-R BO.1296 were **adopted**.

1.1.5 Fast roll-off antenna characteristics. It was agreed to **apply** it when requested on a case by case basis.

1.1.6 Uplink e.i.r.p. reduction: **not adopted**.

1.1.7 Downlink beam e.i.r.p.s: it was **agreed** to a reduction of 5 dB except for type A assignments (see Section 2.2 of Document 56).

1.1.8 Alternate frequency translations: it was **agreed** that interested administrations listed in Tables 5 and 13 of Document 56 should contact the Bureau (Mr. Arasteh) for action on this matter.

1.1.9.1 Request of the Federal Republic of Germany to, as part of Step 2, match the downlink and uplink parameters for the D2-21600 beam: **adopted**.

1.1.9.2 Request of the Russian Federation to, as part of Step 2, use shaped uplink antennas for its "new country" beams in Step 2 of the planning exercises: **adopted**.

Further, It was agreed to convene an informal consultation group with delegates of Australia, Morocco, Syria, Russian Federation and the Bureau to discuss the ways and means to introduce shaped beams for all countries wishing to do so. The group met and **agreed** that any time after the Conference any administration could submit to the Bureau a request to use a shaped beam in the feeder link provided that other assignments in the Plan are not affected by this change. **Adopted**.

1.1.10 Consideration of beam requirements for China/Hong Kong: **agreed** to have a separate beam covering Hong Kong.

1.2 Other considerations needed to define the situation of Steps 1 and 2

1.2.1 Constrained use of orbital arc between 37° W and 10° E: as indicated in Annex 7 of Appendix 30.

Several administrations proposed the deletion of Annex 7 of Appendix 30 and several others proposed its retention. An **ad hoc Group** (WG 4D ad hoc 2) chaired by the United States was formed to examine if limited orbital changes listed in Document 56 including those in Section 1.2.4.2 of Annex 2 to Document 56 could be accommodated in this arc, and to assess the impact of such possible accommodation on other countries and systems. The regulatory aspects related to Annex 7 will not be discussed at this time.

Egypt supported by Syria and Saudi Arabia objected to the consideration of new orbital positions within the orbital arc of Annex 7 and may make a statement for the record in Committee 4.

Other technical matter not mentioned explicitly in Annex 2 of the Bureau's Document 56

A) Protection ratios: Recommendation ITU-R BO.1297: **adopted** following proposal EUR/5/229

NOTE - Morocco referred to item 4.3 of Annex to Resolution 27 (WRC-95) (incorporation by reference) which states "the referenced text must be adopted by the Plenary of a competent WRC, ...", therefore if the above-mentioned ITU-R Recommendations (ITU-R BO.1295, ITU-R BO.1296 and ITU-R BO.1297) adopted by WG 4D will be incorporated by reference they would require to be approved by the Plenary of this Conference.

B) Inclusion of an entry in the Plan for Palestine. The meeting **agreed** to add an entry for Palestine in the Plan with the following provisional symbol [*] pending agreement on a replacement of this symbol after further discussions outside the meeting. An **ad hoc Group** (WG 4D ad hoc 1) chaired by France **was formed** to work together with the BR on the technical parameters to be included in this entry, drawing upon characteristics that appeared in a document (Document 90) submitted to JWP 10-11S at its meeting in October 1996.

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UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CMR-97 CONFÉRENCE MONDIALE DES RADIOCOMMUNICATIONS

GENÈVE, 27 OCTOBRE – 21 NOVEMBRE 1997

Corrigendum 1 au
Document 161(Rév.1)-F/E/S
12 novembre 1997
Original: anglais

SÉANCE PLÉNIÈRE

Brésil (République fédérative du), Burkina Faso, Canada, Finlande, Pologne (République de), Sénégal (République du), Zambie (République de)

PROPOSITIONS POUR LES TRAVAUX DE LA CONFÉRENCE

Ajouter "**Liechtenstein (Principauté de), Suisse (Confédération)**" dans la liste des pays signataires de ce document.

* * * * * * * * * *

PLENARY MEETING

Brazil (Federative Republic of), Burkina Faso, Canada, Finland, Poland (Republic of), Senegal (Republic of), Zambia (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

Add "**Liechtenstein (Principality of), Switzerland (Confederation of)**" in the list of countries cosponsoring this document.

* * * * * * * * * *

SESIÓN PLENARIA

Brasil (República Federativa de), Burkina Faso, Canadá, Finlandia, Polonia (República de), Senegal (República del), Zambia (República de)

PROPUESTAS PARA LOS TRABAJOS DE LA CONFERENCIA

Añádanse "**Liechtenstein (Principado de), Suiza (Confederación)**" a la lista de países firmantes de este documento.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 161(Rev.1)-E
10 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Brazil (Federative Republic of), Burkina Faso, Canada, Finland, Poland (Republic of), Senegal (Republic of), Zambia (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

DRAFT RESOLUTION [B/BFA/CAN/FIN/POL/SEN/ZMB-1]

TELECOMMUNICATION RESOURCES FOR DISASTER MITIGATION AND RELIEF OPERATIONS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that ITU has specifically recognized the importance of the international use of radiocommunications in the event of natural disasters, epidemics, famines and similar emergencies;

b) that the Plenipotentiary Conference of the International Telecommunication Union (Kyoto, 1994), in endorsing Resolution 7 of the World Telecommunication Development Conference (Buenos Aires, 1994), adopted Resolution 36 on the subject of telecommunications for disaster mitigation and disaster relief operations;

c) that administrations have been urged to take all practical steps for facilitating the rapid deployment and effective use of telecommunication resources for disaster mitigation and for disaster relief operations by reducing and, where possible, removing regulatory barriers and strengthening transborder cooperation between States,

recognizing

a) the potential of modern telecommunication technologies as essential tools for disaster mitigation and relief operations, and the vital role of telecommunications for the safety and security of relief workers in the field;

b) the particular needs of developing countries and the special requirements of those living in remote areas;

c) the progress in the implementation of Resolution 36 with respect to the preparation of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations, as annexed to this Resolution,

noting

with appreciation the scheduling of the Intergovernmental Conference of Emergency Telecommunications (ICET-98) from 16 to 18 June, 1998 in Tampere Finland, which is expected to adopt the Convention referenced in *recognizing* c) above,

resolves

to invite the Radiocommunication Sector of ITU to [continue to] study, as a matter of urgency, the aspects of radiocommunications for disaster mitigation and relief operations, such as decentralized means of communications that are appropriate and generally available including amateur radio services and mobile and portable satellite terminals,

requests the Director of the Radiocommunication Bureau

to support administrations in their work towards the implementation of Resolution 36,

instructs the Secretary-General

to work closely with the United Nations Emergency Relief Coordinator, with a view to further increase the Union's involvement in, and support to, disaster communications,

invites

the United Nations Emergency Relief Coordinator and the Working Group on Emergency Telecommunications to closely collaborate with ITU in the further work towards the implementation of Resolution 36 and in particular the adoption of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations,

urges administrations

to give their full support to the adoption of the Convention and its national implementation.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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5 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

PLENARY MEETING

Brazil (Federative Republic of), Burkina Faso, Canada,
Poland (Republic of), Senegal (Republic of),
Zambia (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

DRAFT RESOLUTION [B/BFA/CAN/POL/SEN/ZMB-1]

TELECOMMUNICATION RESOURCES FOR DISASTER MITIGATION AND RELIEF OPERATIONS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that ITU has specifically recognized the importance of the international use of radiocommunications in the event of natural disasters, epidemics, famines and similar emergencies;

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recognizing

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to invite the Radiocommunication Sector of ITU to [continue to] study, as a matter of urgency, the aspects of radiocommunications for disaster mitigation and relief operations, such as decentralized means of communications that are appropriate and generally available including amateur radio services and mobile and portable satellite terminals,

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to work closely with the United Nations Emergency Relief Coordinator, with a view to further increase the Union's involvement in, and support to, disaster communications,

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the United Nations Emergency Relief Coordinator and the Working Group on Emergency Telecommunications to closely collaborate with ITU in the further work towards the implementation of Resolution 36 and in particular the adoption of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations,

urges administrations

to give their full support to the adoption of the Convention and its national implementation.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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3 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

REPORT BY THE CHAIRMAN OF WORKING GROUP 4B

SECOND REPORT FROM WORKING GROUP 4B TO COMMITTEE 4

At its third meeting on 3 November 1997, the Working Group reviewed texts of Article S19 of the Simplified Radio Regulations and considered the Standard Forms for ship station and ship earth station licences and aircraft station and aircraft earth station licences. Recommendation 7 (Rev.Mob-87) was modified accordingly.

The agreed texts, as reproduced, are submitted to Committee 4 for consideration.

R.L. SWANSON
Chairman of Working Group 4B

MOD S19.96 (2) Each administration shall choose the selective call numbers to be assigned to its ship stations from the blocks of the series supplied to it. Administrations shall notify the ITU immediately in accordance with **S20.16** when assigning selective call numbers to ship stations.

MOD S19.99 § 39. When a station[1] in the maritime mobile service or the maritime mobile-satellite service is required to use maritime mobile service identities, the responsible administration shall assign the identity to the station in accordance with the provisions described in Nos. **S19.100** to **S19.126**, in accordance with relevant ITU-R and ITU-T Recommendations (see Resolution **27(WRC-95)**). Administrations shall notify the ITU immediately in accordance with **S20.16** when assigning maritime mobile service identities.

MOD

RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

ADOPTION OF STANDARD FORMS FOR SHIP STATION AND SHIP EARTH STATION LICENCES AND AIRCRAFT STATION AND AIRCRAFT EARTH STATION LICENCES[1, 2]

The World ~~Administrative Radio Conference~~Radiocommunication Conference, Geneva, ~~1979~~1997,

considering

a) that the standardization of the licence forms issued to stations installed on board ships and aircraft making international voyages and flights would greatly facilitate the task of inspection of such stations;

b) that standard licence forms for ship stations and for aircraft stations would serve as a useful guide to those administrations desiring to improve their existing national licences;

c) that standard licence forms could be advantageously used by these administrations as the form of certification specified in No. ~~**2027**~~**S18.8** of the Radio Regulations;

considering further

that the Administrative Radio Conference, Geneva, 1959, formulated:

a) a set of principles for the draft of a standard licence form (see Annex 1);

b) specimens of a ship station licence and of an aircraft station licence (see Annexes 2 and 3);

---

[1] Replaces Recommendation No. 17 of the Administrative Radio Conference, Geneva, 1959.

[2] Throughout this Recommendation, references to ship stations may include references to ship earth stations and references to aircraft stations may include references to aircraft earth stations.

considering also

changes in radio systems and shipborne radiocommunication equipment introduced in relation to the implementation of the Global Maritime Distress and Safety System (GMDSS);

recommends

1. that administrations which find these forms practicable and acceptable should adopt them for international use;

2. that administrations should, as far as possible, endeavour to bring their national licence forms into line with these standard forms.

MOD

ANNEX 1 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

Principles for the Formulation of Standard Ship and Aircraft Station Licences

The Administrative Radio Conference, Geneva, 1959, considered that, in formulating standard ship and aircraft station licences, the following set of principles should be applied:

1. The licence should, as far as possible, be prepared in tabular form, and each line and column of the table clearly numbered or lettered.

2. The licence for ship stations and the licences for aircraft stations should be as similar as possible.

3. The size of the licence should be international standard A4.

4. The licence should be designed in a form which facilitates its exhibition on board a ship or an aircraft.

5. The licence should be printed in Latin characters in the national language of the country which issues it. Those countries whose national language cannot be written in Latin characters should use their national language and, in addition, one working language of the Union.

6. The title “Ship Station Licence” or “ Aircraft Station Licence” should appear at the top of the licence in the national language as well as in the three working languages of the Union.

These principles were used in formulating the two standard forms which are given in Annexes 2 and 3.

MOD

ANNEX 2 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

(Full name of the authority issuing the licence,
in the national language)
.....*

SHIP STATION LICENCE
LICENCE DE STATION DE NAVIRE
LICENCIA DE ESTACIÓN DE BARCO

No. .....
Period of validity .....

In accordance with *(Title of the National Regulation)* and with the radio Regulations annexed to the Constitution and the Convention of the International Telecommunication ~~Convention~~ Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

1	2	3	4	5	6
Name of ship	Call sign or other identification	~~Owner of ship~~MMSI	~~Public correspondence category~~Additional identification information (optional)	Holder of licence	[Optional Accounting authority identification code, or other information required by the administrations] Additional information including accounting information if required

* The words "Ship Station Licence" written in the national language, if this is not one of the three working languages of the Union.

		~~a~~	~~b~~	~~c~~	~~d~~
	Equipment	~~Type~~	~~Power (watts)~~	~~Class of emission~~ * Type or description of equipment	~~Frequency bands or assigned frequencies~~ Frequencies
~~5~~7	Transmitters				**
~~6~~	~~Ship's emergency transmitters~~				**
~~7~~	~~Survival craft transmitters~~				**
8	Other equipment (optional)	~~(Optional)~~			

For the Issuing Authority:

.....

Place Date Authentication

MOD

ANNEX 3 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

_____

** Specifically or by reference to Appendix 9, List V, columns 8 and 9.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 163-E
3 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

Luxembourg

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.1: REVIEW OF FOOTNOTES

The Administration of Luxembourg wishes to make the following proposals to the work of the Conference:

LUX/163/1
MOD S5.98 *Alternative allocation:* in Angola, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Eritrea, Spain, Ethiopia, France, Georgia, Greece, Italy, Kazakstan, Lebanon, Lithuania, ~~Luxembourg,~~ Malawi, Moldova, Uzbekistan, the Netherlands, Syria, Kyrgyzstan, Russia, Somalia, Tajikistan, Tanzania, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810 - 1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

LUX/163/2
MOD S5.210 *Additional allocation:* in Austria, Belgium, France, Italy, Liechtenstein, ~~Luxembourg,~~ Slovakia, the Czech Republic, the United Kingdom and Switzerland, the bands 138 - 143.6 MHz and 143.65 - 144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis.

LUX/163/3
MOD S5.466 *Different category of service:* in Belgium, Israel, ~~Luxembourg,~~ Malaysia, Singapore and Sri Lanka, the allocation of the band 8 400 - 8 500 MHz to the space research service is on a secondary basis (see No. **S5.32**).

LUX/163/4
MOD S5.495 *Additional allocation:* in Belgium, Bosnia and Herzegovina, Croatia, Denmark, Spain, France, Greece, The Former Yugoslav Republic of Macedonia, Liechtenstein, ~~Luxembourg,~~ Monaco, Norway, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5 - 12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

LUX/163/5

MOD S5.508 *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, Denmark, Spain, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, ~~Luxembourg,~~ Norway, Portugal, the United Kingdom, Slovenia, Switzerland, Turkey and Yugoslavia, the band 14.25 - 14.3 GHz is also allocated to the fixed service on a primary basis.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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6 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

WORKING GROUP 5C

REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 5C1

AGENDA ITEM 1.9.3 - TAKING INTO ACCOUNT THE NEEDS OF OTHER SERVICES TO WHICH THE RELEVANT FREQUENCY BANDS ARE ALREADY ALLOCATED: RECOMMENDATION 621 (WARC-92) "IMPLEMENTATION OF WIND PROFILER RADARS AT FREQUENCIES NEAR 50 MHZ, 400 MHZ AND 1 000 MHZ"

Three meetings of interested delegates were held to review proposals concerning wind profiler radars with benefit of the CPM Report.

Sub-Working Group 5C1 has completed its work and its recommended modifications to the Radio Regulations are annexed.

Annex 1 proposes changes to Article S5 to provide footnote allocations to the radiolocation service limited to wind profiler radar operations in bands not already allocated to the radiolocation service.

Annex 2 is a draft Resolution to replace Recommendation 621 (WARC-92) having the functions of:

1) recommending against use of bands around 404 MHz to eliminate interference to COSPAS-SARSAT;
2) identifying bands recommended for wind profiler radar operations; and
3) recommending that wind profiler radar operations be in accordance with relevant ITU-R Recommendations.

ANNEX 1

ARTICLE S5

MHz
40.98 – 68

MOD

Allocation to Services		
Region 1	Region 2	Region 3
44 – 47 FIXED MOBILE S5.162 ADD S5.162A		
47 – 68 BROADCASTING S5.163 S5.164 S5.165 S5.169 S5.171 ADD S5.162A	**47 – 50** FIXED MOBILE	**47 – 50** FIXED MOBILE BROADCASTING
	50 – 54 AMATEUR S5.166 S5.167 S5.168 S5.170	
	54 – 68 BROADCASTING Fixed Mobile S5.172	**54 – 68** FIXED MOBILE BROADCASTING

ADD S5.162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, Netherlands, Poland, Portugal, Slovakia, the Czech Republic, the United Kingdom, Russia, Sweden, Switzerland and Turkey, the band 46 - 68 MHz is also allocated to the radiolocation service on a secondary basis. The use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

MOD

MHz
470 – 890

Allocation to Services		
Region 1	Region 2	Region 3
470 – 790 BROADCASTING S5.149 S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312 ADD S5.291A	**470 – 512** BROADCASTING Fixed Mobile S5.292 S5.293	**470 – 585** FIXED MOBILE BROADCASTING S5.291 S5.298

ADD S5.291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, the Netherlands, the Czech Republic, Sweden and Switzerland, the band 470 - 494 MHz is also allocated to the radiolocation service on a secondary basis. Its use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

MOD

MHz
1 240 – 1 452

Allocation to Services		
Region 1	Region 2	Region 3
1 240 – 1 260	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 Amateur S5.330 S5.331 S5.333 S5.334	
1 260 – 1 300	RADIOLOCATION Amateur S5.282 S5.330 S5.331 S5.333 S5.334	

ANNEX 2

MOD

DRAFT RESOLUTION [COM5-5] (WRC-97)

IMPLEMENTATION OF WIND PROFILER RADARS

The World Radiocommunication Conference (Geneva, 1997),

having noted

a request to the ITU from the Secretary-General of the World Meteorological Organization (WMO), in May 1989, for advice and assistance in the identification of appropriate frequencies near 50 MHz, 400 MHz and 1 000 MHz in order to accommodate allocations and assignments for wind profiler radars,

considering

a) that wind profiler radars are vertically directed Doppler radars exhibiting characteristics similar to radiolocation systems;

b) that wind profiler radars are important meteorological systems used to measure wind direction and speed as a function of altitude;

c) that it is necessary to use frequencies in different ranges in order to have options for different performance and technical characteristics;

d) that in order to conduct measurements up to a height of 30 km it is necessary to allocate frequency bands for these radars in the general vicinity of 50 MHz (3 to 30 km), 400 MHz (500 m to about 10 km) and 1 000 MHz (100 m to 3 km) respectively;

~~d~~e) that some administrations have either already deployed, or plan to expand their use of wind profiler radars in operational networks for studies of the atmosphere and to support weather monitoring, forecasting and warning programs;

~~e~~f) that the ITU Radiocommunication Study Groups have studied the technical and sharing considerations between wind profiler radars and other services allocated in bands near 50 MHz, 400 MHz and 1 000 MHz,

considering further

a) that some administrations have addressed this matter nationally by assigning frequencies for use by wind profiler radars in existing radiolocation bands or on a non-interference basis in other bands;

b) the work of the Voluntary Group of Experts on the Allocation and Improved Use of the Radio Frequency Spectrum and Simplification of the Radio Regulations supports increased flexibility in the allocation of frequency spectrum,

noting in particular

a) that wind profilers operating within the 400.15 - 406.0 MHz meteorological aids service interfere with satellite emergency position-indicating radio beacons operating in the 406.0 - 406.1 MHz mobile-satellite service, which is used under the Table of Frequency Allocations footnote **S5.266**;

b) that under the Table of Frequency Allocations footnote **S5.267**, any emission capable of causing harmful interference to the authorized uses of the band 406 - 406.1 MHz is prohibited,

resolves

1 to urge administrations to implement wind profiler radars as radiolocation service systems in the following bands, giving due regard to the potential for incompatibility with other services and assignment to stations within these services, thereby taking due account of the principle of geographical separation, in particular with regard to neighbouring countries and keeping in mind the category of service which each of these services has:

46 - 68 MHz in accordance with **S5.162A**

440 - 450 MHz

470 - 494 MHz in accordance with **S5.291A**

904 - 928 MHz in Region 2 only

1 270 - 1 295 MHz

1 300 - 1 375 MHz;

1a) in case compatibility between wind profiler radars and other radio applications operating in the band 440 - 450 MHz or 470 - 494 MHz cannot be achieved, the bands 420 - 435 MHz or 438 - 440 MHz could be considered for use;

2 to urge administrations to implement wind profiler radars in accordance with Recommendations ITU-R M.1226, ITU-R M.1085-1 and ITU-R M.1227 for the frequency bands around 50 MHz, 400 MHz and 1 000 MHz respectively;

3 to urge administrations not to implement wind profiler radars in the band 400.15 - 406 MHz; and

4 to urge administrations currently operating wind profiler radars in the band 400.15 - 406.0 MHz to discontinue them as soon as possible,

instructs the Secretary-General

to bring this Resolution to the attention of the ICAO, IMO and WMO.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 164(Rev.1)-E
5 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

WORKING GROUP 5C

REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 5C1

AGENDA ITEM 1.9.3 - TAKING INTO ACCOUNT THE NEEDS OF OTHER SERVICES TO WHICH THE RELEVANT FREQUENCY BANDS ARE ALREADY ALLOCATED: RECOMMENDATION 621 (WARC-92) "IMPLEMENTATION OF WIND PROFILER RADARS AT FREQUENCIES NEAR 50 MHZ, 400 MHZ AND 1 000 MHZ"

Three meetings of interested delegates were held to review proposals concerning wind profiler radars with benefit of the CPM Report.

Sub-Working Group 5C1 has completed its work and its recommended modifications to the Radio Regulations are annexed.

Annex 1 proposes changes to Article S5 to provide footnote allocations to the radiolocation service limited to wind profiler radar operations in bands not already allocated to the radiolocation service.

Annex 2 is a draft Resolution to replace Recommendation 621 (WARC-92) having the functions of:

1) recommending against use of bands around 404 MHz to eliminate interference to COSPAS-SARSAT;
2) identifying bands recommended for wind profiler radar operations; and
3) recommending that wind profiler radar operations be in accordance with relevant ITU-R Recommendations.

ANNEX 1

ARTICLE S5

MHz

MOD **40.98 – 68**

<table>
<tr><th colspan="3">Allocation to Services</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td>44 – 47
FIXED
MOBILE
S5.162 ADD S5.162A</td><td colspan="2"></td></tr>
<tr><td rowspan="3">47 – 68
BROADCASTING

S5.163 S5.164 S5.165
S5.169 S5.171
ADD S5.162A</td><td>47 – 50
FIXED
MOBILE</td><td>47 – 50
FIXED
MOBILE
BROADCASTING</td></tr>
<tr><td colspan="2">50 – 54
AMATEUR
S5.166 S5.167 S5.168 S5.170</td></tr>
<tr><td>54 – 68
BROADCASTING
Fixed
Mobile

S5.172</td><td>54 – 68
FIXED
MOBILE
BROADCASTING</td></tr>
</table>

ADD **S5.162A** *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, Netherlands, Poland, Portugal, Slovakia, the Czech Republic, the United Kingdom, Russia, Sweden, Switzerland and Turkey, the band 46 - 68 MHz is also allocated to the radiolocation service on a secondary basis. The use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

MOD

MHz
470 – 890

Allocation to Services		
Region 1	Region 2	Region 3
470 – 790 BROADCASTING S5.149 S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312 ADD S5.291A	**470 – 512** BROADCASTING Fixed Mobile S5.292 S5.293	**470 – 585** FIXED MOBILE BROADCASTING S5.291 S5.298

ADD S5.291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, the Czech Republic, Sweden and Switzerland, the band 470 - 494 MHz is also allocated to the radiolocation service on a secondary basis. Its use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

MOD

MHz
1 240 – 1 452

Allocation to Services		
Region 1	Region 2	Region 3
1 240 – 1 260	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 Amateur S5.330 S5.331 S5.333 S5.334	
1 260 – 1 300	RADIOLOCATION Amateur S5.282 S5.330 S5.331 S5.333 S5.334 ADD S5.335	

ADD S5.335 In Germany, wind profiler radars shall not claim protection from existing or planned radiolocation stations in the band 1 270 - 1 295 MHz.

ANNEX 2

MOD

DRAFT RESOLUTION [COM5-5] (WRC-97)

IMPLEMENTATION OF WIND PROFILER RADARS

The World Radiocommunication Conference (Geneva, 1997),

having noted

a request to the ITU from the Secretary-General of the World Meteorological Organization (WMO), in May 1989, for advice and assistance in the identification of appropriate frequencies near 50 MHz, 400 MHz and 1 000 MHz in order to accommodate allocations and assignments for wind profiler radars,

considering

a) that wind profiler radars are vertically directed Doppler radars exhibiting characteristics similar to radiolocation systems;

b) that wind profiler radars are important meteorological systems used to measure wind direction and speed as a function of altitude;

c) that it is necessary to use frequencies in different ranges in order to have options for different performance and technical characteristics;

d) that some administrations have either already deployed, or plan to expand their use of wind profiler radars in operational networks for studies of the atmosphere and to support weather monitoring, forecasting and warning programs;

e) that the ITU Radiocommunication Study Groups have studied the technical and sharing considerations between wind profiler radars and other services allocated in bands near 50 MHz, 400 MHz and 1 000 MHz,

considering further

a) that some administrations have addressed this matter nationally by assigning frequencies for use by wind profiler radars in existing radiolocation bands or on a non-interference basis in other bands;

b) the work of the Voluntary Group of Experts on the Allocation and Improved Use of the Radio Frequency Spectrum and Simplification of the Radio Regulations supports increased flexibility in the allocation of frequency spectrum,

noting in particular

a) that wind profilers operating within the 400.15 - 406.0 MHz meteorological aids service interfere with satellite emergency position-indicating radio beacons operating in the 406.0 - 406.1 MHz mobile-satellite service, which is used under the Table of Frequency Allocations footnote **S5.266**;

b) that under the Table of Frequency Allocations footnote **S5.267**, any emission capable of causing harmful interference to the authorized uses of the band 406 - 406.1 MHz is prohibited,

resolves

1 to urge administrations to implement wind profiler radars as radiolocation service systems in the following bands, giving due regard to the potential for incompatibility with other services and assignment to stations within these services, thereby taking due account of the principle of geographical separation, in particular with regard to neighbouring countries:

46 - 68 MHz in accordance with **S5.162A**

440 - 450 MHz

470 - 494 MHz in accordance with **S5.291A**

904 - 928 MHz in Region 2 only

1 270 - 1 295 MHz

1 300 - 1 375 MHz;

1a) in case compatibility between wind profiler radars and other radio applications operating in the band 440 - 450 MHz cannot be achieved, the bands 420 - 435 MHz or 438 - 440 MHz could be used;

2 to urge administrations to implement wind profiler radars in accordance with Recommendations ITU-R M.1226, ITU-R M.1085-1 and ITU-R M.1227 for the frequency bands around 50 MHz, 400 MHz and 1 000 MHz respectively;

3 to urge administrations not to implement wind profiler radars in the band 400.15 - 406 MHz; and

4 to urge administrations currently operating wind profiler radars in the band 400.15 - 406.0 MHz to discontinue them as soon as possible,

instructs the Secretary-General

to bring this Resolution to the attention of the ICAO, IMO and WMO.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 164-E
3 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

WORKING GROUP 5C

REPORT BY THE CHAIRMAN OF DRAFTING GROUP 3

REPORT OF DRAFTING GROUP 3

Agenda item 1.9.3 - Taking into account the needs of other services to which the relevant frequency bands are already allocated: Recommendation 621 (WARC-92) "Implementation of Wind Profiler Radars at frequencies near 50 MHz, 400 MHz and 1 000 MHz"

Drafting Group 3 has held two meetings of interested delegates to review proposals concerning wind profiler radars with benefit of the CPM Report.

The Drafting Group has completed its work and its recommended modifications to the Radio Regulations are annexed.

Annex 1 proposes changes to Article S5 to provide footnote allocations to the radiolocation service limited to wind profiler radar operations in bands not already allocated to the radiolocation service.

Annex 2 is a draft Resolution to replace Recommendation 621 (WARC-92) having the functions of:

1) recommending against use of bands around 404 MHz to eliminate interference to COSPAS-SARSAT;
2) identifying bands recommended for wind profiler radar operations; and
3) recommending that wind profiler radar operations be in accordance with relevant ITU-R Recommendations.

P. RINALDO
Chairman of Drafting Group 3

ANNEX 1

ARTICLE S5

MHz

MOD

40.98 – 68

Allocation to Services		
Region 1	Region 2	Region 3
44 – 47	FIXED MOBILE S5.162 ADD S5.162A	
47 – 68 BROADCASTING	**47 – 50** FIXED MOBILE	**47 – 50** FIXED MOBILE BROADCASTING
	50 – 54 AMATEUR S5.166 S5.167 S5.168 S5.170	
S5.163 S5.164 S5.165 S5.169 S5.171 ADD S5.162A	**54 – 68** BROADCASTING Fixed Mobile S5.172	**54 – 68** FIXED MOBILE BROADCASTING

ADD S5.162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, Netherlands, Poland, Portugal, Slovakia, the Czech Republic, the United Kingdom, Russia, Sweden, Switzerland and Turkey, the band 46 - 68 MHz is also allocated to the radiolocation service on a secondary basis. The use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

MHz

MOD

470 – 890

Allocation to Services		
Region 1	Region 2	Region 3
470 – 790 BROADCASTING S5.149 S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312 ADD S5.291A	**470 – 512** BROADCASTING Fixed Mobile S5.292 S5.293	**470 – 585** FIXED MOBILE BROADCASTING S5.291 S5.298

ADD S5.291A *Additional allocation:* in Germany, Austria, Finland, Sweden and Switzerland, the band 470 - 494 MHz is also allocated to the radiolocation service on a secondary basis. Its use is limited to the operation of wind profiler radars in accordance with Resolution [COM5-5] (WRC-97).

ANNEX 2

MOD

DRAFT RESOLUTION [COM5-5] (WRC-97)

IMPLEMENTATION OF WIND PROFILER RADARS

The World Radiocommunication Conference (Geneva, 1997),

having noted

a request to the ITU from the Secretary-General of the World Meteorological Organization (WMO), in May 1989, for advice and assistance in the identification of appropriate frequencies near 50 MHz, 400 MHz and 1 000 MHz in order to accommodate allocations and assignments for wind profiler radars,

considering

a) that wind profiler radars are vertically directed Doppler radars exhibiting characteristics similar to radiolocation systems;

b) that wind profiler radars are important meteorological systems used to measure wind direction and speed as a function of altitude;

c) that it is necessary to use frequencies in different ranges in order to have options for different performance and technical characteristics;

d) that some administrations have either already deployed, or plan to expand their use of wind profiler radars in operational networks for studies of the atmosphere and to support weather monitoring, forecasting and warning programs;

e) that the ITU Radiocommunication Study Groups have studied the technical and sharing considerations between wind profiler radars and other services allocated in bands near 50 MHz, 400 MHz and 1 000 MHz,

considering further

a) that some administrations have addressed this matter nationally by assigning frequencies for use by wind profiler radars in existing radiolocation bands or on a non-interference basis in other bands;

b) the work of the Voluntary Group of Experts on the Allocation and Improved Use of the Radio Frequency Spectrum and Simplification of the Radio Regulations supports increased flexibility in the allocation of frequency spectrum,

noting in particular

a) that wind profilers operating within the 400.15 - 406.0 MHz meteorological aids service interfere with satellite emergency position-indicating radio beacons operating in the 406.0 - 406.1 MHz mobile-satellite service, which is used under the Table of Frequency Allocations footnote **S5.266**;

b) that under the Table of Frequency Allocations footnote **S5.267**, any emission capable of causing harmful interference to the authorized uses of the band 406 - 406.1 MHz is prohibited,

resolves

1 to urge administrations to implement wind profiler radars as radiolocation service systems in the following bands, giving due regard to the potential for compatibility with other systems:

46 - 68 MHz in accordance with **S5.162A**

440 - 450 MHz

470 - 494 MHz in accordance with **S5.291A**

904 - 928 MHz in Region 2 only

1 270 - 1 295 MHz

1 300 - 1 375 MHz;

2 to urge administrations to implement wind profiler radars in accordance with Recommendations ITU-R M.1226, ITU-R M.1085-1 and ITU-R M.1227 for the frequency bands around 50 MHz, 400 MHz and 1 000 MHz respectively;

3 to urge administrations not to implement wind profiler radars in the band 400.15 - 406 MHz; and

4 to urge administrations currently operating wind profiler radars in the band 400.15 - 406.0 MHz to discontinue them as soon as possible,

instructs the Secretary-General

to bring this Resolution to the attention of the ICAO, IMO and WMO.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 165-E
3 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

Malaysia

PROPOSALS FOR THE WORK OF THE CONFERENCE

REQUEST FOR ADDITIONAL CHANNEL FOR THE ALLOTMENT PLAN FOR BROADCASTING-SATELLITE SERVICES OVER MALAYSIA

Background

The Allotment Plan for the broadcasting-satellite services over Malaysia as found in AP30 and AP30A in the Radio Regulations allows Malaysia to operate five channels over West Malaysia (MLA22700) and four channels over East Malaysia (MLA22800) at the orbital location of 86° E.

As discussed at CPM-97, the Malaysian Administration requested that another channel be added to the Malaysian beam (MLA22800) in order to make the number of channels of this beam equal to the number of channels of the other Malaysian beam (MLA22700) for the same national programmes. CPM-97 suggested that it is advisable for the Malaysian Administration to put forward the request to the Bureau directly, as per paragraph 6.3.1.1 of the CPM-97 Report.

Subsequently, the request was forwarded to the Bureau, and the Malaysian Administration was informed that the Bureau has included the Malaysian Administration request as a matter for Conference decision in its report to WRC-97.

Justification

Malaysia comprises of East and West Malaysia, which are separated by the South China Sea. It is only appropriate that East Malaysia have the same number of channels as West Malaysia to avoid any discrimination between the two regions of Malaysia. Citizens of Malaysia should not be deprived of one less channel simply because they are located at another part of the country especially when the Malaysian Government has spent a tremendous effort in recent years maintaining the balance between West and East Malaysia in terms of development. Equality can be achieved if both West and East Malaysia are provided with the similar channels hence, the requirement for East Malaysia to have an additional channel.

We strongly believe that it is a reasonable request to have an additional channel over East Malaysia in order for both West and East Malaysia to view the same number of national programmes via the same number of channels. Therefore, the Malaysian Administration would like to appeal to the Conference to consider the allocation of an additional channel for the East Malaysia beam of MLA22800.

To ensure that the Malaysian Administration wishes concerning this matter are considered by WRC-97, the Malaysian Administration wish to submit this proposal to the Conference.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 1 to
Document 166-E
5 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

NOTE BY THE SECRETARY-GENERAL

ASSIGNMENTS WHICH HAVE BEEN RECEIVED BY THE BUREAU
UNDER PARAGRAPHS 4.3.14 AND 4.2.15 OF APPENDICES 30
AND 30A BETWEEN THE COMMENCEMENT OF WRC-97
AND 2000 HOURS ON 3 NOVEMBER 1997

The Radiocommunication Bureau has received notifications for the RADIOSAT-5, 5A, 6, 6A, 7, 7A and EUTELSAT-13E networks under Article 5 of Appendices 30 and 30A from the Administration of France in the period between the commencement of WRC-97 and the cut-off time (2000 hours on Monday, 3 November 1997) in addition to the networks contained in Document 166. On 4 November 1997 the notification of the EUTELSAT-13E network was withdrawn by that Administration.

The status of the requirement of coordination of these satellite networks is contained in Annex 1 to this document. It should be noted however that the notifications of RADIOSAT-6, RADIOSAT-6A, RADIOSAT-7 and RADIOSAT-7A relate only to the feeder link of these networks. It should be further noted that the orbital positions of the associated downlink of these networks are not in conformity with Subsection A3 of Annex 7 of Appendix 30 and as a result of the RRB decision (its ninth meeting, 30 June - 4 July 1997, Geneva), the Annex 2 data (downlink) relating to these satellite networks were returned to the notifying administration.

The Bureau's analysis of the submission indicates that, from the above submissions, the coordination of RADIOSAT-6 and RADIOSAT-7 feeder-link networks has been successfully completed. The details of the submissions are found in Annex 2 to this document.

However, due to the fact that the planning exercises to be carried out by the Bureau under Section 5.4 of Annex 1 to Resolution 531 shall be based on simultaneous planning of feeder links and downlinks with calculations of overall equivalent protection margin (Section 1.3 of that Annex refers), and because the downlinks of RADIOSAT-6 and RADIOSAT-7 were not notified under Article 5 of Appendix 30 (they were returned to the notifying administration) these two networks will not be included for the development of the draft Plan revision. They will nevertheless be examined under the relevant procedure of the current Appendix 30A.

Annexes: 2

ANNEX 1

Coordination status of RADIOSAT-5, 5A, 6, 6A, 7 and 7A networks

RADIOSAT-5 (AP30/E/42)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.3.1.1	AND, AUT, BEL, BIH, CZE, D, DNK, E, EGY, F/EUT, HRV, LIE, LUX, MKD, NOR, POL, S, SVK, SVN, YUG	CZE[1)], D, EGY, F/EUT, LUX, MKD, POL, S, SVK, SVN		E, NOR, SVK, SVN	CZE and LIE requested for assistance. [1)] comment received after the expiry date.
4.3.1.4	AUT, BEL, D, E, G, HOL, I, LIE, MCO, SMR, SUI	MCO, MKD			

RADIOSAT-5 (AP30A/E/38)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	ALB, BIH, EGY, HRV, MKD, SDN, SVN, YUG	EGY, MKD, SVN	CZE[1)], E, MCO, POL, SVK	E, NOR, SVK, SVN	CZE requested for assistance. [1)] comment received after the expiry date
4.2.1.3					

RADIOSAT-5A (AP30/E/76)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.3.1.1	ALB, BEL, BIH, CVA, D, E, F/EUT, G, HNG, HOL, HRV, I, LUX, MCO, MKD, NOR, S, SDN, SUI, SVN, TUR, UAE, YUG	BEL, CVA, D, E, F/EUT, HNG[1)], HOL, I, LUX, NOR, S, SUI, TUR, UAE	EGY	NOR	[1)] comment received after the expiry date
4.3.1.4	AND, AUT, BEL, D, E, G, HOL, I, LIE, LUX, MCO, SMR, SUI	I, LUX, SUI	YUG		

RADIOSAT-5A (AP30A/E/72)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	ALB, BIH, EGY, HRV, MKD, SVN, YUG	EGY	CVA, D, E, HNG[1)], HOL, I, LUX, S, SUI	NOR, SUI	[1)] comment received after the expiry date
4.2.1.3	AND, BEL, D, E, G, HOL, I, LUX, MCO, SUI	LUX, I, SUI	YUG, CVA	SUI	

RADIOSAT-6 (AP30A/E/39)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	BIH, HRV, MKD, SVN, YUG	MKD[1)], SVN	CZE[1)], E, EGY, MCO, I[1)], SVK	E, SVK, SVN	[1)] Comment received after the expiry date

RADIOSAT-6A (AP30A/E/73)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	BIH, HRV, MKD, S, SVN, YUG	S	D, E, EGY, HOL, I, NOR, SUI	NOR, SUI	
4.2.1.3	AND, BEL, D, E, G, HOL, I, LUX, MCO, SUI	SUI, LUX, I		SUI	

RADIOSAT-7 (AP30A/E/55)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	D		E, NOR, ROU	E, NOR, ROU	

RADIOSAT-7A (AP30A/E/74)

Provision	Adm. identified as affected	Adm. commented	Adm. commented but not affected	Agreement obtained from	Remarks
4.2.1.1	BIH, HRV, MKD, SVN, YUG		D, E, EGY, HNG[1)], HOL, I, LUX, S, SUI	SUI	[1)] Comment received after the expiry date
4.2.1.3	AND, BEL, D, E, G, HOL, I, LUX, MCO, SUI	I, LUX, SUI		SUI	

ANNEX 2

Technical information from RADIOSAT-6 and RADIOSAT-7

RADIOSAT-6 (8.0W) Annexe 2 de l'appendice 30A/Annex 2 of Appendix 30A/Anexo 2 del apéndice 30A

		Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial	Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30A Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30A Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30A
1.	**Station terrienne d'émission et station spatiale de réception** **Transmitting Earth Station and Receiving Space Station** **Estación terrena transmisora y estación espacial receptora**		
Col.1.1	Pays et identification du faisceau Country and beam identification País e identificación del haz	F	F
Col.1.2	Fréquence assignée Assigned frequency Frecuencia asignada	2, 6, 10, 14, 18, 21, 25, 29, 33, 37, 22, 26, 30, 34, 38, 23, 27, 31, 35, 39, 24, 28, 32, 36, 40	2, 6, 10, 14, 18, 21, 25, 29, 33, 37, 22, 26, 30, 34, 38, 23, 27, 31, 35, 39, 24, 28, 32, 36, 40
Col.1.3	Bande de fréquences assignée Assigned frequency band Banda de frecuencias asignada	27 MHZ ou/or/o 33 MHz	27 MHZ ou/or/o 33 MHz
Col.1.4	Date de mise en service Date of bringing into use Fecha de puesta en servicio	15.01.2001	15.01.2001

Col.1.5	Désignation de l'émission Designation of emission Designación de la emisión	27M0F9W 27M0G9W 33M0F9W 33M0G9W		27M0F9W 27M0G9W 33M0F9W 33M0G9W	
Col.1.6	Caractéristiques de modulation: Modulation characteristics: Características de modulación:				
		Analog.	Num.	Analog.	Num.
	1.6*a* type de modulation type of modulation tipo de modulación	Modulation de fréquence Frequency modulation Modulación de frecuencia	Modulation par déplacement de phase Phase shift modulation Modulación por desplazamiento de fase	Modulation de fréquence Frequency modulation Modulación de frecuencia	Modulation par déplacement de phase Phase shift modulation Modulación por desplazamiento de fase
	1.6*b* caractéristiques de préaccentuation pre-emphasis characteristics características de preacentuación	D2-MAC		D2-MAC	
	1.6*c* norme de télévision TV system sistema de televisión	D2-MAC	Numérique Digital	D2-MAC	Numérique Digital
	1.6*d* caractéristiques de radiodiffusion sonore sound-broadcasting characteristics características de la radiodifusión sonora	D2-MAC	Numérique Digital	D2-MAC	Numérique Digital
	1.6*e* excursion de fréquence frequency deviation excursión de frecuencia	13,5 MHz/V ou/or/o 22 MHz/V	(Largeur de bande Bandwidth Anchura de banda 27 ou/or/o 33MHz)	13,5 MHz/V ou/or/o 22 MHz/V	(Largeur de bande Bandwidth Anchura de banda 27 ou/or/o 33MHz)
	1.6*f* composition de la bande de base composition of the baseband composición de la banda de base	D2-MAC	Numérique Digital	D2-MAC	Numérique Digital

	1.6*g* type de multiplexage des signaux image et son type of multiplexing of the video and sound signals tipo de multiplexación de las señales de imagen y sonido	D2-MAC	Temporel TDM Temporal	D2-MAC	Temporel TDM Temporal
	1.6*h* caractéristiques de la dispersion de l'énergie energy dispersal characteristics características de la dispersión de energía	Déviation de 600 kHz pp produite par un signal triangulaire de 25 Hz. Deviation of 600 kHz pp produced by a 25Hz triangular signal. Desviación de 600 kHz pp producida por una señal triangular de 25 Hz.	Excursion : 27 ou 33 MHz Rec ITU-R 446-3 Deviation: 27 or 33 MHz Desviación: 27 o 33 MHz	Déviation de 600 kHz pp produite par un signal triangulaire de 25 Hz. Deviation of 600 kHz pp produced by a 25Hz triangular signal. Desviación de 600 kHz pp producida por una señal triangular de 25 Hz.	Excursion : 27 ou 33 MHz Rec ITU-R 446-3 Deviation: 27 or 33 MHz Desviación: 27 o 33 MHz
2.	**Station terrienne d'émission** **Transmitting earth station** **Estación terrena transmisora**				
Col.2.1	Identité de la station terrienne d'émission de liaison de connexion Identity of the transmissing feeder-link earth station Identidad de la estación transmisora de enlace de conexión	BERCENAY-EN-OTHE		BERCENAY-EN-OTHE	
Col.2.2	Coordonnées géographiques de la station terrienne de liaison de connexion (dans le cas de la Région 2, dans la bande 17,7 - 17,8 GHz) Geographical coordinates of the feeder-link station (in the case of Region 2 station using the band 17.7 - 17.8 GHz) Coordenadas geográficas de la estación terrena de enlace de conexión (en el caso de una estación de la Región 2, que transmite en la banda 17,7 - 17,8 GHz)				

Col.2.3	Zone de service de la liaison de connexion pour une station terrienne de liaison de connexion identifiée par un ensemble de points de mesure de liaison de connexion Feeder-link service area for a feeder-link earth station identified by a set of feeder-link test points Zona de servicio de enlace de conexión para una estación terrena de enlace de conexión identificada por un conjunto de puntos de prueba	3º E53' 48º N12'	3º E53' 48º N12'
Col.2.4	Identité de la station spatiale associée avec laquelle la communication doit être établie Identity of the associated space station with which communication is to be established Identidad de la estación espacial asociada con la que ha de establecerse comunicación	RADIOSAT-6	RADIOSAT-6
Col.2.5	Zone hydrométéorologique, pour chaque point de mesure Rain-climatic zone for each test point Zona hidrometeorológica para cada punto de prueba		
Col.2.6	Caractéristique de puissance de l'émission: Power characteristics of the transmission: Características de potencia de la transmisión:		
	2.6a1 puissance d'émission (dBW) totale dans la bande de fréquence assignée fournie à l'entrée de l'antenne total transmitting power (dBW) in the assigned frequency band supplied to the input of the antenna potencia de transmisión (dBW) total, en la banda de frecuencias asignada, suministrada a la entrada de la antena	15.6 dBW	15.6 dBW

	2.6a2 pour la bande 17,3 - 18,1 GHz la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 1 MHz la plus défavorable) for the band 17.3 - 18.1 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst I MHz band para la banda 17,3 - 18,1 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 1 MHz más desfavorable	-44.4 dBW/Hz	-44.4 dBW/Hz
	2.6a3 pour la bande 14,5 - 14,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 4 kHz la plus défavorable) for the band 14.5 - 14.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 4 kHz band para la banda 14,5 - 14,8 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 4 kHz más desfavorable		
	2.6a4 pour la bande 17,3 - 17,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne, valeur moyenne pour la totalité de la bande RF for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth	-58.7 dBW/Hz	-58.7 dBW/Hz

	2.6b gamme, exprimée en dB, au-dessus de la puissance d'émission indiquée dans les colonnes 2.6a) si une régulation de puissance est utilisée range, expressed in dB above the transmitting power given in columns 2.6 a) in the case of power control gama, expresada en dB, por encima de la potencia de transmisión utilizada en las columnas 2.6a) si se utiliza control de potencia		
Col. 2.7	Caractéristiques de l'antenne d'émission de la station terrienne: Transmitting antenna characteristics of the earth station: Características de la antena transmisora de la estación terrena		
	2.7a diamètre de l'antenne (mètres) antenna diameter (metres) diámetro de la antena (metros)	8 m	8 m
	2.7b gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena con relación a un radiador isótropo en la dirección de radiación máxima (dBi)	61 dBi	61 dBi
	2.7c ouverture à mi-puissance du faisceau, en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados	0.15°	0.15°

	2.7d diagramme de rayonnement mesuré de l'antenne ou diagramme de rayonnement de référence à utiliser aux fins de coordination measured radiation diagram of the antenna or reference radiation diagram to be used for coordination diagrama de radiación medido de la antena o diagrama de radiación de referencia que se utilizará para la coordinación	Conforme au diagramme pour les Régions 1 & 3 (appendice 30A, annexe 3, figure A, section 3.5.3) In conformity with the Regions 1 & 3 pattern (Appendix 30A, Annexe 3, Figure A, Section 3.5.3) Conforme al diagrama para las Regiones 1 & 3, apéndice 30A, anexo 3, figura A, sección 3.5.3)		Conforme au diagramme pour les Régions 1 & 3 (appendice 30A, annexe 3, figure A, section 3.5.3) In conformity with the Regions 1 & 3 pattern (Appendix 30A, Annexe 3, Figure A, Section 3.5.3) Conforme al diagrama para las Regiones 1 & 3, apéndice 30A, anexo 3, figura A, sección 3.5.3)	
	2.7e type de polarisation type of polarization tipo de polarización	Circulaire Circular		Circulaire Circular	
	2.7f sens de polarisation sense of polarization sentido de la polarización	Voie/Channel/Canal	Polarization	Voie/Channel/Canal	Polarization
		21, 25, 29, 33, 37, 23, 27, 31, 35, 39,	1	21, 25, 29, 33, 37, 23, 27, 31, 35, 39,	1
		2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40	2	2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40	2
	2.7g angle de site de l'horizon en degrés et gain d'antenne en direction de l'horizon pour chaque azimut autour de la station terrienne horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth around the earth station ángulo de elevación del horizonte, en grados, y ganancia de antena en dirección al horizonte para cada acimut en torno a la estación terrena	< -7dB dans toutes les directions In all directions en todas las direcciones Voir/See/Véase 2.7d		< -7dB dans toutes les directions In all directions en todas las direcciones Voir/See/Véase 2.7d	
	2.7h altitude de l'antenne en mètres au-dessus du niveau moyen de la mer altitude of the antenna above mean sea level, in metres altitud de la antena sobre el nivel medio del mar, en metros	180m		180m	

	2.7i angle de site minimal, en degrés minimum elevation angle, in degrees ángulo mínimo de elevación en grados	33.6°	33.6°
Col. 2.8	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)	24h	24h
Col. 2.9	Coordination/ Coordinación		
Col. 2.10	Accords/ Agreements/ Acuerdos		
Col. 2.11	Autres renseignements Other information Otras informaciones		
Col. 2.12	Administration ou compagnie exploitant la station Operating administration or company Administración o empresa explotadora de la estación	FRANCE TELECOM TELEDIFFUSION DE FRANCE Ministère des Postes, des Télécommunications et de l'Espace Direction de la Réglementation générale Sous-Direction des Radiocommunications 20, avenue de Ségur F- 75700 PARIS FAX:+ 33 1 43 06 23 37 Telex :Radiofreq Paris 250 310	FRANCE TELECOM TELEDIFFUSION DE FRANCE Ministère des Postes, des Télécommunications et de l'Espace Direction de la Réglementation générale Sous-Direction des Radiocommunications 20, avenue de Ségur F- 75700 PARIS FAX:+ 33 1 43 06 23 37 Telex :Radiofreq Paris 250 310
3.	**Station spatiale de réception** **Receiving space station** **Estación espacial receptora**		
Col. 3.1	Position orbitale Orbital position Posición orbital	8°W	8°W

Col. 3.2	Identité de la station spatiale Identity of the space station Identidad de la estación espacial	RADIOSAT-6	RADIOSAT-6
Col. 3.3	Classe de la station Class of station Clase de estación	EC	EC
Col. 3.4	Caractéristiques de l'antenne de réception de la station spatiale: Space station receiving antenna characteristics: Características de la antena de la estación espacial:		
	3.4a gain de l'antenne dans la direction du rayonnement maximal par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena en la dirección de radiación máxima con relación a un radiador isótropo (dBi)	41 dBi	41 dBi
	3.4b forme du faisceau (circulaire, elliptique ou autre) shape of the beam (circular, elliptical or other) forma del haz (circular, elíptica u otra)	Circulaire Circular	Circulaire Circular
	3.4c précision de pointage (degrés) pointing accuracy (degrees) precisión de puntería (grados)	±0,1°	±0,1°
	3.4d type de polarisation type of polarization tipo de polarización	Circulaire Circular	Circulaire Circular

		Voie/Channel/Canal	Pol.	Voie/Channel/Canal	Pol.
	3.4e sens de polarisation sense of polarization sentido de la polarización	21, 25, 29, 33, 37, 23, 27, 31, 35, 39, 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40	1 2	21, 25, 29, 33, 37, 23, 27, 31, 35, 39, 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40	1 2
	3.4f pour les faisceaux circulaires: for circular beams: para haces circulares:				
	3.4f1 ouverture à mi-puissance du faisceau en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados	**0.7°** **-----**		**0.7°** **-----**	
	3.4f2 diagramme de rayonnement copolaire co-polar radiation pattern diagrama de radiación copolar	Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B		Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B	
	3.4f3 diagramme de rayonnement contrapolaire cross-polar radiation pattern diagrama de radiación contrapolar	Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B		Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B	
	3.4f4 intersection nominale de l'axe du faisceau de l'antenne avec la Terre (longitude et latitude de visée) nominal intersection of the antenna beam axis with the Earth (boresight longitude and latitude) intersección nominal del eje del haz de la antena con la Tierra (longitud y latitud de la referencia de puntería)	48°12'N 3°53'E		48°12'N 3°53'E	

	3.4i diagramme de gain isotrope estimé dans la direction des parties de l'orbite des satellites géostationnaires qui ne sont pas occultées par la Terre. diagram of the estimated isotropic gain in the direction of those parts of the geostationary satellite orbit which are not obstructed by the Earth Diagrama de la ganancia isotrópica estimada en la dirección de aquellas partes de la órbita de los satélites geoestacionarios que no esté ocultadas por la Tierra	< 0dB Pour les assignations de la bande 17,7-18,1 For assignments in the 17.7-18.1GHz band Para las asignaciones en la banda 17.7-18.1GHz	< 0dB Pour les assignations de la bande 17,7-18,1 For assignments in the 17.7-18.1GHz band Para las asignaciones en la banda 17.7-18.1GHz
Col.3.5	Température de bruit du système de réception rapportée à la sortie de l'antenne (kelvins) Receiver system noise temperature referred to the output of the antenna (kelvins) Temperatura de ruido del sistema referida a la salida de la antena (kelvins)	600 K	600 K
Col.3.6	Précision de maintien en position (degrés) Station-keeping accuracy (degrees) Precisión del mantenimiento en posición (grados)	± 0,1°	± 0,1°
Col.3.7	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)	24h	24h
Col.3.8	Coordination/ Coordinación		
Col.3.9	Accords/ Agreements/ Acuerdos		

Col.3.10	Autres renseignements Other information Otras informaciones		
Col.3.11	Administration ou compagnie Operating administration or company Administración o empresa explotadora de la estación	FRANCE TELECOM TELEDIFFUSION DE FRANCE Ministère des Postes, des Télécommunications et de l'Espace Direction de la Réglementation générale Sous-Direction des Radiocommunications 20, avenue de Ségur F- 75700 PARIS FAX: + 33 1 43 06 23 37 Telex :Radiofreq Paris 250 310	FRANCE TELECOM TELEDIFFUSION DE FRANCE Ministère des Postes, des Télécommunications et de l'Espace Direction de la Réglementation générale Sous-Direction des Radiocommunications 20, avenue de Ségur F- 75700 PARIS FAX: + 33 1 43 06 23 37 Telex :Radiofreq Paris 250 310
Col. 3.12	Gamme de la commande automatique de gain Range of automatic gain control Gama de control automático de ganancia	10dB	10dB
4.	**Administration(s) affectée(s)** **Affected administration(s)** **Administración(es) afectada(s)**		

RADIOSAT-7(5.0W) Annexe 2 de l'appendice 30A/Annex 2 of Appendix 30A/Anexo 2 del apéndice 30A				
			Renseignements figurant dans la Section spéciale relative à la Partie A **Information contained in Part A Special Section** **Información contenida en la Parte A de la Sección Especial**	**Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30A** **Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30A** **Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30A**
1.	**Station terrienne d'émission et station spatiale de réception** **Transmitting Earth Station and Receiving Space Station** **Estación terrena transmisora y estación espacial receptora**			
Col.1.1	Pays et identification du faisceau Country and beam identification País e identificación del haz		F	F
Col.1.2	Fréquence assignée Assigned frequency Frecuencia asignada		2, 6, 10, 14, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40	2, 6, 10, 14, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
Col.1.3	Bande de fréquences assignée Assigned frequency band Banda de frecuencias asignada		27 MHZ or 33 MHz	27 MHZ or 33 MHz
Col.1.4	Date de mise en service Date of bringing into use Fecha de puesta en servicio		15.01.2001	15.01.2001

Col.1.5	Désignation de l'émission Designation of emission Designación de la emisión		27M0F9W, 33M0F9W, 27M0G9W, 33M0G9W		27M0F9W, 33M0F9W, 27M0G9W, 33M0G9W	
Col.1.6	Caractéristiques de modulation: Modulation characteristics: Características de modulación:		Transmission analogique/Analogue Transmission/Transmisión analógica	Transmission numérique/Digital Transmission/Transmisión digital	Transmission analogique/Analogue Transmission/Transmisió n analógica	Transmission numérique/Digital Transmission/Transmisi ón digital
	1.6*a* type de modulation type of modulation tipo de modulación		Modulation de fréquence Frequency modulation Modulación de frecuencia	Modulation par déplacement de phase Phase shift modulation Modulación por desplazamiento de fase	Modulation de fréquence Frequency modulation Modulación de frecuencia	Modulation par déplacement de phase Phase shift modulation Modulación por desplazamiento de fase)
	1.6*b* caractéristiques de préaccentuation pre-emphasis characteristics características de preacentuación		D2-MAC	---	D2-MAC	---
	1.6*c* norme de télévision TV system sistema de televisión		D2-MAC	Numérique Digital	D2-MAC	Numérique Digital
	1.6*d* caractéristiques de radiodiffusion sonore sound-broadcasting characteristics características de la radiodifusión sonora		D2-MAC	Numérique Digital	D2-MAC	Numérique Digital
	1.6*e* excursion de fréquence frequency deviation excursión de frecuencia		13.5 MHz/V ou/or/o 22 MHz/V	27 ou/or/o 33 MHz	13.5 MHz/V ou/or/o 22 MHz/V	27 ou/or/o 33 MHz
	1.6*f* composition de la bande de base composition of the baseband composición de la banda de base		D2-MAC	Numérique Digital	D2-MAC	Numérique Digital

	1.6*g* type de multiplexage des signaux image et son type of multiplexing of the video and sound signals tipo de multiplexación de las señales de imagen y sonido		D2-MAC	MRT TDM MDT	D2-MAC	MRT TDM MDT
	1.6*h* caractéristiques de la dispersion de l'énergie energy dispersal characteristics características de la dispersión de energía		Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz	Rec ITU-R 446-4 Excursion : 27 ou 33 MHz Deviation: 27 or 33 MHz Desviación: 27 o 33 MHz	Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz	Rec ITU-R 446-4 Excursion : 27 ou 33 MHz Deviation: 27 or 33 MHz Desviación: 27 o 33 MHz
2.	**Station terrienne d'émission** **Transmitting earth station** **Estación terrena transmisora**					
Col.2.	Identité de la station terrienne d'émission de liaison de connexion Identity of the transmissing feeder-link earth station Identidad de la estación transmisora de enlace de conexión		BERCENAY-EN-OTHE		BERCENAY-EN-OTHE	
Col.2.2	Coordonnées géographiques de la station terrienne de liaison de connexion (dans le cas de la Région 2, dans la bande 17,7 - 17,8 GHz) Geographical coordinates of the feeder-link station (in the case of Region 2 station using the band 17.7 - 17.8 GHz) Coordenadas geográficas de la estación terrena de enlace de conexión (en el caso de una estación de la Región 2, que transmite en la banda 17,7 - 17,8 GHz)		Not applicable Ne s'applique pas So se aplica			
Col.2.3	Zone de service de la liaison de connexion pour une station terrienne de liaison de connexion identifiée par un ensemble de points de mesure de liaison de connexion Feeder-link service area for a feeder-link earth station identified by a set of feeder-link test points Zona de servicio de enlace de conexión para una estación terrena de enlace de conexión identificada por un conjunto de puntos de prueba		3°E53' 48°N12'		3°E53' 48°N12'	

Col.2.4	Identité de la station spatiale associée avec laquelle la communication doit être établie Identity of the associated space station with which communication is to be established Identidad de la estación espacial asociada con la que ha de establecerse comunicación		RADIOSAT-7	RADIOSAT-7
Col.2.5	Zone hydrométéorologique, pour chaque point de mesure Rain-climatic zone for each test point Zona hidrometeorológica para cada punto de prueba		Identique à l'information utilisée pour l'analyse du Plan de l'AP30A. Identical to the information used for the analysis of the AP30A Plan. Idéntico a la información utilizada para el analisis del Plan del AP30A.	Identique à l'information utilisée pour l'analyse du Plan de l'AP30A. Identical to the information used for the analysis of the AP30A Plan. Idéntico a la información utilizada para el analisis del Plan del AP30A.
Col.2.6	Caractéristique de puissance de l'émission: Power characteristics of the transmission: Características de potencia de la transmisión:			
	2.6a1 puissance d'émission (dBW) totale dans la bande de fréquence assignée fournie à l'entrée de l'antenne total transmitting power (dBW) in the assigned frequency band supplied to the input of the antenna potencia de transmisión (dBW) total, en la banda de frecuencias asignada, suministrada a la entrada de la antena		15.6 dBW	15.6 dBW
	2.6a2 pour la bande 17,3 - 18,1 GHz la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 1 MHz la plus défavorable) for the band 17.3 - 18.1 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst I MHz band para la banda 17,3 - 18,1 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 1 MHz más desfavorable		-44.4 dBW/Hz	-44.4 dBW/Hz
	2.6a3 pour la bande 14,5 - 14,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 4 kHz la plus défavorable) for the band 14.5 - 14.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 4 kHz band para la banda 14,5 - 14,8 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 4 kHz más desfavorable		Not applicable Ne s'applique pas So se aplica	

	2.6a4 pour la bande 17,3 - 17,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne, valeur moyenne pour la totalité de la bande RF for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth		-58.7 dBW/Hz	-58.7 dBW/Hz
	2.6b gamme, exprimée en dB, au-dessus de la puissance d'émission indiquée dans les colonnes 2.6a) si une régulation de puissance est utilisée range, expressed in dB above the transmitting power given in columns 2.6 a) in the case of power control gama, expresada en dB, por encima de la potencia de transmisión utilizada en las columnas 2.6a) si se utiliza control de potencia			

Col. 2.7	Caractéristiques de l'antenne d'émission de la station terrienne: Transmitting antenna characteristics of the earth station: Características de la antena transmisora de la estación terrena			
	2.7a diamètre de l'antenne (mètres) antenna diameter (metres) diámetro de la antena (metros)		8m	8m
	2.7b gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena con relación a un radiador isótropo en la dirección de radiación máxima (dBi)		61 dBi	61 dBi
	2.7c ouverture à mi-puissance du faisceau, en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		0.15°	0.15°
	2.7d diagramme de rayonnement mesuré de l'antenne ou diagramme de rayonnement de référence à utiliser aux fins de coordination measured radiation diagram of the antenna or reference radiation diagram to be used for coordination diagrama de radiación medido de la antena o diagrama de radiación de referencia que se utilizará para la coordinación		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex3 Section 3.5.3 Fig.A De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A	En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex3 Section 3.5.3 Fig.A. De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A.
	2.7e type de polarisation type of polarization tipo de polarización		Circulaire Circular	Circulaire Circular

	2.7f	sens de polarisation sense of polarization sentido de la polarización	21, 23, 25, 27, 29, 31, 33, 35, 37, 39 Directe / Direct / Directa 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40 Indirecte / Indirect / Indirecta	21, 23, 25, 27, 29, 31, 33, 35, 37, 39 Directe / Direct / Directa 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40 Indirecte / Indirect / Indirecta
	2.7g	angle de site de l'horizon en degrés et gain d'antenne en direction de l'horizon pour chaque azimut autour de la station terrienne horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth around the earth station ángulo de elevación del horizonte, en grados, y ganancia de antena en dirección al horizonte para cada acimut en torno a la estación terrena		
	2.7h	altitude de l'antenne en mètres au-dessus du niveau moyen de la mer altitude of the antenna above mean sea level, in metres altitud de la antena sobre el nivel medio del mar, en metros	180m	180m
	2.7i	angle de site minimal, en degrés minimum elevation angle, in degrees ángulo mínimo de elevación en grados	33.6°	33.6°
Col. 2.8	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 hrs	24 hrs
Col. 2.9	Coordination/ Coordinación			
Col. 2.10	Accords/ Agreements/ Acuerdos			
Col. 2.11	Autres renseignements Other information Otras informaciones			

Col. 2.12	Administration ou compagnie exploitant la station Operating administration or company Administración o empresa explotadora de la estación		Agence Nationale des Fréquences Ministère de la Poste, des Télécommunications	Agence Nationale des Fréquences Ministère de la Poste, des Télécommunications
3.	**Station spatiale de réception** **Receiving space station** **Estación espacial receptora**			
Col. 3.1	Position orbitale Orbital position Posición orbital		5°W	5°W
Col. 3.2	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		RADIOSAT-7	RADIOSAT-7
Col. 3.3	Classe de la station Class of station Clase de estación		EC	EC
Col. 3.4	Caractéristiques de l'antenne de réception de la station spatiale: Space station receiving antenna characteristics: Características de la antena de la estación espacial:			
	3.4a gain de l'antenne dans la direction du rayonnement maximal par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena en la dirección de radiación máxima con relación a un radiador isótropo (dBi)		41.0 dBi	41.0 dBi
	3.4b forme du faisceau (circulaire, elliptique ou autre) shape of the beam (circular, elliptical or other) forma del haz (circular, elíptica u otra)		Circulaire Circular	Circulaire Circular
	3.4c précision de pointage (degrés) pointing accuracy (degrees) precisión de puntería (grados)		±0,1°	±0,1°

	3.4d type de polarisation type of polarization tipo de polarización		Circulaire Circular	Circulaire Circular
	3.4e sens de polarisation sense of polarization sentido de la polarización		21, 25, 29, 33, 37, 23, 27, 31, 35, 39 Directe / Direct / Directa 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40 Indirecte / Indirect / Indirecta	21, 25, 29, 33, 37, 23, 27, 31, 35, 39 Directe / Direct / Directa 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 24, 28, 32, 36, 40 Indirecte / Indirect / Indirecta
	3.4f pour les faisceaux circulaires: for circular beams: para haces circulares:		Ne s'applique pas Not applicable No se aplica	
	3.4f1 ouverture à mi-puissance du faisceau en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		0.7°	0.7°
	3.4f2 diagramme de rayonnement copolaire co-polar radiation pattern diagrama de radiación copolar		Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B	Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B
	3.4f3 diagramme de rayonnement contrapolaire cross-polar radiation pattern diagrama de radiación contrapolar		Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B	Conforme à l'appendice 30A , annexe 3, section 3.7.3, fig.B In conformity with Appendix 30A, Annex 3, Section 3.7.3, Fig.B De conformidad con el apéndice 30A, anexo 3, sectión 3.7.3, fig.B
	3.4f4 intersection nominale de l'axe du faisceau de l'antenne avec la Terre (longitude et latitude de visée) nominal intersection of the antenna beam axis with the Earth (boresight longitude and latitude) intersección nominal del eje del haz de la antena con la Tierra (longitud y latitud de la referencia de puntería)		48°N 12' 3°E 53'	48°N 12' 3°E 53'

	3.4i diagramme de gain isotrope estimé dans la direction des parties de l'orbite des satellites géostationnaires qui ne sont pas occultées par la Terre. diagram of the estimated isotropic gain in the direction of those parts of the geostationary satellite orbit which are not obstructed by the Earth Diagrama de la ganancia isotrópica estimada en la dirección de aquellas partes de la órbita de los satélites geoestacionarios que no esté ocultadas por la Tierra		< 0dB Pour les assignations de la bande 17,7-18,1 GHz For assignments in the 17.7-18.1 GHz band Para las asignaciones en la banda 17.7-18.1 GHz	< 0dB Pour les assignations de la bande 17,7-18,1 GHz For assignments in the 17.7-18.1 GHz band Para las asignaciones en la banda 17.7-18.1 GHz
Col.3.5	Température de bruit du système de réception rapportée à la sortie de l'antenne (kelvins) Receiver system noise temperature referred to the output of the antenna (kelvins) Temperatura de ruido del sistema referida a la salida de la antena (kelvins)		600 K	600 K
Col.3.6	Précision de maintien en position (degrés) Station-keeping accuracy (degrees) Precisión del mantenimiento en posición (grados)		± 0.1°	± 0.1°
Col.3.7	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 hrs	24 hrs
Col.3.8	Coordination/ Coordinación			
Col.3.9	Accords/ Agreements/ Acuerdos			
Col.3.10	Autres renseignements Other information Otras informaciones			
Col.3.11	Administration ou compagnie Operating administration or company Administración o empresa explotadora de la estación		Agence Nationale des Fréquences Ministère de la Poste, des Télécommunications et de l'Espace	Agence Nationale des Fréquences Ministère de la Poste, des Télécommunications et de l'Espace
Col. 3.12	Gamme de la commande automatique de gain Range of automatic gain control Gama de control automático de ganancia		10 dB	15 dB

4.	**Administration(s) affectée(s)** **Affected administration(s)** **Administración(es) afectada(s)**			

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Note by the Secretary-General

ASSIGNMENTS WHICH HAVE BEEN RECEIVED BY THE BUREAU UNDER PARAGRAPHS 4.3.14 AND 4.2.15 OF APPENDICES 30 AND 30A BETWEEN THE COMMENCEMENT OF WRC-97 AND 2000 HOURS ON 3 NOVEMBER 1997

In WRC-97 Conference Document 151 a cut-off time of 2000 hours, on Monday 3 November 1997 was set for the inclusion of assignments which were received by the Bureau under paragraphs 4.3.14 and 4.2.15 of Appendices 30 and 30A respectively, and which should be considered in Step 1 of the planning studies to be performed during WRC-97.

Following the request made to the Bureau to provide the names and technical parameters of the above-mentioned networks received in the period between the commencement of WRC-97 and the cut-off time, the following list is provided:

Network name	Administration
BIFROST	NOR
BIFROST-2	NOR
RST-5	RUS

Details of the submissions are found in Annex 1 to this document.

The Bureau will carry out the required examinations as specified in Appendices 30 and 30A to determine whether or not the procedures of Article 4 of these Appendices have been successfully completed and inform the Conference accordingly.

Annexes: 2

	RST-5 **Annexe 2 de l'appendice 30/Annex 2 of Appendix 30/Anexo 2 del apéndice 30**					
			Renseignements figurant dans la Section spéciale relative à la Partie A **Information contained in Part A Special Section** **Información contenida en la Parte A de la Sección Especial**		**Renseignements soumis pour la publication de la Section spéciale relative à la Partie B** **Information submitted for the publication of Part B Special Section** **Información presentada para la publicación de la Parte B de la Sección Especial**	
Col. 1	Pays et numéro de l'IFRB (Régions 1 et 3) Country and IFRB Number (Regions I and 3) País y número de la IFRB (Regiones 1 y 3)		RUS		RUS	
Col. 2	Position nominale sur l'orbite (en degrés à partir du méridien de Greenwich) Nominal orbital position (in degrees front the Greenwich meridian) Posición orbital nominal (en grados a partir del meridiano de Greenwich)		140°E		140°E	
Col. 3	Numéro de canal (voir correspondance entre numéro de canal et fréquence assignée dans les Tableaux 4 de l'article 10 et 11.3 de l'article 11 de l'appendice 30) Channel number (see Table 4 of Article 10 and Table 11.3 of Article 11 of Appendix 30 showing channel numbers and corresponding assigned frequencies) Número del canal (véase la correspondencia entre el número del canal y la frecuencia asignada en los Cuadros 4 y 11.3 que figuran en los artículos 10 y 11 respectivamente del apéndice 30)		Nouvelle assignation New Assignment Nueva asignación Modification Modificación	25, 27, 29,31, 33, 35, 37, 39 26, 28, 30, 32, 34, 36, 38, 40	Nouvelle assignation New Assignment Nueva asignación Modification Modificación	25, 27, 29,31, 33, 35, 37, 39 26, 28, 30, 32, 34, 36, 38, 40
Col. 4	Date de mise en service (JJ/MM/AA) Date of bringing into use (DD/MM/YY) Fecha de puesta en servicio (DD/MM/AA)		01/12/98		01/12/98	
Col. 5	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		RST-5		RST-5	

Col. 6	Zone de service (la zone de service peut être définie, si nécessaire, par un certain nombre de «points de mesure») Service area (if necessary, the service area may be defined by a number of «test points») Zona de servicio (en su caso, la zona de servicio podrá definirse mediante varios «puntos de cálculo»)		Long.E 145.64 146.34 145.48 151.86 156.69 168.18 170.30 179.50 -179.25 -170.00 168.31 162.46 158.16	Lat.N 63.85 61.86 43.60 46.85 50.87 54.43 59.86 62.68 65.50 66.00 70.01 69.62 67.80		Long.E 145.64 146.34 145.48 151.86 156.69 168.18 170.30 179.50 -179.25 -170.00 168.31 162.46 158.16	Lat.N 63.85 61.86 43.60 46.85 50.87 54.43 59.86 62.68 65.50 66.00 70.01 69.62 67.80
Col. 7	Coordonnées géographiques de l'intersection de l'axe du faisceau d'antenne avec la surface de la Terre Geographical coordinates of the intersection of the antenna beam axis with the earth. Coordenadas geográficas de la intersección del eje del haz de la antena con la superficie de la Tierra		158.0E - 56.0N			158.0E - 56.0N	
Col. 8	Zone(s) hydrométéorologique(s) (définies dans l'annexe 5 à l'appendice 30) Rain-climatic zone(s) (as defined in Annex 5 to Appendix 30) Zonas hidrometeorológicas (definidas en el anexo 5 al apéndice 30)		2			2	
Col. 9	Classe de la station Class of station Clase de estación		EV			EV	
Col. 10	Classe d'émission et largeur de bande nécessaire Class of emission and necessary bandwidth Clase de emisión y anchura de banda necesaria		27M0F8W 27M0G7W			27M0F8W 27M0G7W	
Col. 11	Puissance délivrée à l'antenne (dBW) (toutes les Régions) Power supplied to the antenna (dBW) (all Regions) Potencia suministrada a la antena (dBW) (todas las Regiones)		17.3 dBW			17.3 dBW	
Col. 12	Caractéristiques de l'antenne Antenna characteristics: Características de la antena:						
	12*a* Gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) Gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) Ganancia de la antena con relación a un radiador isótopo, en la dirección de radiación máxima (dBi)		37.7 dBi			37.7 dBi	
	12*b* Forme du faisceau (elliptique, circulaire ou autre) Shape of the beam (elliptical, circular or other) Configuración del haz (elíptica o circular u otra)		Circulaire Circular			Circulaire Circular	

	12*c* Précision de pointage Pointing accuracy Precisión de puntería		$\pm 0{,}1^0$		$\pm 0{,}1^0$	
	12*d* Type de polarisation Type of polarization Tipo de polarización		Circulaire Circular		Circulaire Circular	
	12*e* Sens de polarisation Sense of polarization Sentido de la polarización		Voies/Channels/Canales 26, 28, 30, 32, 34 36, 38, 40	Pol. 1	Voies/Channels/Canales 26, 28, 30, 32, 34 36, 38, 40	Pol. 1
			25, 27, 29, 31, 33 35, 37, 39	2	25, 27, 29, 31, 33 35, 37, 39	2
	12*f* Pour des faisceaux circulaires, indiquer les renseignements suivants For circular beams: Para haces circulares, indíquese lo siguiente:					
	12*f*1 Ouverture à mi-puissance du faisceau (degrés). Half-power beamwidth in degrees Abertura del haz a potencia mitad, en grados.		2.2^0		2.2^0	
	12f2 Diagramme de rayonnement copolaire Co-polar radiation pattern Diagrama de radiación copolar		Conformément à l'appendice 30, annexe 5, para. 3.13.3, fig, 9 In conformity with AP30, Annex 5, par. 3.13.3, fig, 9 De conformidad con el AP30, anexo 5, para. 3.13.3, fig. 9		Conformément à l'appendice 30, annexe 5, para. 3.13.3, fig, 9 In conformity with AP30, Annex 5, par. 3.13.3, fig, 9 De conformidad con el AP30, anexo 5, para. 3.13.3, fig. 9	
	12f3 Diagramme de rayonnement contrapolaire Cross-polar radiation pattern Diagrama de radiación copolar		Conformément à l'appendice 30, annexe 5, para. 3.13.3, fig, 9 In conformity with AP30, Annex 5, par. 3.13.3, fig, 9 De conformidad con el AP30, anexo 5, para. 3.13.3, fig. 9		Conformément à l'appendice 30, annexe 5, para. 3.13.3, fig, 9 In conformity with AP30, Annex 5, par. 3.13.3, fig, 9 De conformidad con el AP30, anexo 5, para. 3.13.3, fig. 9	

	12*h*3 Equation numérique ou tableau fournissant les renseignements nécessaires pour permettre de tracer les contour de gain Numerical equation or table providing the necessary nformation to allow the gain contours to be plotted Ecuación numérica o cuadro con la información necesaria ara trazar los contornos de ganancia					
Col. 13	Précision du maintien en position (degrés) Station keeping accuracy (degrees) Precisión del mantenimiento en posición (en grados)		0,1°		0,1°	
Col. 14	Caractéristiques de modulation: Modulation characteristics: Características de modulación:					
	14*a* Type de modulation T ype of modulation Tipo de modulación		**27MOF8W** Modulation de fréquence Frequency modulation Modulación de frecuencia	**27MOG7W** MDPQ QPSK PSK	**27MOF8W** Modulation de fréquence Frequency modulation Modulación de frecuencia	**27MOG7W** MDPQ QPSK PSK
	14*b* Caractéristiques de préaccentuation Pre-emphasis characteristics Características de preacentuación		Rec. ITU-R F405	--	Rec. ITU-R F405	--
	14*c* Norme de télévision TV standard Norma de televisión		SECAM	SECAM	SECAM	SECAM
	14*d* Caractéristiques de radiodiffusion sonore Sound broadcasting characteristics Características de la radiodifusión sonora		Une sous-porteuse son stéréophonique One stereo sound sub-carrier Una subportadora de sonido estereofónico	Transmission 4 canaux son au maximum Transmission up to 4 sound channels Transmisión de hasta 4 canales de sonido	Une sous-porteuse son stéréophonique One stereo sound sub-carrier Una subportadora de sonido estereofónico	Transmission 4 canaux son au maximum Transmission up to 4 sound channels Transmisión de hasta 4 canales de sonido
	14*e* Excursion de fréquence Frequency deviation Excursión de frecuencia		+/- 12.5MHz	---	+/- 12.5MHz	---
	14*f* Composition de la bande de base Composition of the baseband Composición de la banda de base		Conformément au Rapport 624 de l'UIT-R pour les signaux SECAM In accordance with Report ITU-R 624 for SECAM signals De acuerdo con el Informe UIT-R 624 para las señales SECAM	---	Conformément au Rapport 624 de l'UIT-R pour les signaux SECAM In accordance with Report ITU-R 624 for SECAM signals De acuerdo con el Informe UIT-R 624 para las señales SECAM	---

	14*g* Type de multiplexage des signaux image et son Type of multiplexing of the video and sound signals Tipo de multiplaje de las señales de imagen y sonido		MRF FDM MDF	TDM	MRF FDM MDF	TDM
	14*h* Caractéristique de la dispersion de l'énergie Energy dispersal characteristics Características de la dispersión de energía		Excursion de 1 MHz crête-à-crête Deviation of 1 MHz pp Excursion de 1 MHz cresta a cresta	---	Excursion de 1 MHz crête-à-crête Deviation of 1 MHz pp Excursion de 1 MHz cresta a cresta	---
Col. 15	Angle de site minimal dans la zone de service (Régions 1 et 3) Minimum angle of elevation in the service area (Regions 1 and 3) Ángulo elevación mínimo en la zona de servicio (Regiones 1 y 3)		5°		5°	
Col. 16	Type de réception (individuelle ou communautaire) (Régions 1 et 3) Type of reception (individual or community) (Regions 1 and 3) Tipo de recepción (individual o comunal) (Regiones 1 y 3)		Individuelle et Communautaire Individual and communitiy Individual y Comunitaria		Individuelle et Communautaire Individual and communitiy Individual y Comunitaria	
Col. 17	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24h		24h	
Col. 18	Coordination/ Coordinación					
Col. 19	Accords/ Agreements/ Acuerdos					
Col. 20	Autres renseignements Other information Otras informaciones					
Col. 21	Administration ou compagnie exploitant la station Operating Administration or company Administración o compañía explotadora		RUSSIA INFORMCOSMOS 103064 Moscow, Kazakova str.16 FAX: +261-0090		RUSSIA INFORMCOSMOS 103064 Moscow, Kazakova str.16 FAX: +261-0090	
Col. 22	Administration(s) affectée(s) Administration(s) affected Administraciones afectadas AP30 Art. 4, 4.3.1.5					

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Annexe 2 de l'appendice 30A/Annex 2 of Appendix 30A/Anexo 2 del apéndice 30A

			Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial			Renseignements soumis pour la publication de la Section spéciale relative à la Partie B Information submitted for the publication of Part B Special Section Información presentada para la publicación de la Parte B de la Sección Especial	
1.	**Station terrienne d'émission et station spatiale de réception** **Transmitting Earth Station and Receiving Space Station** **Estación terrena transmisora y estación espacial receptora**						
Col.1.1	Pays et identification du faisceau Country and beam identification País e identificación del haz		RUS			RUS	
Col.1.2	Fréquence assignée Assigned frequency Frecuencia asignada		Voir/See/Véase annexe/Annex/anexo 1			Voir/See/Véase annexe/Annex/anexo 1	
Col.1.3	Bande de fréquences assignée Assigned frequency band Banda de frecuencias asignada		27 MHz			27 MHz	
Col.1.4	Date de mise en service Date of bringing into use Fecha de puesta en servicio		01.12.98			01.12.98	
Col.1.5	Désignation de l'émission Designation of emission Designación de la emisión		27M0F8W 27M0G7W			27M0F8W 27M0G7W	
Col.1.6	Caractéristiques de modulation: Modulation characteristics: Características de modulación:						
	1.6*a* type de modulation type of modulation tipo de modulación		**27MOF8W** Modulation de fréquence Frequency modulation Modulación de frecuencia	**27MOG7W** MDPQ QPSK PSK		**27MOF8W** Modulation de fréquence Frequency modulation Modulación de frecuencia	**27MOG7W** MDPQ QPSK PSK

	1.6*b* caractéristiques de préaccentuation pre-emphasis characteristics características de preacentuación	Rec. ITU-R F405	---			
	1.6*c* norme de télévision TV system sistema de televisión	SECAM	SECAM	SECAM	SECAM	
	1.6*d* caractéristiques de radiodiffusion sonore sound-broadcasting characteristics características de la radiodifusión sonora	Une sous-porteuse son stéréophonique One stereo sound sub-carrier Una subportadora de sonido estereofónico	Transmission 4 canaux son au maximum Transmission up to 4 sound channels Transmisión de hasta 4 canales de sonido	Une sous-porteuse son stéréophonique One stereo sound sub-carrier Una subportadora de sonido estereofónico	Transmission 4 canaux son au maximum Transmission up to 4 sound channels Transmisión de hasta 4 canales de sonido	
	1.6*e* excursion de fréquence frequency deviation excursión de frecuencia	+/- 12.5MHz	---	+/- 12.5MHz	---	
	1.6*f* composition de la bande de base composition of the baseband composición de la banda de base	Conformément au Rapport 624 de l'UIT-R pour les signaux SECAM In accordance with Report ITU-R 624 for SECAM signals De acuerdo con el Informe UIT-R 624 para las señales SECAM	---	Conformément au Rapport 624 de l'UIT-R pour les signaux SECAM In accordance with Report ITU-R 624 for SECAM signals De acuerdo con el Informe UIT-R 624 para las señales SECAM	---	
	1.6*g* type de multiplexage des signaux image et son type of multiplexing of the video and sound signals tipo de multiplexación de las señales de imagen y sonido	MRF FDM MDF	TDM	MRF FDM MDF	TDM	
	1.6*h* caractéristiques de la dispersion de l'énergie energy dispersal characteristics características de la dispersión de energía	Excursion de 1 MHz crête-à-crête Deviation of 1 MHz pp Excursión de 1 MHz cresta a cresta	---	Excursion de 1 MHz crête-à-crête Deviation of 1 MHz pp Excursión de 1 MHz cresta a cresta	---	
2.	**Station terrienne d'émission** **Transmitting earth station** **Estación terrena transmisora**					
Col.2.1	Identité de la station terrienne d'émission de liaison de connexion Identity of the transmissing feeder-link earth station Identidad de la estación transmisora de enlace de conexión	Stations types Typical stations Estaciones típicas		Stations types Typical stations Estaciones típicas		

Col.2.2	Coordonnées géographiques de la station terrienne de liaison de connexion (dans le cas de la Région 2, dans la bande 17,7 - 17,8 GHz) Geographical coordinates of the feeder-link station (in the case of Region 2 station using the band 17.7 - 17.8 GHz) Coordenadas geográficas de la estación terrena de enlace de conexión (en el caso de una estación de la Región 2, que transmite en la banda 17,7 - 17,8 GHz)		—						
Col.2.3	Zone de service de la liaison de connexion pour une station terrienne de liaison de connexion identifiée par un ensemble de points de mesure de liaison de connexion Feeder-link service area for a feeder-link earth station identified by a set of feeder-link test points Zona de servicio de enlace de conexión para una estación terrena de enlace de conexión identificada por un conjunto de puntos de prueba		**Lat. (°N)**	**Long. (°E)**	**Zone hydro. Rain Clim. Zone* Zona hidro.**		**Lat. (°N)**	**Long. (°E)**	**Zone hydro. Rain Clim. Zone Zona hidro.**
			1 60.88	77.00	C		1 60.88	77.00	C
			2 49.22	87.30	E		2 49.22	87.30	E
			3 50.60	107.50	E		3 50.60	107.50	E
			4 42.29	130.60	K		4 50.8	137.60	K
			5 43.60	145.48	K		5 43.60	145.48	K
			6 54.43	168.18	D		6 54.43	168.18	D
			7 62.68	179.50	A		7 62.68	179.50	A
			8 66.00	-170.00	A		8 66.00	-170.00	A
			9 69.62	162.46	A		9 69.62	162.46	A
			10 73.29	128.40	A		10 73.29	128.40	A
Col.2.4	Identité de la station spatiale associée avec laquelle la communication doit être établie Identity of the associated space station with which communication is to be established Identidad de la estación espacial asociada con la que ha de establecerse comunicación		RST-5				RST-5		
Col.2.5	Zone hydrométéorologique, pour chaque point de mesure Rain-climatic zone for each test point Zona hidrometeorológica para cada punto de prueba		Voir/See/Véase Col. 2.3				Voir/See/Véase Col. 2.3		
Col.2.6	Caractéristique de puissance de l'émission: Power characteristics of the transmission: Características de potencia de la transmisión:								
	2.6a1 puissance d'émission (dBW) totale dans la bande de fréquence assignée fournie à l'entrée de l'antenne total transmitting power (dBW) in the assigned frequency band supplied to the input of the antenna potencia de transmisión (dBW) total, en la banda de frecuencias asignada, suministrada a la entrada de la antena		27 dBW				27 dBW		

	2.6a2 pour la bande 17,3 - 18,1 GHz la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 1 MHz la plus défavorable) for the band 17.3 - 18.1 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 1 MHz band para la banda 17,3 - 18,1 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 1 MHz más desfavorable		-33 dBW/Hz		-33 dBW/Hz
	2.6a3 pour la bande 14,5 - 14,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 4 kHz la plus défavorable) for the band 14.5 - 14.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 4 kHz band para la banda 14,5 - 14,8 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 4 kHz más desfavorable		---		--
	2.6a4 pour la bande 17,3 - 17,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne, valeur moyenne pour la totalité de la bande RF for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth		-47.3 dBW		-47.3 dBW
	2.6b gamme, exprimée en dB, au-dessus de la puissance d'émission indiquée dans les colonnes 2.6a) si une régulation de puissance est utilisée range, expressed in dB above the transmitting power given in columns 2.6 a) in the case of power control gama, expresada en dB, por encima de la potencia de transmisión utilizada en las columnas 2.6a) si se utiliza control de potencia		5 dB max		5 dB max

Col. 2.7	Caractéristiques de l'antenne d'émission de la station terrienne: Transmitting antenna characteristics of the earth station: Características de la antena transmisora de la estación terrena				
	2.7a diamètre de l'antenne (mètres) antenna diameter (metres) diámetro de la antena (metros)		5 m		5 m
	2.7b gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena con relación a un radiador isótropo en la dirección de radiación máxima (dBi)		57 dBi		57 dBi
	2.7c ouverture à mi-puissance du faisceau, en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		0.25°		0.25°
	2.7d diagramme de rayonnement mesuré de l'antenne ou diagramme de rayonnement de référence à utiliser aux fins de coordination measured radiation diagram of the antenna or reference radiation diagram to be used for coordination diagrama de radiación medido de la antena o diagrama de radiación de referencia que se utilizará para la coordinación		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex 3 Section 3.5.3 Fig.A De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex 3 Section 3.5.3 Fig.A. De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A.
	2.7e type de polarisation type of polarization tipo de polarización		Circulaire Circular		Circulaire Circular
	2.7f sens de polarisation sense of polarization sentido de la polarización		Voir/See/Véase annexe/Annex/ anexo 1		Voir/See/Véase annexe/Annex/ anexo 1
	2.7g angle de site de l'horizon en degrés et gain d'antenne en direction de l'horizon pour chaque azimut autour de la station terrienne horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth around the earth station ángulo de elevación del horizonte, en grados, y ganancia de antena en dirección al horizonte para cada acimut en torno a la estación terrena		0°		0°

	2.7h altitude de l'antenne en mètres au-dessus du niveau moyen de la mer altitude of the antenna above mean sea level, in metres altitud de la antena sobre el nivel medio del mar, en metros		0 m		0 m
	2.7i angle de site minimal, en degrés minimum elevation angle, in degrees ángulo mínimo de elevación en grados				
Col. 2.8	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 h		24 h
Col. 2.9	Coordination/ Coordinación				
Col. 2.10	Accords/ Agreements/ Acuerdos		---		---
Col. 2.11	Autres renseignements Other information Otras informaciones		---		---
Col. 2.12	Administration ou compagnie exploitant la station Operating administration or company Administración o empresa explotadora de la estación		RUSSIA INFORMCOSMOS 103064 , Moscow Kazakova str.16 FAX: + 261-0090		RUSSIA INFORMCOSMOS 103064 , Moscow Kazakova str 16 FAX: + 261-0090
3.	**Station spatiale de réception** **Receiving space station** **Estación espacial receptora**				
Col. 3.1	Position orbitale Orbital position Posición orbital		140°E		140°E
Col. 3.2	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		RST-5		RST-5
Col. 3.3	Classe de la station Class of station Clase de estación		EC		EC
Col. 3.4	Caractéristiques de l'antenne de réception de la station spatiale: Space station receiving antenna characteristics: Características de la antena de la estación espacial:				

	3.4a gain de l'antenne dans la direction du rayonnement maximal par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena en la dirección de radiación máxima con relación a un radiador isótropo (dBi)		38.4 dBi		38.4 dBi
	3.4b forme du faisceau (circulaire, elliptique ou autre) shape of the beam (circular, elliptical or other) forma del haz (circular, eliptica u otra)		Elliptical		Elliptical
	3.4c précision de pointage (degrés) pointing accuracy (degrees) precisión de puntería (grados)		±0.075°		±0.075°
	3.4d type de polarisation type of polarization tipo de polarización		Circulaire Circular		Circulaire Circular
	3.4e sens de polarisation sense of polarization sentido de la polarización		Voir/See/Véase annexe/Annex/ anexo 1		Voir/See/Véase annexe/Annex/ anexo 1
	3.4f pour les faisceaux circulaires: for circular beams: para haces circulares:				
	3.4f1 ouverture à mi-puissance du faisceau en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		2°		2°
	3.4f2 diagramme de rayonnement copolaire co-polar radiation pattern diagrama de radiación copolar		Conformément à l'appendice 30A. annexe 3, para. 3.7.3, fig B In conformity with Appendix 30A, Annex3, Section 3.7.3, Fig B De conformidad con el AP30A, anexo 3, para. 3.7.3, fig. B		Conformément à l'appendice 30A. annexe 3, para. 3.7.3, fig B In conformity with Appendix 30A, Annex3, Section 3.7.3, Fig B De conformidad con el AP30A, anexo 3, para. 3.7.3, fig. B
	3.4f3 diagramme de rayonnement contrapolaire cross-polar radiation pattern diagrama de radiación contrapolar		Conformément à l'appendice 30A. annexe 3, para. 3.7.3, fig B In conformity with Appendix 30A, Annex3, Section 3.7.3, Fig B De conformidad con el AP30A, anexo 3, para. 3.7.3, fig. B		Conformément à l'appendice 30A. annexe 3, para. 3.7.3, fig B In conformity with Appendix 30A, Annex3, Section 3.7.3, Fig B De conformidad con el AP30A, anexo 3, para. 3.7.3, fig. B
	3.4f4 intersection nominale de l'axe du faisceau de l'antenne avec la Terre (longitude et latitude de visée) nominal intersection of the antenna beam axis with the Earth (boresight longitude and latitude) intersección nominal del eje del haz de la antena con la Tierra (longitud y latitud de la referencia de puntería)		—		

Col.3.5	Température de bruit du système de réception rapportée à la sortie de l'antenne (kelvins) Receiver system noise temperature referred to the output of the antenna (kelvins) Temperatura de ruido del sistema referida a la salida de la antena (kelvins)		1800 K		1800 K
Col.3.6	Précision de maintien en position (degrés) Station-keeping accuracy (degrees) Precisión del mantenimiento en posición (grados)		±0.1°		±0.1°
Col.3.7	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 hrs		24 hrs
Col.3.8	Coordination/ Coordinación				
Col.3.9	Accords/ Agreements/ Acuerdos				
Col.3.10	Autres renseignements Other information Otras informaciones				
Col.3.11	Administration ou compagnie Operating administration or company Administración o empresa explotadora de la estación		RUSSIA INFORMCOSMOS 103064 , Moscow Kazakova str.16 FAX: + 261-0090		RUSSIA INFORMCOSMOS 103064 , Moscow Kazakova str.16 FAX: + 261-0090
Col. 3.12	Gamme de la commande automatique de gain Range of automatic gain control Gama de control automático de ganancia		+5/-10dB		+5/-10dB
4.	**Administration(s) affectée(s)** **Affected administration(s)** **Administración(es) afectada(s)**				

Le texte figurant dans les colonnes ombrées indique que les données soumises diffèrent de celles figurant dans la Partie A de la Section spéciale
The columns in shadow indicate that the submitted data is different from that contained in Part A of Special Section.
Las columnas sombreadas indican que los datos sometidos son diferentes de las que figuran en la Parte A de la Sección Especial

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Annexe 2 de l'appendice 30/Annex 2 of Appendix 30/Anexo 2 del apéndice 30

			Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial		Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30 Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30 Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30
Col. 1	Pays et numéro de l'IFRB (Régions 1 et 3) Country and IFRB Number (Regions 1 and 3) País y número de la IFRB (Regiones 1 y 3)		NOR		NOR
	Pays et identification du faisceau (Région 2) Country and beam identification (Region 2) País e identificación del haz (Región 2)				
Col. 2	Position nominale sur l'orbite (en degrés à partir du méridien de Greenwich) Nominal orbital position (in degrees front the Greenwich meridian) Posición orbital nominal (en grados a partir del meridiano de Greenwich)		0.8°W		0.8°W
Col. 3	Numéro de canal (voir correspondance entre numéro de canal et fréquence assignée dans les Tableaux 4 de l'article 10 et 11.3 de l'article 11 de l'appendice 30) Channel number (see Table 4 of Article 10 and Table 11.3 of Article 11 of Appendix 30 showing channel numbers and corresponding assigned frequencies) Número del canal (véase la correspondencia entre el número del canal y la frecuencia asignada en los Cuadros 4 y 11.3 que figuran en los artículos 10 y 11 respectivamente del apéndice 30)		4,8,12,16,20		4,8,12,16,20
Col. 4	Date de mise en service (JJ/MM/AA) Date of bringing into use (DD/MM/YY) Fecha de puesta en servicio (DD/MM/AA)		1992-09-01		1996-07-01
Col. 5	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		Bifrost		Bifrost

Col. 6	Zone de service (la zone de service peut être définie, si nécessaire, par un certain nombre de «points de mesure») Service area (if necessary, the service area may be defined by a number of «test points») Zona de servicio (en su caso, la zona de servicio podrá definirse mediante varios «puntos de cálculo»)		Lat. (North) 55.0 58.8 62.0 71.0 70.0 69.0 62.5 60.5 60.5 55.0	Long. (East) 9.0 6.0 5.0 26.0 30.0 27.5 30.0 27.5 23.0 15.0		Lat. (North) 55.0 58.8 62.0 71.0 70.0 69.0 62.5 60.5 60.5 55.0	Long. (East) 9.0 6.0 5.0 26.0 30.0 27.5 30.0 27.5 23.0 15.0
Col. 7	Coordonnées géographiques de l'intersection de l'axe du faisceau d'antenne avec la surface de la Terre Geographical coordinates of the intersection of the antenna beam axis with the earth. Coordenadas geográficas de la intersección del eje del haz de la antena con la superficie de la Tierra						
Col. 8	Zone(s) hydrométéorologique(s) (définies dans l'annexe 5 à l'appendice 30) Rain-climatic zone(s) (as defined in Annex 5 to Appendix 30) Zonas hidrometeorológicas (definidas en el anexo 5 al apéndice 30)						
Col. 9	Classe de la station Class of station Clase de estación		EV			EV	
Col. 10	Classe d'émission et largeur de bande nécessaire Class of emission and necessary bandwidth Clase de emisión y anchura de banda necesaria		27M0FXF			27M0FXF	
Col. 11	Puissance délivrée à l'antenne (dBW) (toutes les Régions) Power supplied to the antenna (dBW) (all Regions) Potencia suministrada a la antena (dBW) (todas las Regiones)		15.0 dBW			15.0 dBW	
Col. 12	Caractéristiques de l'antenne Antenna characteristics: Características de la antena:						
	12*a* Gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) Gain of the antenna in the direction of maximum radiation referred to an isotropic adiator (dBi) Ganancia de la antena con relación a un radiador isótopo, en la dirección de radiación máxima (dBi)		44.0 dBi			30.0 dBi	

	12*b* Forme du faisceau (elliptique, circulaire ou autre) Shape of the beam (elliptical, circular or other) Configuración del haz (elíptica o circular u otra)		Elliptique Elliptical Elíptica		Modelé Shaped Conformado
	12*c* Précision de pointage Pointing accuracy Precisión de puntería		±0.05°		±0.05°
	12*d* Type de polarisation Type of polarization Tipo de polarización		Circulaire Circular		Circulaire Circular
	12*e* Sens de polarisation Sense of polarization Sentido de la polarización		1		1
	12*f* Pour des faisceaux circulaires, indiquer les renseignements suivants For circular beams: Para haces circulares, indíquese lo siguiente:		Se s'applique pas Not applicable No se aplica		
	12*g*1 Diagramme de rayonnement copolaire Co-polar radiation pattern Diagrama de radiación copolar		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30, annexe 5, section 3.13.3 In conformity with Region 1 and 3 patterns of Appendix 30, Annex5 Section 3.13.3 De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30, anexo 5, punto 3.13.3		Voir/See/Véase Fig. 1
	12*g*2 Diagramme de rayonnement contrapolaire Cross-polar radiation pattern Diagrama de radiación contrapolar		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30, annexe 5, section 3.13.3 In conformity with Region 1 and 3 patterns of Appendix 30, Annex5 Section 3.13.3 De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30, anexo 5, punto 3.13.3		Voir/See/Véase Fig. 2
	12*g*3 Précision de rotation (degrés) Rotation accuracy (degrees) Precisión de rotación (en grados)		±0.5°		
	12*g*4 Orientation (degrés) Orientation (degree) Orientación (en grados)		135°		
	12*g*5 Grand axe (degrés) à l'ouverture à mi-puissance du faisceau Major axis (degrees) as the half-power beamwidth Eje mayor (en grados) para la abertura delhaz a potencia mitad		1.35°		

	12*g*6 Petit axe (degrés) à l'ouverture à mi- puissance du faisceau Manor axis (degrees) as the half-power beamwidth Eje menor (en grados) para la abertura del haz a potencia mitad		0.67°		
	12*h*1 Contours de gain copolaire Co-polar gain contours Contornos de ganancia copolar				17 dB
Col. 13	Précision du maintien en position (degrés) Station keeping accuracy (degrees) Precisión del mantenimiento en posición (en grados)		±0.1		±0.1° East-West ±0.1° North-South
Col. 14	Caractéristiques de modulation: Modulation characteristics: Características de modulación:				
	14*a* Type de modulation Type of modulation Tipo de modulación		Modulation de fréquence Fequency Modulation Modulación de frecuencia		Modulation de fréquence Fequency Modulation Modulación de frecuencia
	14*b* Caractéristiques de préaccentuation Pre-emphasis characteristics Características de preacentuación		Linéaire E1, Non-linéaire E7 Linear E1, Non linear E7 Lineal E1, Non lineal E7		Linéaire E1, Non-linéaire E7 Linear E1, Non linear E7 Lineal E1, Non lineal E7
	14*c* Norme de télévision TV standard Norma de televisión		D2-MAC		D2-MAC
	14*d* Caractéristiques de radiodiffusion sonore Sound broadcasting characteristics Características de la radiodifusión sonora		Numérique Digital		Numérique Digital
	14*e* Excursion de fréquence Frequency deviation Excursión de frecuencia		13.5 MHz/V		13.5 MHz/V
	14*f* Composition de la bande de base Composition of the baseband Composición de la banda de base		D/D2MAC		D/D2MAC
	14*g* Type de multiplexage des signaux image et son Type of multiplexing of the video and sound signals Tipo de multiplaje de las señales de imagen y sonido		MRT TDM MDT		MRT TDM MDT
	14*h* Caractéristique de la dispersion de l'énergie Energy dispersal characteristics Características de la dispersión de energía		Déviation de 600 kHz pp produite par un signal de 25 Hz Deviacion of 600 kHz pp produced by a 25 Hz triangular signal Desviación de 600 kHz pp producida por una senäl triangular de 25 Hz		Déviation de 600 kHz pp 600 kHz pp deviation Desviación de 600 kHz pp

Col. 15	Angle de site minimal dans la zone de service (Régions 1 et 3) Minimum angle of elevation in the service area (Regions 1 and 3) Ángulo de elevación mínimo en la zona de servicio (Regiones 1 y 3)		8°		8°
Col. 16	Type de réception (individuelle ou communautaire) (Régions 1 et 3) Type of reception (individual or community) (Regions 1 and 3) Tipo de recepción (individual o comunal) (Regiones 1 y 3)		Individuelle Individual Individual		Individuelle Individual Individual
Col. 17	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 h		24 h
Col. 18	Coordination/ Coordinación				
Col. 19	Accords/ Agreements/ Acuerdos				
Col. 20	Autres renseignements Other information Otras informaciones				
Col. 21	Administration ou compagnie exploitant la station Operating Administration or company Administración o compañía explotadora		Norvegian Telecom International		Telenor Satellite Services
Col. 22	Administration(s) affectée(s) Administration(s) affected Administraciones afectadas				

Le texte figurant dans les colonnes ombrées indique que les données soumises diffèrent de celles figurant dans la Partie A de la Section spéciale
The columns in shadow indicate that the submitted data is different from that contained in Part A of Special Section.
Las columnas sombreadas indican que los datos sometidos son diferentes de las que figuran en la Parte A de la Sección Especial

FIG. 1

*Satellite Network : BIFROST*X*	*Map Type: Plate Carrée*
Satellite Orbital Position : -0.80 Deg	*Scale Factor K = 1.0*
Notifying Administration : NOR	*Minimum Longitude: 0.00 Deg*
Notification Reason : N	*Maximum Longitude: 40.00 Deg*
Polarization discriminator : C	*Minimum Latitude: 49.00 Deg*
Beam Name : NO4	*Maximum Latitude: 80.00 Deg*
Emission/Reception Flag : E	*Longitude/Latitude Spacing: 20/20 Deg*

GIMROC System Version 1.3 - File Version: Fri Oct 31 10:05:27 1997
Gain Contours Diagram - Mon Nov 03 19:08:42 1997

FIG. 2

Satellite Network : BIFROST*X	Map Type: Plate Carrée
Satellite Orbital Position : -0.80 Deg	Scale Factor K = 1.0
Notifying Administration : NOR	Minimum Longitude: -10.00 Deg
Notification Reason : N	Maximum Longitude: 40.00 Deg
Polarization discriminator : X	Minimum Latitude: 35.00 Deg
Beam Name : NO4	Maximum Latitude: 80.00 Deg
Emission/Reception Flag : E	Longitude/Latitude Spacing: 20/20 Deg

GIMROC System Version 1.3 - File Version: Fri Oct 31 10:05:27 1997
Gain Contours Diagram - Mon Nov 03 19:10:59 1997

BIFROST (0.8W)

Annexe 2 de l'appendice 30A/Annex 2 of Appendix 30A/Anexo 2 del apéndice 30A

			Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial	Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30A Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30A Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30A
1.	**Station terrienne d'émission et station spatiale de réception** **Transmitting Earth Station and Receiving Space Station** **Estación terrena transmisora y estación espacial receptora**			
Col.1.1	Pays et identification du faisceau Country and beam identification País e identificación del haz		NOR	NOR
Col.1.2	Fréquence assignée Assigned frequency Frecuencia asignada		4,8,12,16,20	4,8,12,16,20
Col.1.3	Bande de fréquences assignée Assigned frequency band Banda de frecuencias asignada		27MHz	27MHz
Col.1.4	Date de mise en service Date of bringing into use Fecha de puesta en servicio		1992-09-01	1998-07-01
Col.1.5	Désignation de l'émission Designation of emission Designación de la emisión		27M0FXF	27M0FXF
Col.1.6	Caractéristiques de modulation: Modulation characteristics: Características de modulación:			
	1.6*a* type de modulation type of modulation tipo de modulación		Modulation de fréquence Frequency modulation Modulación de frecuencia	Modulation de fréquence Frequency modulation Modulación de frecuencia

	1.6*b* caractéristiques de préaccentuation pre-emphasis characteristics características de preacentuación		Linéaire E1, non-linéaire E7 Linear E1, Non linear E7 Lineal E1, no lineal E7	Linéaire E1, non-linéaire E7 Linear E1, Non linear E7 Lineal E1, no lineal E7
	1.6*c* norme de télévision TV system sistema de televisión		D2-MAC	D2-MAC
	1.6*d* caractéristiques de radiodiffusion sonore sound-broadcasting characteristics características de la radiodifusión sonora		Numérique Digital	Numérique Digital
	1.6*e* excursion de fréquence frequency deviation excursión de frecuencia		13.5 MHz/V	13.5 MHz/V
	1.6*f* composition de la bande de base composition of the baseband composición de la banda de base		D2-MAC	D2-MAC
	1.6*g* type de multiplexage des signaux image et son type of multiplexing of the video and sound signals tipo de multiplexación de las señales de imagen y sonido		MRT TDM MDT	MRT TDM MDT
	1.6*h* caractéristiques de la dispersion de l'énergie energy dispersal characteristics características de la dispersión de energía		Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz	Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz
2.	**Station terrienne d'émission** **Transmitting earth station** **Estación terrena transmisora**			
Col.2.	Identité de la station terrienne d'émission de liaison de connexion Identity of the transmissing feeder-link earth station Identidad de la estación transmisora de enlace de conexión		NOR-NIT-25+ Typical	NOR-NIT-25+ Typical
Col.2.2	Coordonnées géographiques de la station terrienne de liaison de connexion (dans le cas de la Région 2, dans la bande 17,7 - 17,8 GHz) Geographical coordinates of the feeder-link station (in the case of Region 2 station using the band 17.7 - 17.8 GHz) Coordenadas geográficas de la estación terrena de enlace de conexión (en el caso de una estación de la Región 2, que transmite en la banda 17,7 - 17,8 GHz)		Not applicable Ne s'applique pas So se aplica	

Col.2.3	Zone de service de la liaison de connexion pour une station terrienne de liaison de connexion identifiée par un ensemble de points de mesure de liaison de connexion Feeder-link service area for a feeder-link earth station identified by a set of feeder-link test points Zona de servicio de enlace de conexión para una estación terrena de enlace de conexión identificada por un conjunto de puntos de prueba	Lat. (North) / Long. (East) 55.0 / 9.0 58.8 / 6.0 62.0 / 5.0 71.0 / 26.0 70.0 / 30.0 69.0 / 27.5 62.5 / 30.0 60.5 / 27.5 60.5 / 23.0 55.0 / 15.0	Lat. (North) / Long. (East) 55.0 / 9.0 58.8 / 6.0 62.0 / 5.0 71.0 / 26.0 70.0 / 30.0 69.0 / 27.5 62.5 / 30.0 60.5 / 27.5 60.5 / 23.0 55.0 / 15.0
Col.2.4	Identité de la station spatiale associée avec laquelle la communication doit être établie Identity of the associated space station with which communication is to be established Identidad de la estación espacial asociada con la que ha de establecerse comunicación	BIFROST	BIFROST
Col.2.5	Zone hydrométéorologique, pour chaque point de mesure Rain-climatic zone for each test point Zona hidrometeorológica para cada punto de prueba	Lat. (North) / Long. (East) / ZONE 55.0 / 9.0 / E 58.8 / 6.0 / J 62.0 / 5.0 / J 71.0 / 26.0 / C 70.0 / 30.0 / C 69.0 / 27.5 / C 62.5 / 30.0 / E 60.5 / 27.5 / E 60.5 / 23.0 / E 55.0 / 15.0 / E	Lat. (North) / Long. (East) / ZONE 55.0 / 9.0 / E 58.8 / 6.0 / J 62.0 / 5.0 / J 71.0 / 26.0 / C 70.0 / 30.0 / C 69.0 / 27.5 / C 62.5 / 30.0 / E 60.5 / 27.5 / E 60.5 / 23.0 / E 55.0 / 15.0 / E
Col.2.6	Caractéristique de puissance de l'émission: Power characteristics of the transmission: Características de potencia de la transmisión:		
	2.6a1 puissance d'émission (dBW) totale dans la bande de fréquence assignée fournie à l'entrée de l'antenne total transmitting power (dBW) in the assigned frequency band supplied to the input of the antenna potencia de transmisión (dBW) total, en la banda de frecuencias asignada, suministrada a la entrada de la antena	Voie/Canal/Channel / dBW 4 / 17.5 8 / 17.0 12 / 17.0 16 / 16.0 20 / 16.0	Voie/Canal/Channel / dBW 4 / 17.5 8 / 17.0 12 / 17.0 16 / 16.0 20 / 16.0

	2.6a2 pour la bande 17,3 - 18,1 GHz la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 1 MHz la plus défavorable) for the band 17.3 - 18.1 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 1 MHz band para la banda 17,3 - 18,1 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 1 MHz más desfavorable		Voie/Canal/Channel dBW/Hz 4 -42.5 8 -43.0 12 -43.0 16 -44.0 20 -44.0	Voie/Canal/Channel dBW/Hz 4 -42.5 8 -43.0 12 -43.0 16 -44.0 20 -44.0
	2.6a3 pour la bande 14,5 - 14,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 4 kHz la plus défavorable) for the band 14.5 - 14.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 4 kHz band para la banda 14,5 - 14,8 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 4 kHz más desfavorable		Not applicable Ne s'applique pas So se aplica	
	2.6a4 pour la bande 17,3 - 17,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne, valeur moyenne pour la totalité de la bande RF for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth		Voie/Canal/Channel dBW/Hz 4 -56.8 8 -57.3 12 -57.3 16 -58.3 20 -58.3	Voie/Canal/Channel dBW/Hz 4 -56.8 8 -57.3 12 -57.3 16 -58.3 20 -58.3
	2.6b gamme, exprimée en dB, au-dessus de la puissance d'émission indiquée dans les colonnes 2.6a) si une régulation de puissance est utilisée range, expressed in dB above the transmitting power given in columns 2.6 a) in the case of power control gama, expresada en dB, por encima de la potencia de transmisión utilizada en las columnas 2.6a) si se utiliza control de potencia		4 dB	0 dB

Col. 2.7	Caractéristiques de l'antenne d'émission de la station terrienne: Transmitting antenna characteristics of the earth station: Características de la antena transmisora de la estación terrena			
	2.7a diamètre de l'antenne (mètres) antenna diameter (metres) diámetro de la antena (metros)		8m	8m
	2.7b gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena con relación a un radiador isótropo en la dirección de radiación máxima (dBi)		60 dBi	60 dBi
	2.7c ouverture à mi-puissance du faisceau, en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		<0.25°	0.14°
	2.7d diagramme de rayonnement mesuré de l'antenne ou diagramme de rayonnement de référence à utiliser aux fins de coordination measured radiation diagram of the antenna or reference radiation diagram to be used for coordination diagrama de radiación medido de la antena o diagrama de radiación de referencia que se utilizará para la coordinación		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex3 Section 3.5.3 Fig.A De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A	En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex3 Section 3.5.3 Fig.A. De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A.
	2.7e type de polarisation type of polarization tipo de polarización		Circulaire Circular	Circulaire Circular
	2.7f sens de polarisation sense of polarization sentido de la polarización		2	2
	2.7g angle de site de l'horizon en degrés et gain d'antenne en direction de l'horizon pour chaque azimut autour de la station terrienne horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth around the earth station ángulo de elevación del horizonte, en grados, y ganancia de antena en dirección al horizonte para cada acimut en torno a la estación terrena		Fig 1 pour/for/para r Nittedal et/and/y 0° Type/Typical/Tipo 1	Fig. 1 pour Nittedal Fig. 1 for Nittedal Fig. 1 for Nittedal

	2.7h altitude de l'antenne en mètres au-dessus du niveau moyen de la mer altitude of the antenna above mean sea level, in metres altitud de la antena sobre el nivel medio del mar, en metros		204 m Nittedal 204 m pour/for/para Nittedal 0 m pour/for/para Type/Typical/Tipo	204 m for Nittedal
	2.7i angle de site minimal, en degrés minimum elevation angle, in degrees ángulo mínimo de elevación en grados		20.8° pour/for/para Nittedal 8.3 ° pour/for/para Type/Typical/Tipo	20.8° for Nittedal
Col. 2.8	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 hrs	24 hrs
Col. 2.9	Coordination/ Coordinación			
Col. 2.10	Accords/ Agreements/ Acuerdos			
Col. 2.11	Autres renseignements Other information Otras informaciones			
Col. 2.12	Administration ou compagnie exploitant la station Operating administration or company Administración o empresa explotadora de la estación		Norvegian Telecom International	Telenor Satellite Services
3.	**Station spatiale de réception** **Receiving space station** **Estación espacial receptora**			
Col. 3.1	Position orbitale Orbital position Posición orbital		0.8°W	0.8°W
Col. 3.2	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		Bifrost	Bifrost
Col. 3.3	Classe de la station Class of station Clase de estación		EC	EC
Col. 3.4	Caractéristiques de l'antenne de réception de la station spatiale: Space station receiving antenna characteristics: Características de la antena de la estación espacial:			

	3.4a gain de l'antenne dans la direction du rayonnement maximal par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena en la dirección de radiación máxima con relación a un radiador isótropo (dBi)		41.0 dBi	41.0 dBi
	3.4b forme du faisceau (circulaire, elliptique ou autre) shape of the beam (circular, elliptical or other) forma del haz (circular, elíptica u otra)		Elliptical	Elliptical
	3.4c précision de pointage (degrés) pointing accuracy (degrees) precisión de puntería (grados)		±0.05°	±0.05°
	3.4d type de polarisation type of polarization tipo de polarización		Circulaire Circular	Circulaire Circular
	3.4e sens de polarisation sense of polarization sentido de la polarización		2	2
	3.4f pour les faisceaux circulaires: for circular beams: para haces circulares:		Ne s'applique pas Not applicable No se aplica	
	3.4g pour les faisceaux elliptiques: for elliptical beams: para haces elípticos:			
	3.4g1 diagramme de rayonnement copolair co-polar radiation pattern diagrama de radiación copolar		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88	Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88
	3.4g2 diagramme de rayonnement contrapolaire cross-polar radiation pattern diagrama de radiación contrapolar		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88	Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88
	3.4g3 précision de rotation (degrés) rotation accuracy (degrees) precisión de rotación (en grados)		±0.05°	±1°

	3.4g4	orientation (degrés) orientation (degrees) orientación (en grados)	10°	10°
	3.4g5	grand axe (degrés) à l'ouverture à mi-puissance du faisceau major axis (degrees) at the half-power beamwidth eje mayor (en grados) para la abertura del haz a potencia mitad	2°	2°
	3.4g6	petit axe (degrés) à l'ouverture à mi-puissance du faisceau minor axis (degrees) at the half-power beamwidth eje menor (en grados) para la abertura del haz a potencia mitad	0.67°	0.67°
	3.4g7	intersection nominale de l'axe du faisceau de l'antenne avec la Terre (longitude et latitude de visée) nominal intersection of the antenna beam axis with the Earth (boresight longitude and latitude) intersección nominal del eje del haz de la antena con la Tierra (longitud y latitud de la referencia de puntería)		
Col.3.5	Température de bruit du système de réception rapportée à la sortie de l'antenne (kelvins) Receiver system noise temperature referred to the output of the antenna (kelvins) Temperatura de ruido del sistema referida a la salida de la antena (kelvins)		1800 K	1800 K
Col.3.6	Précision de maintien en position (degrés) Station-keeping accuracy (degrees) Precisión del mantenimiento en posición (grados)		±0.05°	±0.05°
Col.3.7	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 hrs	24 hrs
Col.3.8	Coordination/ Coordinación			
Col.3.9	Accords/ Agreements/ Acuerdos			

Col.3.10	Autres renseignements Other information Otras informaciones			
Col.3.11	Administration ou compagnie Operating administration or company Administración o empresa explotadora de la estación		Norvegian Telecom International	Norvegian Telecom International
Col. 3.12	Gamme de la commande automatique de gain Range of automatic gain control Gama de control automático de ganancia		15 dB	15 dB
4.	**Administration(s) affectée(s)** **Affected administration(s)** **Administración(es) afectada(s)**			

Le texte figurant dans les colonnes ombrées indique que les données soumises diffèrent de celles figurant dans la Partie A de la Section spéciale
The columns in shadow indicate that the submitted data is different from that contained in Part A of Special Section.
Las columnas sombreadas indican que los datos sometidos son diferentes de las que figuran en la Parte A de la Sección Especial

FIG. 1

Elevation angle (degrees)
25
20
15
10
5
0
0
90
180
270
360
Azimuth (degrees)
Figure 2
Earth station horizon elevation diagram for earth station at Nittedal, Norway
(10° E 08' 24'', 60° N 48' 36'')
Altitude above mean sea level: 204 m
60° E
30° E
0° W
30° W

BIFROST 2 (0.8W)

Annexe 2 de l'appendice 30/Annex 2 of Appendix 30/Anexo 2 del apéndice 30

			Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial		Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30 Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30 Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30
Col. 1	Pays et numéro de l'IFRB (Régions 1 et 3) Country and IFRB Number (Regions I and 3) País y número de la IFRB (Regiones 1 y 3)		NOR		NOR
	Pays et identification du faisceau (Région 2) Country and beam identification (Region 2) País e identificación del haz (Región 2)				
Col. 2	Position nominale sur l'orbite (en degrés à partir du méridien de Greenwich) Nominal orbital position (in degrees front the Greenwich meridian) Posición orbital nominal (en grados a partir del meridiano de Greenwich)		0.8°W		0.8°W
Col. 3	Numéro de canal (voir correspondance entre numéro de canal et fréquence assignée dans les Tableaux 4 de l'article 10 et 11.3 de l'article 11 de l'appendice 30) Channel number (see Table 4 of Article 10 and Table 11.3 of Article 11 of Appendix 30 showing channel numbers and corresponding assigned frequencies) Número del canal (véase la correspondencia entre el número del canal y la frecuencia asignada en los Cuadros 4 y 11.3 que figuran en los artículos 10 y 11 respectivamente del apéndice 30)		2,6,10,14,18,23,24,27,28,31,32,35, 36,39,40		2,6,10,14,18,23,24,27,28,31,32,35, 36,39,40
Col. 4	Date de mise en service (JJ/MM/AA) Date of bringing into use (DD/MM/YY) Fecha de puesta en servicio (DD/MM/AA)		1997-01-01		[illegible]
Col. 5	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		Bifrost-2		Bifrost-2

Col. 6	Zone de service (la zone de service peut être définie, si nécessaire, par un certain nombre de «points de mesure») Service area (if necessary, the service area may be defined by a number of «test points») Zona de servicio (en su caso, la zona de servicio podrá definirse mediante varios «puntos de cálculo»)		Lat. (North) 55.0 58.8 62.0 71.0 70.0 69.0 62.5 60.5 60.5 55.0	Long. (East) 9.0 6.0 5.0 26.0 30.0 27.5 30.0 27.5 23.0 15.0		Lat. (North) 55.0 58.8 62.0 71.0 70.0 69.0 62.5 60.5 60.5 55.0	Long. (East) 9.0 6.0 5.0 26.0 30.0 27.5 30.0 27.5 23.0 15.0
Col. 7	Coordonnées géographiques de l'intersection de l'axe du faisceau d'antenne avec la surface de la Terre Geographical coordinates of the intersection of the antenna beam axis with the earth. Coordenadas geográficas de la intersección del eje del haz de la antena con la superficie de la Tierra					61.5N - 17.0E	
Col. 8	Zone(s) hydrométéorologique(s) (définies dans l'annexe 5 à l'appendice 30) Rain-climatic zone(s) (as defined in Annex 5 to Appendix 30) Zonas hidrometeorológicas (definidas en el anexo 5 al apéndice 30)						
Col. 9	Classe de la station Class of station Clase de estación		EV			EV	
Col. 10	Classe d'émission et largeur de bande nécessaire Class of emission and necessary bandwidth Clase de emisión y anchura de banda necesaria		27M0FXF			27M0FXF	
Col. 11	Puissance délivrée à l'antenne (dBW) (toutes les Régions) Power supplied to the antenna (dBW) (all Regions) Potencia suministrada a la antena (dBW) (todas las Regiones)		23.0 dBW			23.0 dBW	
Col. 12	Caractéristiques de l'antenne Antenna characteristics: Características de la antena:						
	12*a* Gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) Gain of the antenna in the direction of maximum radiation referred to an isotropic adiator (dBi) Ganancia de la antena con relación a un radiador isótopo, en la dirección de radiación máxima (dBi)		41.0 dBi			42.0 dBi	

	12*b* Forme du faisceau (elliptique, circulaire ou autre) Shape of the beam (elliptical, circular or other) Configuración del haz (elíptica o circular u otra)		Elliptique Elliptical Elíptica			
	12*c* Précision de pointage Pointing accuracy Precisión de puntería		±0.075°		±0.075°	
	12*d* Type de polarisation Type of polarization Tipo de polarización		Circulaire Circular		Circulaire Circular	
	12*e* Sens de polarisation Sense of polarization Sentido de la polarización		2, 6, 10, 14, 18, 24, 28, 32, 36, 40 23,27,31,35,39	1 2	2, 6, 10, 14, 18, 24, 28, 32, 36, 40 23,27,31,35,39	1 2
	12*f* Pour des faisceaux circulaires, indiquer les enseignements suivants For circular beams: Para haces circulares, indíquese lo siguiente:		Se s'applique pas Not applicable No se aplica			
	12*g*1 Diagramme de rayonnement copolaire Co-polar radiation pattern Diagrama de radiación copolar		En conformité avec les diagrammes our les Régions 1 & 3 de l'appendice 30, annexe 5, section 3.13.3 In conformity with Region 1 and 3 patterns of Appendix 30, Annex 5 Section 3.13.3 De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30, anexo 5, punto 3.13.3			
	12*g*2 Diagramme de rayonnement contrapolaire Cross-polar radiation pattern Diagrama de radiación contrapolar		En conformité avec les diagrammes our les Régions 1 & 3 de l'appendice 30, annexe 5, section 3.13.3 In conformity with Region 1 and 3 patterns of Appendix 30, Annex 5 Section 3.13.3 De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30, anexo 5, punto 3.13.3			
	12*g*3 Précision de rotation (degrés) Rotation accuracy (degrees) Precisión de rotación (en grados)		±0.5°			
	12*g*4 Orientation (degrés) Orientation (degree) Orientación (en grados)		10°			
	12*g*5 Grand axe (degrés) à l'ouverture à mi-puissance du faisceau Major axis (degrees) as the half-power beamwidth Eje mayor (en grados) para la abertura delhaz a potencia mitad		2°			

	12*g6* Petit axe (degrés) à l'ouverture à mi- puissance du faisceau Manor axis (degrees) as the half-power beamwidth Eje menor (en grados) para la abertura del haz a potencia mitad		1°		
	12*h1* Contours de gain copolaire Co-polar gain contours Contornos de ganancia copolar				Voir/See/Véase Fig. 1
	12*h2* Contours de gain contrapolaire Cross-polar gain contours Contornos de ganancia contrapolar				Voir/See/Véase Fig. 2
Col. 13	Précision du maintien en position (degrés) Station keeping accuracy (degrees) Precisión del mantenimiento en posición (en grados)		±0.1		±0.1° East-West ±0.1° North-South
Col. 14	Caractéristiques de modulation: Modulation characteristics: Características de modulación:				
	14*a* Type de modulation Type of modulation Tipo de modulación		Modulation de fréquence Fequency Modulation Modulación de frecuencia		Modulation de fréquence Fequency Modulation Modulación de frecuencia
	14*b* Caractéristiques de préaccentuation Pre-emphasis characteristics Características de preacentuación		Linéaire E1, Non-linéaire E7 Linear E1, Non linear E7 Lineal E1, Non lineal E7		Linéaire E1, Non-linéaire E7 Linear E1, Non linear E7 Lineal E1, Non lineal E7
	14*c* Norme de télévision TV standard Norma de televisión		D2-MAC		D2-MAC
	14*d* Caractéristiques de radiodiffusion sonore Sound broadcasting characteristics Características de la radiodifusión sonora		Numérique Digital		Numérique Digital
	14*e* Excursion de fréquence Frequency deviation Excursión de frecuencia		13.5 MHz/V		13.5 MHz/V
	14*f* Composition de la bande de base Composition of the baseband Composición de la banda de base		D/D2MAC		D/D2MAC
	14*g* Type de multiplexage des signaux image et son Type of multiplexing of the video and sound signals Tipo de multiplaje de las señales de imagen y sonido		MRT TDM MDT		MRT TDM MDT

	14*h* Caractéristique de la dispersion de l'énergie Energy dispersal characteristics Características de la dispersión de energía		Déviation de 600 kHz pp produite par un signal de 25 Hz Deviacion of 600 kHz pp produced by a 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz		Déviation de 600 kHz pp 600 kHz pp deviation Desviación de 600 kHz pp
Col. 15	Angle de site minimal dans la zone de service (Régions 1 et 3) Minimum angle of elevation in the service area (Regions 1 and 3) Ángulo de elevación mínimo en la zona de servicio (Regiones 1 y 3)		8°		8°
Col. 16	Type de réception (individuelle ou communautaire) (Régions 1 et 3) Type of reception (individual or community) (Regions 1 and 3) Tipo de recepción (individual o comunal) (Regiones 1 y 3)		Individuelle Individual Individual		Individuelle Individual Individual
Col. 17	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 h		24 h
Col. 18	Coordination/ Coordinación				
Col. 19	Accords/ Agreements/ Acuerdos				
Col. 20	Autres renseignements Other information Otras informaciones				
Col. 21	Administration ou compagnie exploitant la station Operating Administration or company Administración o compañía explotadora		Norvegian Telecom International		Telenor Satellite Services
Col. 22	Administration(s) affectée(s) Administration(s) affected Administraciones afectadas				

Le texte figurant dans les colonnes ombrées indique que les données soumises diffèrent de celles figurant dans la Partie A de la Section spéciale
The columns in shadow indicate that the submitted data is different from that contained in Part A of Special Section.
Las columnas sombreadas indican que los datos sometidos son diferentes de las que figuran en la Parte A de la Sección Especial

FIG. 1

Satellite Network : BIFROSTXX2	*Map Type: Plate Carrée*
Satellite Orbital Position : -0.80 Deg	*Scale Factor K = 1.0*
Notifying Administration : NOR	*Minimum Longitude: 0.00 Deg*
Notification Reason : N	*Maximum Longitude: 35.00 Deg*
Polarization discriminator : C	*Minimum Latitude: 49.00 Deg*
Beam Name : NO9	*Maximum Latitude: 80.00 Deg*
Emission/Reception Flag : E	*Longitude/Latitude Spacing: 20/20 Deg*

GIMROC System Version 1.3 - File Version: Fri Oct 31 10:05:27 1997
Gain Contours Diagram - Mon Nov 03 19:13:23 1997

FIG. 2

Satellite Network : BIFROSTXX2	Map Type: Plate Carrée
Satellite Orbital Position : -0.80 Deg	Scale Factor K = 1.0
Notifying Administration : NOR	Minimum Longitude: -10.00 Deg
Notification Reason : N	Maximum Longitude: 35.00 Deg
Polarization discriminator : X	Minimum Latitude: 35.00 Deg
Beam Name : NO9	Maximum Latitude: 80.00 Deg
Emission/Reception Flag : E	Longitude/Latitude Spacing: 20/20 Deg

GIMROC System Version 1.3 - File Version: Fri Oct 31 10:05:27 1997
Gain Contours Diagram - Mon Nov 03 19:16:37 1997

BIFROST 2 (0.8W)

Annexe 2 de l'appendice 30A/Annex 2 of Appendix 30A/Anexo 2 del apéndice 30A

			Renseignements figurant dans la Section spéciale relative à la Partie A Information contained in Part A Special Section Información contenida en la Parte A de la Sección Especial		Renseignements soumis pour la publication de la Section spéciale relative à la Partie B et au titre de l'article 5 de l'appendice 30A Information submitted for the publication of Part B Special Section and under Article 5 of Appendix 30A Información presentada para la publicación de la Parte B de la Sección Especial y en virtud del Artículo 5 del apéndice 30A
1.	**Station terrienne d'émission et station spatiale de réception** **Transmitting Earth Station and Receiving Space Station** **Estación terrena transmisora y estación espacial receptora**				
Col.1.1	Pays et identification du faisceau Country and beam identification País e identificación del haz		NOR		NOR
Col.1.2	Fréquence assignée Assigned frequency Frecuencia asignada		2,6,10,14,18,23,24,27,28,31,32,35, 36,39,40		2,6,10,14,18,23,24,27,28,31,32,35, 36,39,40
Col.1.3	Bande de fréquences assignée Assigned frequency band Banda de frecuencias asignada		27 MHz		27 MHz
Col.1.4	Date de mise en service Date of bringing into use Fecha de puesta en servicio		1997-01-01		1998-07-01
Col.1.5	Désignation de l'émission Designation of emission Designación de la emisión		27M0FXF		27M0FXF
Col.1.6	Caractéristiques de modulation: Modulation characteristics: Características de modulación:				
	1.6*a* type de modulation type of modulation tipo de modulación		Modulation de fréquence Frequency modulation Modulación de frecuencia		Modulation de fréquence Frequency modulation Modulación de frecuencia

	1.6*b*	caractéristiques de préaccentuation pre-emphasis characteristics características de preacentuación		Linéaire E1, non-linéaire E7 Linear E1, Non linear E7 Lineal E1, no lineal E7		Linéaire E1, non-linéaire E7 Linear E1, Non linear E7 Lineal E1, no lineal E7
	1.6*c*	norme de télévision TV system sistema de televisión		D2-MAC		D2-MAC
	1.6*d*	caractéristiques de radiodiffusion sonore sound-broadcasting characteristics características de la radiodifusión sonora		Numérique Digital		Numérique Digital
	1.6*e*	excursion de fréquence frequency deviation excursión de frecuencia		13.5 MHz/V		13.5 MHz/V
	1.6*f*	composition de la bande de base composition of the baseband composición de la banda de base		D2-MAC		D2-MAC
	1.6*g*	type de multiplexage des signaux image et son type of multiplexing of the video and sound signals tipo de multiplexación de las señales de imagen y sonido		MRT TDM MDT		MRT TDM MDT
	1.6*h*	caractéristiques de la dispersion de l'énergie energy dispersal characteristics características de la dispersión de energía		Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz		Déviation de 600 kHz pp produite par un signal triangulaire de 25Hz 600 kHz pp deviation produced by 25 Hz triangular signal Desviación de 600 kHz pp producida por una señal triangular de 25 Hz
2.	**Station terrienne d'émission Transmitting earth station Estación terrena transmisora**				
Col.2.	Identité de la station terrienne d'émission de liaison de connexion Identity of the transmissing feeder-link earth station Identidad de la estación transmisora de enlace de conexión		One specific earth station (NOR-NIT-25) + Typical		One specific earth station (NOR-NIT-25) + Typical
Col.2.2	Coordonnées géographiques de la station terrienne de liaison de connexion (dans le cas de la Région 2, dans la bande 17,7 - 17,8 GHz) Geographical coordinates of the feeder-link station (in the case of Region 2 station using the band 17.7 - 17.8 GHz) Coordenadas geográficas de la estación terrena de enlace de conexión (en el caso de una estación de la Región 2, que transmite en la banda 17,7 - 17,8 GHz)		Not applicable Ne s'applique pas So se aplica		

Col.2.3	Zone de service de la liaison de connexion pour une station terrienne de liaison de connexion identifiée par un ensemble de points de mesure de liaison de connexion Feeder-link service area for a feeder-link earth station identified by a set of feeder-link test points Zona de servicio de enlace de conexión para una estación terrena de enlace de conexión identificada por un conjunto de puntos de prueba	Latitude (north) / Longitude (east) 55.0 / 9.0 58.8 / 6.0 62.0 / 5.0 71.0 / 26.0 70.0 / 30.0 69.0 / 27.5 62.5 / 30.0 60.5 / 27.5 60.5 / 23.0 55.0 / 15.0	Latitude (north) / Longitude (east) 55.0 / 9.0 58.8 / 6.0 62.0 / 5.0 71.0 / 26.0 70.0 / 30.0 69.0 / 27.5 62.5 / 30.0 60.5 / 27.5 60.5 / 23.0 55.0 / 15.0
Col.2.4	Identité de la station spatiale associée avec laquelle la communication doit être établie Identity of the associated space station with which communication is to be established Identidad de la estación espacial asociada con la que ha de establecerse comunicación	BIFROST 2	BIFROST 2
Col.2.5	Zone hydrométéorologique, pour chaque point de mesure Rain-climatic zone for each test point Zona hidrometeorológica para cada punto de prueba	Lat. (North) / Long. (East) / ZONE 55.0 / 9.0 / E 58.8 / 6.0 / J 62.0 / 5.0 / J 71.0 / 26.0 / C 70.0 / 30.0 / C 69.0 / 27.5 / C 62.5 / 30.0 / E 60.5 / 27.5 / E 60.5 / 27.5 / E 55.0 / 15.0 / E	Lat. (North) / Long. (East) / ZONE 55.0 / 9.0 / E 58.8 / 6.0 / J 62.0 / 5.0 / J 71.0 / 26.0 / C 70.0 / 30.0 / C 69.0 / 27.5 / C 62.5 / 30.0 / E 60.5 / 27.5 / E 60.5 / 23.0 / E 55.0 / 15.0 / E
Col.2.6	Caractéristique de puissance de l'émission: Power characteristics of the transmission: Características de potencia de la transmisión:		
	2.6a) puissance d'émission (dBW) totale dans la bande de fréquence assignée fournie à l'entrée de l'antenne total transmitting power (dBW) in the assigned frequency band supplied to the input of the antenna potencia de transmisión (dBW) total, en la banda de frecuencias asignada, suministrada a la entrada de la antena	29 dBW	29 dBW

	2.6a2	pour la bande 17,3 - 18,1 GHz la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 1 MHz la plus défavorable) for the band 17.3 - 18.1 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 1 MHz band para la banda 17,3 - 18,1 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 1 MHz más desfavorable		-31 dBW/Hz		-31 dBW/Hz
	2.6a3	pour la bande 14,5 - 14,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne (valeur moyenne pour la bande de 4 kHz la plus défavorable) for the band 14.5 - 14.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the worst 4 kHz band para la banda 14,5 - 14,8 GHz, densidad máxima de potencia por Hz (dB(W/Hz» suministrada a la entrada de la antena, promediada en la banda de 4 kHz más desfavorable		Not applicable Ne s'applique pas So se aplica		
	2.6a4	pour la bande 17,3 - 17,8 GHz, la densité maximale de puissance par Hz (dB(W/Hz)) fournie à l'entrée de l'antenne, valeur moyenne pour la totalité de la bande RF for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth for the band 17.3 - 17.8 GHz, the maximum power density per Hz (dB(W/Hz)) supplied to the input of the antenna averaged over the total RF bandwidth		-45.3 dBW/Hz		-45.3 dBW/Hz
	2.6b	gamme, exprimée en dB, au-dessus de la puissance d'émission indiquée dans les colonnes 2.6a) si une régulation de puissance est utilisée range, expressed in dB above the transmitting power given in columns 2.6 a) in the case of power control gama, expresada en dB, por encima de la potencia de transmisión utilizada en las columnas 2.6a) si se utiliza control de potencia		1.6 dB		0 dB

Col. 2.7	Caractéristiques de l'antenne d'émission de la station terrienne: Transmitting antenna characteristics of the earth station: Características de la antena transmisora de la estación terrena				
	2.7a diamètre de l'antenne (mètres) antenna diameter (metres) diámetro de la antena (metros)		4.5 m		4.5 m
	2.7b gain de l'antenne dans la direction du rayonnement maximal, par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena con relación a un radiador isótropo en la dirección de radiación máxima (dBi)		55 dBi		55 dBi
	2.7c ouverture à mi-puissance du faisceau, en degrés half-power beamwidth in degrees abertura del haz a potencia mitad en grados		<0.25°		0.25°
	2.7d diagramme de rayonnement mesuré de l'antenne ou diagramme de rayonnement de référence à utiliser aux fins de coordination measured radiation diagram of the antenna or reference radiation diagram to be used for coordination diagrama de radiación medido de la antena o diagrama de radiación de referencia que se utilizará para la coordinación		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex 3 Section 3.5.3 Fig.A De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A		En conformité avec les diagrammes pour les Régions 1 & 3 de l'appendice 30A, annexe 3, section 3.5.3, fig. A. In conformity with Region 1 and 3 patterns of Appendix 30A, Annex 3 Section 3.5.3 Fig.A. De conformidad con los diagramas para las Regiones 1 & 3 indicadas en el apéndice 30A, anexo 3, sección 3.5.3, fig. A.
	2.7e type de polarisation type of polarization tipo de polarización		Circulaire Circular		Circulaire Circular

	2.7f	sens de polarisation sense of polarization sentido de la polarización		Voie / Channel / Canal — Pol. 2 — 2 6 — 2 10 — 2 14 — 2 18 — 2 23 — 1 24 — 2 27 — 1 28 — 2 31 — 1 32 — 2 35 — 1 36 — 2 39 — 1 40 — 2	Voie / Channel / Canal — Pol. 2 — 2 6 — 2 10 — 2 14 — 2 18 — 2 23 — 1 24 — 2 27 — 1 28 — 2 31 — 1 32 — 2 35 — 1 36 — 2 39 — 1 40 — 2
	2.7g	angle de site de l'horizon en degrés et gain d'antenne en direction de l'horizon pour chaque azimut autour de la station terrienne horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth around the earth station ángulo de elevación del horizonte, en grados, y ganancia de antena en dirección al horizonte para cada acimut en torno a la estación terrena		Fig 1 pour/for/para Nittedal et/and/y 0 ° pour for/para Type/Typical/Tipo	Fig 1 for specific earth station 0 ° pour for/para Type/Typical/Tipo
	2.7h	altitude de l'antenne en mètres au-dessus du niveau moyen de la mer altitude of the antenna above mean sea level, in metres altitud de la antena sobre el nivel medio del mar, en metros		204 m Nittedal 204 m pour/for/para Nittedal 0 m pour/for/para Type/Typical/Tipo	204 m pour/for/para specific earth station 0 m pour/for/para Type/Typical/Tipo
	2.7i	angle de site minimal, en degrés minimum elevation angle, in degrees ángulo mínimo de elevación en grados		20.8° pour/for/para Nittedal 8.3 ° pour/for/para Type/Typical/Tipo	20.8° for specific earth station
Col. 2.8	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)				
Col. 2.9	Coordination/ Coordinación				
Col. 2.10	Accords/ Agreements/ Acuerdos				
Col. 2.11	Autres renseignements Other information Otras informaciones				

Col. 2.12	Administration ou compagnie exploitant la station Operating administration or company Administración o empresa explotadora de la estación		Norvegian Telecom International		Telenor Satellite Services
3.	**Station spatiale de réception** **Receiving space station** **Estación espacial receptora**				
Col. 3.1	Position orbitale Orbital position Posición orbital		0.8°W		0.8°W
Col. 3.2	Identité de la station spatiale Identity of the space station Identidad de la estación espacial		Bifrost -2		Bifrost -2
Col. 3.3	Classe de la station Class of station Clase de estación		EC		EC
Col. 3.4	Caractéristiques de l'antenne de réception de la station spatiale: Space station receiving antenna characteristics: Caracteristicas de la antena de la estación espacial:				
	3.4a gain de l'antenne dans la direction du rayonnement maximal par rapport à une antenne isotrope (dBi) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi) ganancia de la antena en la dirección de radiación máxima con relación a un radiador isótropo (dBi)		41.0 dBi		41.0 dBi
	3.4b forme du faisceau (circulaire, elliptique ou autre) shape of the beam (circular, elliptical or other) forma del haz (circular, elíptica u otra)		Elliptique Elliptical		Elliptique Elliptical
	3.4c précision de pointage (degrés) pointing accuracy (degrees) precisión de puntería (grados)		±0.075°		±0.075°
	3.4d type de polarisation type of polarization tipo de polarización		Circulaire Circular		Circulaire Circular
	3.4e sens de polarisation sense of polarization sentido de la polarización		Voir point 2.7f See Item 2.7f See punto 2.7f		Voir point 2.7f See Item 2.7f See punto 2.7f

	3.4f pour les faisceaux circulaires: for circular beams: para haces circulares:		Ne s'applique pas Not applicable No se aplica	
	3.4g pour les faisceaux elliptiques: for elliptical beams: para haces elípticos:			
	3.4g1 diagramme de rayonnement copolair co-polar radiation pattern diagrama de radiación copolar		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88
	3.4g2 diagramme de rayonnement contrapolaire cross-polar radiation pattern diagrama de radiación contrapolar		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88		Conforme à l'appendice 30A, Actes Finals CAMR-Orb-88 In conformity with Appendix 30A, Final Acts WARC-Orb-88 De conformidad con el ápendice 30A, Actas Finales de la CAMR-Orb-88
	3.4g3 précision de rotation (degrés) rotation accuracy (degrees) precisión de rotación (en grados)		±1°		±1°
	3.4g4 orientation (degrés) orientation (degrees) orientación (en grados)		10°		10°
	3.4g5 grand axe (degrés) à l'ouverture à mi-puissance du faisceau major axis (degrees) at the half-power beamwidth eje mayor (en grados) para la abertura del haz a potencia mitad		2°		2°
	3.4g6 petit axe (degrés) à l'ouverture à mi-puissance du faisceau minor axis (degrees) at the half-power beamwidth eje menor (en grados) para la abertura del haz a potencia mitad		1°		1°
	3.4g7 intersection nominale de l'axe du faisceau de l'antenne avec la Terre (longitude et latitude de visée) nominal intersection of the antenna beam axis with the Earth (boresight longitude and latitude) intersección nominal del eje del haz de la antena con la Tierra (longitud y latitud de la referencia de puntería)		17.0E 61.5N		17.0E 61.5N

Col.3.5	Température de bruit du système de réception rapportée à la sortie de l'antenne (kelvins) Receiver system noise temperature referred to the output of the antenna (kelvins) Temperatura de ruido del sistema referida a la salida de la antena (kelvins)		1800 K		1800 K
Col.3.6	Précision de maintien en position (degrés) Station-keeping accuracy (degrees) Precisión del mantenimiento en posición (grados)		±0.1°		±0.1°
Col.3.7	Horaire normal de fonctionnement (UTC) Regular hours of operation (UTC) Horario normal de funcionamiento (UTC)		24 h		24 h
Col.3.8	Coordination/ Coordinación				
Col.3.9	Accords/ Agreements/ Acuerdos				
Col.3.10	Autres renseignements Other information Otras informaciones				
Col.3.11	Administration ou compagnie Operating administration or company Administración o empresa explotadora de la estación		Norvegian Telecom International		Telenor Satellite Services
Col. 3.12	Gamme de la commande automatique de gain Range of automatic gain control Gama de control automático de ganancia		15 dB		15 dB
4.	**Administration(s) affectée(s)** **Affected administration(s)** **Administración(es) afectada(s)**				

Le texte figurant dans les colonnes ombrées indique que les données soumises diffèrent de celles figurant dans la Partie A de la Section spéciale
The columns in shadow indicate that the submitted data is different from that contained in Part A of Special Section.
Las columnas sombreadas indican que los datos sometidos son diferentes de las que figuran en la Parte A de la Sección Especial

Figure/Figura 1

Schéma de l'angle de site de l'horizon autour de la station terrienne
Diagram of the Horizon Elevation angle around the earth station
Diagrama del ángulo de elevación del horizonte en torno a la estación terrena

(10°E 08'24" - 60°N 48'36")

Azimut/Azimuth/Acimut

Altitude de l'antenne en mètres au-dessus du niveau moyen de la mer	:	
Altitude of the antenna above mean sea level, in metres	:	204
Altitud de la antena sobre el nivel medio del mar, en metros	:	

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 167(Rev.1)-E
6 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Ukraine

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 1.10

Introduction

The State of Ukraine is a multinational country with a large territory and population. Ukraine firmly intends, and has the capability, to establish in the near future a broadcasting-satellite system on the basis of its national satellite system.

The Ukrainian Administration has been studying the planning exercises and relevant data for Ukraine, which foresee the allocation of five channels at orbital position 38° E. The Administration of Ukraine notes the said number of channels is not sufficient for proper implementation of the broadcasting-satellite project in Ukraine.

UKR/167/1

- To allocate, if technically feasible, an additional five channels at orbital position 38° E for satellite broadcasting of the Ukraine.
- Or, if the above is technically impossible, to allocate an additional five channels for satellite broadcasting of the Ukraine at one of the following orbital positions: 23° E or 34° E.

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The Ukrainian Administration has been studying the planning exercises and relevant data for Ukraine, which foresee the allocation of five channels at orbital position 38° E. The Administration of Ukraine notes the said number of channels is not sufficient for proper implementation of the broadcasting-satellite project in Ukraine.

Proposals

UKR/167/1

- To allocate, if technically feasible, an additional five channels at orbital position 38° E for satellite broadcasting of the Ukraine.
- Or, if the above is technically impossible, to allocate ten channels for satellite broadcasting of the Ukraine at one of the following orbital positions: 23° E, 34° E or 44° E.

_____

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 168-E
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COMMITTEE 4

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 4

(REGULATORY AND ASSOCIATED ISSUES)

Friday, 31 October 1997, at 1430 hours

Chairman: Mr. E. GEORGE (Germany)

Subjects discussed		**Documents**
1	Cut-off date for the receipt of information on successful coordination in accordance with Article 4 of Appendices 30 and 30A	56; DT/30(Rev.1)

1 Cut-off date for the receipt of information on successful coordination in accordance with Article 4 of Appendices 30 and 30A (Documents 56; DT/30(Rev.1))

1.1 The **Chairman**, introducing Document DT/30(Rev.1), drew attention to a correction to be made to the French version: the provision numbers mentioned in the first paragraph should be aligned with those given in the original English text. He stressed that the cut-off date only concerned those networks for which coordination had been successfully completed under Article 4 of Appendices 30 and 30A and for which putting into operation had been notified to the BR. He stressed the urgent need for a Committee decision on a suitable cut-off date so as to ensure a stable reference situation for the establishment of the Plan by the Conference, for the reasons outlined in Document DT/30(Rev.1), with reference to the relevant parts of Resolution 531 (WRC-95), Appendices 30 and 30A to the Radio Regulations and Annex 2 of Document 56.

1.2 The **Chairman of Working Group 4D** endorsed the Chairman's remarks, adding that the cut-off date would depend very much on the requirements of the BR.

1.3 The **representative of the BR** explained that the objective was for Working Group 4D to have examined the draft Plan by 14 November so that it could be submitted in good time to Committee 4 for further consideration. As the Bureau would need around seven days to carry out the requisite compatibility analyses and compile the results for Working Group 4D, a cut-off date prior to 5 November would be appropriate, bearing in mind that it would take some time to verify the notifications concerning networks for which coordination had been successfully completed. Notifications of successful coordination received after the cut-off date would be processed in accordance with the procedures set out in the Radio Regulations, but would not be taken into account in the establishment of the Plan.

1.4 The **delegate of Syria** agreed on the urgency of the matter under discussion but failed to understand why a proposal for a suitable cut-off date had not been made earlier, perhaps even before the start of the Conference. He recalled that a number of Member States, including Syria, had entered a reservation at WRC-95 concerning Resolution 531. While not wishing to reopen that debate, those countries wished it to be known that they did not agree with the Radio Regulations Board's interpretation regarding RR 2674. He did not know how many Member States were in the process of finalizing coordination of networks but hoped that not too many were affected. His own proposal was that the cut-off date should be the date of the opening of the Conference, but if the Committee came down in favour of a later cut-off date, the Bureau should provide a list of those networks for which coordination had been completed between the opening date of the Conference and the cut-off date. While any cut-off date decided on by the Committee would be acceptable, no further changes to the Plan could be tolerated, on the grounds that proposals had been submitted to the Conference by a number of Arab states (Document 76) for replanning in 1999 on the basis of new parameters.

1.5 The **delegate of Luxembourg** expressed concern that Document DT/30(Rev.1) might constitute a significant departure from Resolution 531 as regards what was to be included under Step 1 of the Bureau's planning exercises.

1.6 The **Chairman** explained that the requirements of Resolution 531 still applied. A misunderstanding might have arisen because the reference to Resolution 531 had been considerably condensed in Document DT/30(Rev.1). The **representative of the BR** endorsed those remarks.

1.7 In reply to a question by the **delegate of Saudi Arabia** on the follow-up to the numerous requests regarding the parameters to be used as a basis for the Plan, the **Chairman** said that such

matters came within the purview of Working Group 4D and he did not wish the Committee to pre-empt any decision in that regard.

1.8 The **delegate of the United Kingdom** said he could endorse the Syrian proposal, unless it emerged that some delegations were in the process of finalizing coordination of the networks concerned. If that was so, perhaps Monday, 3 November would be a more suitable cut-off date as it would allow delegations to finalize coordination of the networks in question over the coming weekend. The **delegates of France, Norway** and **Russia** supported that view.

1.9 Noting the views expressed and the need to set an exact time, the **Chairman** suggested Monday, 3 November at 1200 hours, local Geneva time.

1.10 In reply to a query by the **delegate of Saudi Arabia**, concerning the procedure for informing countries of the cut-off date, the **Chairman** said that as the decision was related to the planning work carried out by the Conference, it would be for each delegation to notify its administration. Responding to a question by the **delegate of Australia** as to whether Committee 4's decision had to be confirmed by the Plenary Meeting, he said that, in his understanding, provided the decision in Committee 4 was unanimous, there would be no need for confirmation by the Plenary Meeting. The **delegate of the United States**, supporting that view, was in favour of a decision being taken immediately by Committee 4. The **delegate of Syria** considered that, in principle, issues as important as the cut-off date should be decided by the Plenary. In the present case, however, as it was impossible to convene a Plenary Meeting before 3 November, he would support the Chairman's ruling, on the understanding that the procedure was exceptional.

1.11 The **Chairman** said that, if no objection was raised, he would take it that the Committee saw no need to refer the matter to the Plenary, provided that such a procedure did not set a precedent.

1.12 It was so **agreed**.

1.13 The **representative of the BR**, replying to a further request by the **delegate of Saudi Arabia** concerning procedures for notifying administrations of the decision, said that the BR could send out a circular telegram to administrations, although the telegrams might not arrive in some regions before the cut-off date.

1.14 The **delegates of the United States** and **Russia** considered that a circular telegram would not serve any real purpose. The **delegate of South Africa**, expressing concern that smaller delegations not represented in Committee 4 would not be aware of the decision, requested that all countries represented at the Conference be informed. The **Chairman** suggested that a conference document from Committee 4 might be issued indicating the decision.

1.15 The **Legal Adviser** said that countries represented at the Conference could be informed of the decision through their delegations, but that those not represented should at least be made aware of the cut-off date. It would be appropriate to set the deadline at 2000 hours in order to give all regions an opportunity to respond.

1.16 The **representative of the BR** observed that only about 25 countries had submitted requests for modification under Article 4 of Appendices 30 and 30A and only these Administrations are concerned with this decision.

1.17 The **Chairman** suggested that the cut-off time for reception of information on successful completion of the coordination procedures should be 2000 hours on Monday, 3 November 1997 (local Geneva time); that a circular telegram should be dispatched to any of the 25 countries referred

to by the representative of the BR which were not represented at the Conference; and that an information document should be issued to all delegations reflecting the decision.

1.18 It was so **agreed**.

1.19 The **delegate of Burkina Faso** underlined that the requests for modification submitted by some administrations might be detrimental to certain developing countries which lacked the resources to ensure that the necessary coordination was requested and completed. He expressed concern that the last-minute modifications requested by the 25 administrations referred to might affect the rights of administrations protected by the original Plan, and called on the BR to assist developing countries in the application of Appendices 30 and 30A.

1.20 The **Chairman** explained that developing countries would not necessarily be at a disadvantage. If a developing country was unable to respond to a coordination request from another administration, that administration would not be able to claim that coordination had been completed.

1.21 The **representative of the BR** added that no country was excluded from the Step 1 planning exercise. Countries already protected in the original Plan continued to be protected, and any new entries would be dealt with by readjusting the Plan to ensure protection of the rights of all administrations concerned. The cut-off date concerned only a few countries which had submitted modifications under Article 4 of Appendix 30, were in the last phase of coordination, and might be candidates for last-minute notification of the end of the coordination procedure.

1.22 The **delegate of France** said that the question raised by the delegate of Burkina Faso deserved further study by the Bureau. A problem could arise if one of the 25 modified networks entered in the Plan considerably affected the assignments of another administration. In that case it would be reasonable to request the Bureau to ensure that the margins of the affected assignment were restored in the planning process. In his view, the cut-off date had a further impact, namely, that administrations which had not managed to notify their networks in time would find themselves, after the Conference, in Step 3 of the procedure, having to coordinate with the new countries included in the Plan. The choice of cut-off date should therefore not be taken lightly.

1.23 The **Chairman**, while confirming those remarks, pointed out that, whatever the cut-off date, subsequent readjustment could not be avoided. He then came back to the proposal put forward by the delegate of Syria at the beginning of the meeting to request the BR to provide a list of those networks for which information on the completion of coordination had been submitted to the BR between the opening of the Conference and the cut-off date.

1.24 The **delegates of Syria**, **Sweden** and **Saudi Arabia** understood that information would be provided on those administrations having successfully completed coordination. The delegate of Sweden requested that this list should also include information on the technical characteristics of the networks in question.

1.25 The **Chairman**, responding to a query by the **delegate of France**, confirmed that the list of administrations would be for information only: it would not represent a decision by the Conference.

1.26 The **delegate of Saudi Arabia** recalled that the **delegate of Morocco**, on more than one occasion, had requested that all information to be included in the Plan should be submitted to the Conference for prior consideration.

1.27 The **Chairman** suggested that the Bureau should be requested to provide a list of those systems for which it had received requests for modification between the beginning of the Conference and the cut-off date, with an indication of completion of successful coordination, and including technical characteristics and any additional information available.

1.28 It was so **agreed**.

The meeting rose at 1545 hours.

The Secretary:
T. GAVRILOV

The Chairman:
E. GEORGE

INTERNATIONAL TELECOMMUNICATION UNION

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WORKING GROUP 5C

REPORT OF DRAFTING GROUP 2

WRC-97 AGENDA ITEM 1.8 - THE POSSIBLE DELETION OF ALL SECONDARY ALLOCATIONS FROM THE BAND 136 - 137 MHz, WHICH IS ALLOCATED TO THE AERONAUTICAL MOBILE (R) SERVICE ON A PRIMARY BASIS, IN ACCORDANCE WITH RESOLUTION 408 (Mob-87) AND IN ORDER TO MEET THE SPECIAL NEEDS OF THE AERONAUTICAL MOBILE (R) SERVICE

Drafting Group 2 met on 31 October 1997, 1330-1430 hours, Room XVII.

The following terms of reference were agreed upon and the work of the group was performed on this basis:

- The group concentrated strictly on Resolution 408, which covers only the frequency band 136 - 137 MHz.
- Deletion of secondary services in the Table of Frequency Allocations as well as in the relevant footnotes.
- Proposes a transitional period for the meteorological-satellite service (space-to-Earth).
- The issue of inserting a country name additionally into two footnotes was transferred to agenda item 1.1, because the group felt that this matter is beyond the terms of reference (Document 63, ARS/63/3, 4).

The documents mentioned in Document OJ/15 under agenda item 1.8 plus Document 22 contributed by ICAO were taken into consideration.

Results

1 Table of Frequency Allocations

All secondary services could be suppressed from the Table of Frequency Allocations.

ARTICLE S5

MHz

MOD **75.2 – 137**

Allocation to Services		
Region 1	Region 2	Region 3
117.975 – 136	AERONAUTICAL MOBILE (R) S5.111 MOD S5.198 S5.199 S5.200 S5.201	
136 – 137	AERONAUTICAL MOBILE (R) ~~Fixed~~ ~~Mobile except aeronautical mobile (R)~~ ~~S5.198~~ MOD S5.202 MOD S5.203	

2 Footnotes

Concerning the footnotes, account was taken of continuing operational requirements.

1) **Footnote MOD S5.198** is in line with VGE recommendations 1/15, 1/16 and 1/22 where the footnote is modified and proposed for suppression in the 136 - 137 MHz band.

2) **Footnote MOD S5.203** gives recognition of continued operation of existing meteorological satellites on a non-interference basis in this band by a transitional period until the year 2002.

3) **Footnote MOD S5.202** is necessary in consequence of the deletion of the secondary allocations to the fixed and mobile except the aeronautical mobile (R) service, a change from *different category of service* to an *additional allocation* is necessary to cover continued use by the aeronautical mobile (OR) service.

MOD S5.198 *Additional allocation:* the band 117.975 - ~~137~~136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under Article **14**/No. **S9.21**.

MOD S5.203 ~~*Additional allocation:* the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a secondary basis (see Resolution **408 (Mob-87)**).~~In the band 136 - 137 MHz existing operational meteorological satellites may continue to operate, under the conditions defined in **S4.4**, relative to the aeronautical mobile service until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service and shall gradually cease operations of existing stations until that date.

MOD S5.202 ~~*Different category of service*~~*Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan, Turkey and Ukraine, the ~~allocation of the~~ band 136 - 137 MHz is also allocated to the aeronautical mobile (OR) service ~~is~~ on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service.

3 Suppression of Resolution 408 (Mob-87)

NOTE by the Chairman - This issue could not have been discussed finally due to time constraints in the first meeting. However, the following proposals are made based on discussions outside of the meeting.

Proposal 1 (in terms of interest in keeping Resolution 408 (Mob-87))

Annex A contains a draft Resolution respectively.

There appears to be no need to keep the *recommends*.

The footnote MOD S5.203 will be automatically removed in the year 2000 (by the Secretariat). Only *resolves* 1 would remain since *resolves* 2 is stated in the footnote MOD S5.203.

The status of meteorological satellites is such that *resolves* 1 is obvious and is not needed.

Proposal 2

On the basis of Proposal 1, Resolution 408 (Mob-87) is recommended to be suppressed.

ANNEX A

DRAFT RESOLUTION [COM5-6] (WRC-97)

USE OF THE BAND 136 - 137 MHz BY SERVICES OTHER THAN THE AERONAUTICAL MOBILE (R) SERVICE

The World Radiocommunication Conference (Geneva, 1997),

having noted

a) the provisions of No. [**S5.203**] concerning the use of the band 136 - 137 MHz by the aeronautical mobile (R) service;

b) that frequencies allocated to the aeronautical mobile (R) service are reserved for communications related to safety and regularity of flight and therefore require special measures to ensure freedom from harmful interference,

considering

a) that the Table of Frequency Allocations includes allocations in the band 136 - 137 MHz to the aeronautical mobile (R) service on a primary basis, and to the aeronautical mobile (OR) service in some countries No. [**S5.202**] on a primary basis;

b) that No. [**S5.203**] also provides for operations of the meteorological-satellite service (space-to-Earth) until January 2002;

c) that the aeronautical mobile (R) service may be subject to harmful interference which would endanger the safety of air navigation and that it is therefore necessary to protect this service from harmful interference that might be caused by stations in the meteorological-satellite service (space-to-Earth),

resolves

that administrations operating or intending to operate stations in the meteorological-satellite service (space-to-Earth) in the band 136 - 137 MHz take all necessary steps to protect the aeronautical mobile (R) service.

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PLENARY MEETING

NOTE BY THE SECRETARY-GENERAL

REFERENCES TO ITU-R RECOMMENDATIONS IN THE RADIO REGULATIONS

The annexed list enumerates those ITU-R Recommendations that have been proposed by Committees or Working Groups of this Conference for incorporation by reference into the Radio Regulations. This list will be updated as required.

The arrangements made for delegates to consult the relevant ITU-R Recommendations are outlined in Document CMR97/157.

Pekka TARJANNE
Secretary-General

Annex: 1

ANNEX

List of ITU-R Recommendations candidates for incorporation by reference into the Radio Regulations

A New incorporations

Related RR provision	Recommendation ITU-R	Subject
AP30A	BO.1295	feeder link antenna patterns
AP30A	BO.1296	receiving space station antenna patterns
AP30/30A	BO.1297	protection ratios
S22.5A	S.1256	pfd calculations
APS18, NOTE e)	M.1084-2	improved use of 156 - 174 MHz
S5.391	SA.1154	mobile service sharing around 2 GHz

B Existing incorporations where ITU-R Recommendations have since been revised

S1.14	TF.460-6	standard-frequency + time signals
S51.35	M.541-8	use of digital selective calling
S5.219 + Resolution 46, A2.3.2 + AP5, Annex 1, 3.2	M.1185-1	coordination distances in 148 - 149.9 MHz
S5.511A	RA.769-1	protection for radio astronomy

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Pekka TARJANNE
Secretary-General

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COMMITTEE 5

NOTE BY THE CHAIRMAN OF WORKING GROUP 5C

Working Group 5C identified the following items, consequential to work on WRC-97 agenda item 1.7, for consideration by WG PL1, for inclusion in the WRC-99 agenda.

"3.3 to finalize remaining issues in the review of Appendix S3 to the Radio Regulations with respect to spurious emissions for space services, taking into account Recommendation 66 (Rev.WRC-97) and the decisions of WRC-97 on adoption of new values of spurious emissions for space services taking effect at a future time;

3.4 to consider the results of studies regarding the boundary between spurious and out-of-band emissions;

[3.4*bis* to consider the inclusion, within the Radio Regulations, of general limits for out-of-band emissions (first determining whether inclusion of such general limits is appropriate), taking into account the results of ITU-R studies.]

[3.4*bis* to consider the inclusion of general limits for out-of-band emissions into the Radio Regulations, taking into account its appropriateness and the results of ITU-R studies."]

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF DRAFTING GROUP 5C1
(SPURIOUS EMISSIONS)

Drafting Group 5C1 identified the following items, consequential to work on WRC-97 agenda item 1.7, for consideration by WG PL1, for inclusion in the WRC-99 agenda.

"3.3 to finalize remaining issues in the review of Appendix S3 to the Radio Regulations with respect to spurious emissions for space services, taking into account Recommendation 66 (Rev.WRC-97) and the decisions of WRC-97 on adoption of new values of spurious emissions for space services taking effect at a future time;

3.4 to consider the results of studies regarding the boundary between spurious and out-of-band emissions;

3.4*bis* to consider the results of studies with a view to determining whether or not it is appropriate to include within the Radio Regulations general limits for out-of-band emissions."

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF DRAFTING GROUP 5C1

Drafting Group 5C1 identified the following item, consequential to work on agenda item 1.7, for consideration by GT PLEN-1:

"Review of Appendix S3 to the Radio Regulations, with regard to space services, taking into account the decisions by WRC-97 on adoption of new values of spurious emission limits taking effect at a future time."

Reasons: To consider updates to Appendix S3 related to spurious emission limits for all space services.

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF DRAFTING GROUP 5C1

The attached document represents the work of Drafting Group 5C1 regarding spurious emissions. The text is derived primarily from EUR/5/329 and EUR/5/330. The text, with indicated modifications, represents our outcome regarding the revision of Appendix S3.

APPENDIX S3

Table Of Maximum Permitted Spurious Emission Power Levels

(See Article **S3**)

1. The following ~~table~~sections indicate~~s~~ the maximum permitted levels of spurious emissions, ~~in terms of the mean power level~~in terms of power as indicated in the tables, of any spurious component supplied by a transmitter to the antenna transmission line. Section 1 is applicable until 1 January 2012 to transmitters installed on or before 1 January 2003; Section 2 is applicable to transmitters installed after 1 January 2003 and to all transmitters after 1 January 2012. This Appendix does not cover out-of-band emissions. Out-of-band emissions are dealt with in provision S4.5 of the Radio Regulations.

2. Spurious emission from any part of the installation other than the antenna and its transmission line shall not have an effect greater than would occur if this antenna system were supplied with the maximum permitted power at that spurious emission frequency.

3. These levels shall not, however, apply to emergency position-indicating radiobeacon (EPIRB) stations, emergency locator transmitters, ships' emergency transmitters, lifeboat transmitters, survival craft stations or maritime transmitters when used in emergency situations.

4. For technical or operational reasons, ~~specific services may demand~~ more stringent levels than those specified ~~in the table~~may be applied to protect specific services in certain frequency bands. The levels applied to protect these services, such as safety and passive services, shall be those agreed upon by the appropriate world radiocommunication conference. More stringent levels may also be fixed by specific agreement between the administrations concerned. Additionally, special consideration of transmitter spurious emissions may be required for the protection of safety services, radio astronomy and space services using passive sensors. Information on the levels of interference detrimental to radio astronomy earth exploration satellites and meteorological passive sensing is given in the most recent version of ITU-R Recommendation SM.329.

5. ~~For radiodetermination stations, until acceptable methods of measurement exist, the lowest practicable power of spurious emission should be achieved.~~Spurious emission limits for combined radiocommunication and information technology equipment are those for the radiocommunications transmitters.

Section I. Spurious Emission Limits for Transmitters Installed on or before 1 January 2003 (valid until 1 January 2012)

6. The measurement methods for radar systems should be guided by Recommendation ITU-R M.1177. For those radar systems for which acceptable methods of measurement do not exist, the lowest practicable power of spurious emission should be achieved.

TABLE I

Attenuation values and absolute mean power levels used to calculate maximum permitted spurious emission power levels for use with radio equipment

Frequency Band Containing the Assignment (lower limit exclusive, upper limit inclusive)	For any spurious component the attenuation (mean power within the necessary bandwidth relative to the mean power of the spurious component concerned) shall be at least that specified below and the absolute mean power levels given shall not be exceeded (Note 1)
	~~Levels applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1994~~
9 kHz to 30 MHz	40 decibels 50 milliwatts (Notes ~~4~~2, ~~7~~3 and ~~8~~4)
30 MHz to 235 MHz	
- mean power above 25 watts	60 decibels 1 milliwatts (Note ~~9~~5)
- mean power 25 watts or less	40 decibels 25 microwatts
235 MHz to 960 MHz	
- mean power above 25 watts	60 decibels 20 milliwatts (Notes ~~10~~6 and ~~11~~7)
- mean power 25 watts or less	40 decibels 25 microwatts (Notes ~~10~~6, ~~11~~7)
960 MHz to 17.7 GHz	
- mean power above 10 watts	50 decibels 100 milliwatts (Notes ~~10~~6, ~~11~~7, ~~12~~8 and ~~13~~9)
- mean power 10 watts or less	100 microwatts (Notes ~~10~~6, ~~11~~7, ~~12~~8 and ~~13~~9)
Above 17.7 GHz	~~Due to the diverse nature of technologies employed by services operating above 17.7 GHz, further study by the ITU-R is required prior to the specification of levels. To the extent possible, the values to be observed should be those shown in appropriate ITU-R Recommendations. Until suitable Recommendations have been adopted, t~~The lowest possible values achievable shall be employed (see Recommendation **66 (Rev.WRC-[97])**).

Notes in ~~the~~ Table I ~~of Maximum Permitted Spurious Emission Power Levels~~

1) When checking compliance with the provisions of the table, it shall be verified that the bandwidth of the measuring equipment is sufficiently wide to accept all significant components of the spurious emission concerned.

~~2) For transmitters of mean power exceeding 50 kilowatts and which operate below 30 MHz over a frequency range approaching an octave or more, a reduction below 50 milliwatts is not mandatory, but a minimum attenuation of 60 decibels shall be provided and every effort should be made to comply with the level of 50 milliwatts.~~

~~3) For hand-portable equipment of mean power less than 5 watts which operates below 30 MHz, the attenuation shall be at least 30 decibels, but every effort should be made to attain 40 decibels attenuation.~~

~~4~~2) For mobile transmitters which operate below 30 MHz any spurious component shall have an attenuation of at least 40 decibels without exceeding the value of 200 milliwatts, but every effort should be made to comply with the level of 50 milliwatts wherever practicable.

~~5) For frequency modulated maritime mobile radiotelephone equipment which operates above 30 MHz, the mean power of any spurious emission falling in any other international maritime mobile channel, due to products of modulation, shall not exceed a level of 10 microwatts and the mean power of any other spurious emission on any discrete frequency within the international maritime mobile band shall not exceed a level of 2.5 microwatts. Where, exceptionally, transmitters of mean power above 20 watts are employed, these levels may be increased in proportion to the mean power of the transmitter.~~

~~6) For transmitters having a mean power of less than 100 milliwatts, it is not mandatory to comply with an attenuation of 40 decibels provided that the mean power level does not exceed 10 microwatts.~~

~~7~~3) For transmitters of a mean power exceeding 50 kilowatts which can operate on two or more frequencies covering a frequency range approaching an octave or more, while a reduction below 50 milliwatts is not mandatory, a minimum attenuation of 60 decibels shall be provided.

~~8~~4) For hand-portable equipment of mean power less than 5 watts, the attenuation shall be 30 decibels, but every practicable effort should be made to attain 40 decibels attenuation.

~~9~~5) Administrations may adopt a level of 10 milliwatts provided that harmful interference is not caused.

~~10~~6) Where several transmitters feed a common antenna or closely spaced antennae on neighbouring frequencies, every practicable effort should be made to comply with the levels specified.

~~11~~7) Since these levels may not provide adequate protection for receiving stations in the radio astronomy and space services, more stringent levels might be considered in each individual case in the light of the geographical position of the stations concerned.

~~12~~8) These levels are not applicable to systems using digital modulation techniques, but may be used as a guide. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation **66 (Rev.WRC-[97])**).

[~~13~~9)] These levels are not applicable to stations in the space services, but the levels of their spurious emissions should be reduced to the lowest possible values compatible with the technical and economic constraints to which the equipment is subject. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation **66 (Rev.WRC-[97])**).

Section II. Spurious Emission Limits for Transmitters Installed after 1 January 2003 and for all transmitters after 1 January 2012

Application of these Limits

7. The frequency range of the measurement of spurious emissions is from 9 kHz to 110 GHz or the second harmonic if higher.

8. Guidance regarding the methods of measuring spurious emissions is given in the most recent version of Recommendation ITU-R SM.329. The e.i.r.p. method specified in that Recommendation should be used when it is not possible to measure the power supplied to the antenna transmission line. Additionally, the e.i.r.p. method may need some modification for special cases, e.g. beam forming radars.

9. Guidance regarding the methods of measuring spurious emissions from radar systems is given in the most recent version of Recommendation ITU-R M.1177. The reference bandwidths required for proper measurement of radar spurious emissions should be calculated for each particular radar system. Thus, for the three general types of radar pulse modulation utilized for radionavigation, radiolocation, acquisition, tracking and other radiodetermination functions, the reference bandwidth values should be:

– for fixed frequency or non-pulse-coded radar, one over the radar pulse length, in seconds (e.g. if the radar pulse length is 1 microsecond, then the reference bandwidth is 1/1µs = 1 MHz);
– for fixed frequency, phase coded pulsed radar, one over the phase chip length, in seconds (e.g. if the phase coded chip is 2 microseconds long, then the reference bandwidth is 1/2µs = 500 kHz);
– for Frequency Modulated (FM) or chirped radar, the square root of the quantity obtained by dividing the radar bandwidth in MHz by the pulse length, in seconds (e.g. if the FM is from 1 250 to 1 280 MHz or 30 MHz during the pulse of 10 microseconds, then the reference bandwidth is $(30\ \text{MHz}/10\mu\text{s})^{1/2} = 1.73$ MHz).

For those radar systems for which acceptable methods of measurement do not exist, the lowest practicable power of spurious emission should be achieved.

10. The spurious emission levels are specified in the following reference bandwidths:

– 1 kHz between 9 and 150 kHz
– 10 kHz between 150 kHz and 30 MHz
– 100 kHz between 30 MHz and 1 GHz
– 1 MHz above 1 GHz

As a special case, the reference bandwidth of all space service spurious emissions should be 4 kHz.

11. For the purpose of setting limits, all emissions, including harmonic emissions, intermodulation products, frequency conversion products and parasitic emissions, which fall at frequencies separated from the centre frequency of the emission by ±250% or more of the necessary bandwidth of the emission will generally be considered as spurious emissions. However, this frequency separation may be dependent on the type of modulation used, the maximum bit rate in the case of digital modulation, the type of transmitter, and frequency coordination factors. For example, in the case of digital (including digital broadcasting) modulation systems, broadband systems, pulsed modulation systems and narrow-band high power transmitters, the frequency separation may need to differ from the ±250% factor. For multichannel or multicarrier transmitters/transponders, where several carriers may be transmitted simultaneously from a final output amplifier or an active antenna, the centre frequency of the emission is taken to be the centre of the -3 dB bandwidth of the transmitter or transponder.

12. Examples of applying 43 + 10log(P) to calculate attenuation requirements

Where specified in relation to mean power, spurious emissions are to be at least x dB down from the total mean power P, i.e. -x dBc. The power P (in Watts) is to be measured in a bandwidth wide enough to include the total mean power. The spurious emissions are to be measured in the reference bandwidths given in the Recommendation. The measurement of the spurious emission power is independent of the value of necessary bandwidth. Because the absolute emission power limit, derived from 43 + 10log(P), can become too stringent for high power transmitters, alternative relative powers are also provided in Table II.

Example 1

A land mobile transmitter, with any value of necessary bandwidth, must meet a spurious emission attenuation of 43 + 10log(P), or 70 dBc, whichever is less stringent. To measure spurious emissions in the frequency range between 30 and 1 000 MHz, Recommendation ITU-R **SM.329-7** *recommends* 4.1 indicates the use of a reference bandwidth of 100 kHz. For other frequency ranges, the measurement must use the appropriate reference bandwidths given in *recommends* 4.1.

With a measured total mean power of 10 Watts:

– Attenuation relative to total mean power = 43 + 10log(10) = 53 dB.
– The 53 dBc is less stringent than 70 dBc, so the 53 dBc value is used.
– Therefore: Spurious emissions must not exceed 53 dBc in a 100 kHz bandwidth, or converting to an absolute level, spurious emissions must not exceed 10 dBW - 53 dBc = -43 dBW in a 100 kHz reference bandwidth.

With a measured total mean power of 1 000 Watts:

– Attenuation relative to total mean power = 43 + 10log(1 000) = 73 dB.
– The 73 dBc is more stringent than 70 dBc limit, so the 70 dBc value is used.
– Therefore: Spurious emissions must not exceed 70 dBc in a 100 kHz bandwidth, or converting to an absolute level, spurious emissions must not exceed 30 dBW - 70 dBc = -40 dBW in a 100 kHz reference bandwidth.

Example 2

A space services transmitter, with any value of necessary bandwidth, must meet a spurious emission attenuation of 43 + 10log(P), or 60 dBc, whichever is less stringent. To measure spurious emissions at any frequency, Note 1 of Table II indicates using a reference bandwidth of 4 kHz.

With a measured total mean power of 20 Watts:

– Attenuation relative to total mean power = 43 + 10log(20) = 56 dB.

– The 56 dBc is less stringent than the 60 dBc limit, so the 56 dBc value is used.

– Therefore: Spurious emissions must not exceed 56 dBc in a 4 kHz reference bandwidth, or converting to an absolute level, spurious emissions must not exceed 13 dBW - 56 dBc = -43 dBW in a 4 kHz reference bandwidth.

TABLE II

Attenuation values used to calculate maximum permitted spurious emission power levels for use with radio equipment

Service category in accordance with Article **S1**, or equipment type (Note 15)	Attenuation (dB) below the power supplied to the antenna transmission line
All services except those services quoted below:	43 + 10 log(P), or 70 dBc, whichever is less stringent
Space services (earth stations) (Notes 10 and 14)	43 + 10 log(P), or 60 dBc, whichever is less stringent
Space services (space stations) (Notes 10 and 14)	43 + 10 log(P), or 60 dBc, whichever is less stringent
Radiodetermination	43 + 10 log(PEP), or 60 dB, whichever is less stringent
Broadcast television (Note 11)	46 + 10 log(P), or 60 dB, whichever is less stringent, without exceeding the absolute mean power level of 1 mW for VHF stations or 12 mW for UHF stations. However greater attenuation may be necessary on a case by case basis.
Broadcast FM	46 + 10 log(P), or 70 dBc, whichever is less stringent; the absolute mean power level of 1 mW should not be exceeded
Broadcasting at MF/HF	50 dBc and the absolute mean power level of 50 mW should not be exceeded
SSB from mobile stations (Note 12)	43 dB below PEP
Amateur services operating below 30 MHz (including with SSB) (Note 12)	43 + 10 log(PEP), or 50 dB, whichever is less stringent

Service category in accordance with Article **S1**, or equipment type (Note 15)	Attenuation (dB) below the power supplied to the antenna transmission line (Note 16)
Services operating below 30 MHz, except space, radiodetermination, broadcast, those using SSB from mobile stations, and amateur (Note 12)	43 + 10 log(X), or 60 dBc, whichever is less stringent, where X = PEP for SSB modulation, and X = P for other modulation
Low power device radio equipment (Note 13)	56 + 10 log(P) or 40 dBc, whichever is less stringent
Emergency position-indicating radio beacon, Emergency locator transmitter, Personal location beacon, Search and rescue transponder, Ship emergency, lifeboat, and survival craft transmitters; and Land, aeronautical or maritime transmitters when used in emergency	No limit

P: mean power in Watts at the antenna transmission line, in accordance with No. **S1.158**. When burst transmission is used, the mean power P and the mean power of any spurious emissions are measured using power averaging over the burst duration.

PEP: peak envelope power in Watts at the antenna transmission line, in accordance with No. **S1.157**.

dBc: decibels relative to the unmodulated carrier power of the emission. In the cases which do not have a carrier, for example in some digital modulation schemes where the carrier is not accessible for measurement, the reference level equivalent to dBc is decibels relative to the mean power P.

Notes in Table II

[10)] Spurious emission limits for all space services is stated in a 4 kHz reference bandwidth.

[11)] For analogue television transmissions, the mean power level is defined with a specified video signal modulation. This video signal has to be chosen in such a way that the maximum mean power level (e.g., at the video signal blanking level for negatively modulated television systems) is provided to the antenna transmission line.

[12)] All classes of emission using SSB are included in the category "SSB".

[13)] Low power radio devices having a maximum output power of less then 100 mW and intended for short range communication or control purposes; Such equipment is in general exempt from individual licensing.

[14] These values are "design objectives". If not decided otherwise by WRC-99, this note will not be applicable after 31 December 1999.

[15] In some cases of digital modulation (including digital broadcasting), broadband systems, pulsed modulation and narrow-band high power transmitters for all categories of services, there may be difficulties in meeting limits close to ±250% of the necessary bandwidth.

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF DRAFTING GROUP 5C1

The attached document represents the work of Drafting Group 5C1 regarding the revision of Recommendation 66. The text is primarily derived from USA/30/172.

RECOMMENDATION No. 66 (Rev.~~WARC-92~~WRC-97)

STUDIES OF THE MAXIMUM PERMITTED LEVELS OF S~~PURIOUS~~UNWANTED EMISSIONS

The World~~ Administrative~~ Radiocommunication Conference ~~for Dealing with Frequency Allocations in Certain Parts of the Spectrum~~ (~~Malaga-Torremolinos~~Geneva, ~~1992~~1997),

considering

a) that Appendix **~~8~~S3** to the Radio Regulations [Rev.WRC-97] specifies the maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line~~, for the frequency bands below 17.7 GHz~~;

b) that the principal objective of Appendix **~~8~~S3** is to specify the maximum permitted levels of spurious emissions that, while being achievable, provide protection against harmful interference;

c) that excessive levels of ~~spurious~~ unwanted emissions may give rise to harmful interference;

d) that while out-of-band emissions can also give rise to harmful interference, the Radio Regulations do not provide general limits for these emissions;

~~*d*~~*e)* that while Appendix **~~8~~S3** applies ~~only~~generally to the mean power of ~~the~~a transmitter and ~~the~~its spurious emissions, ~~there are a~~it also accounts for the variety of emissions where the interpretation of the term "mean power" and its consequential measurement ~~are~~would be difficult, particularly in the cases of digital modulation, broadband systems, pulsed modulation, and narrow-band high power transmitters;

~~*e*~~*f)* that ~~whilst the CCIR is studying this problem, it has not yet furnished adequate Recommendations pertaining to Appendix **8** for frequency bands above 960 MHz~~while Appendix S3 covers spurious emissions for all radio services, those listed for space services are included only as design objectives;

~~*f*~~*g)* that ~~spurious~~unwanted emissions from transmitters operating in space stations may cause harmful interference, particularly in regard to ~~intermodulation components~~emission characteristics from wide-band amplifiers which cannot be adjusted after launch;

~~*g*~~*h)* that ~~spurious~~unwanted emissions may cause harmful interference to ~~passive services, including the radio astronomy service in bands above 17.7 GHz~~safety services and radio astronomy and space services using passive sensors;

~~*h*~~*i)* that~~ spurious emissions from earth stations also require particular study;~~, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix **S3** may be required to protect specific services, such as safety services and passive services in specific bands;

~~*i)* that no information is available from the CCIR regarding spurious emissions from stations employing digital modulation techniques;~~

~~*j)* that transmitters operating in space stations are increasingly employing spread-spectrum and other wideband digital modulation techniques that can produce out-of-band and spurious emissions at frequencies far removed from the carrier frequency;~~

j) that broadband digital modulation may cause unwanted emissions at frequencies far from the carrier frequency,

and noting

1. that the safety and passive services are in many cases allocated frequencies adjacent or close to those services employing high power transmitters;

2. that some administrations have adopted more stringent limits for spurious emissions than those specified in Appendix **S3**,

recommends that ~~the CCIR~~ITU-R

1. study as a matter of urgency the question of spurious emissions resulting from space services transmissions, and, on the basis of those studies, develop Recommendations for maximum permitted levels of spurious emissions in terms of mean power of spurious components supplied by the transmitter to the antenna transmission line;

~~5~~2. submit a report to ~~the next competent conference~~[WRC-99] on the results of its studies with a view to reviewing and including spurious~~ and out-of-band~~ emission limits for space services in Appendix ~~**8**~~**S3** of the Radio Regulations~~, principally for the protection of the radio astronomy and other passive services.~~;

~~2~~3. continue the study of spurious emission levels in all frequency bands, emphasizing the study of those frequency bands, services and modulation techniques not presently covered by Appendix ~~**8**~~**S3**;

~~4. study the categorizing of emissions and spurious emissions in terms of "mean power" and develop appropriate Recommendations to facilitate the interpretation and measurement of "mean power" as it applies to the various classes of emissions;~~

4. study the question of unwanted emissions resulting from transmitters of all services and all modulation methods, and on the basis of those studies, develop a Recommendation(s) for maximum permitted levels of spurious emissions and out-of-band emissions;

~~3~~5. establish appropriate measurement techniques for ~~spurious~~unwanted emissions, where those techniques do not currently exist, including the determination of reference levels for wideband transmissions as well as the applicability of reference measurement bandwidths;

6. study the reasonable boundary of spurious emissions and out-of-band emissions with a view to defining such a boundary in S1;

7. study those frequency bands and instances where for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix **S3** may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

8. study those frequency bands and instances where for technical or operational reasons, out-of-band limits may be required to protect safety services, and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

9. report to a future competent conference the results of studies under *recommends* 3, 4 and 5 above, with a view to recommending whether or not it is appropriate to include within the Radio Regulations general limits for out-of-band emissions;

10. report the results of studies, under *recommends* 6, 7 and 8 above, to a competent conference(s).

_____

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF DRAFTING GROUP 5C1

The attached document represents the work of Drafting Group 5C1 regarding the revision of Recommendation 66. The text is primarily derived from USA/30/172.

RECOMMENDATION No. 66 (Rev.~~WARC-92~~WRC-97)

STUDIES OF THE MAXIMUM PERMITTED LEVELS OF S~~PURIOUS~~UNWANTED EMISSIONS

The World~~ Administrative~~ Radiocommunication Conference ~~for Dealing with Frequency Allocations in Certain Parts of the Spectrum~~ (~~Malaga-Torremolinos~~Geneva, ~~1992~~1997),

considering

a) that Appendix ~~**8**~~**S3** to the Radio Regulations [Rev.WRC-97] specifies the maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line~~, for the frequency bands below 17.7 GHz~~;

b) that the principal objective of Appendix ~~**8**~~**S3** is to specify the maximum permitted levels of spurious emissions that, while being achievable, provide protection against harmful interference;

c) that excessive levels of ~~spurious~~ unwanted emissions may give rise to harmful interference;

d) that while out-of-band emissions can also give rise to harmful interference, the Radio Regulations do not provide general limits for these emissions;

~~*d*~~*e)* that while Appendix ~~**8**~~**S3** applies ~~only~~generally to the mean power of ~~the~~a transmitter and ~~the~~its spurious emissions, ~~there are a~~it also accounts for the variety of emissions where the interpretation of the term "mean power" and its consequential measurement ~~are~~would be difficult, particularly in the cases of digital modulation, broadband systems, pulsed modulation, and narrow-band high power transmitters;

~~*e*~~*f)* that ~~whilst the CCIR is studying this problem, it has not yet furnished adequate Recommendations pertaining to Appendix **8** for frequency bands above 960 MHz~~while Appendix S3 covers spurious emissions for all radio services, those listed for space services are included only as design objectives;

~~*f*~~*g)* that ~~spurious~~unwanted emissions from transmitters operating in space stations may cause harmful interference, particularly in regard to ~~intermodulation components~~emission characteristics from wide-band amplifiers which cannot be adjusted after launch;

~~*g*~~*h)* that ~~spurious~~unwanted emissions may cause harmful interference to ~~passive services, including the radio astronomy service in bands above 17.7 GHz~~safety services and radio astronomy and space services using passive sensors;

~~*h*~~*i)* that~~ spurious emissions from earth stations also require particular study;~~, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix **S3** may be required to protect specific services, such as safety services and passive services in specific bands;

~~*i)* that no information is available from the CCIR regarding spurious emissions from stations employing digital modulation techniques;~~

~~*j)* that transmitters operating in space stations are increasingly employing spread-spectrum and other wideband digital modulation techniques that can produce out-of-band and spurious emissions at frequencies far removed from the carrier frequency;~~

j) that broadband digital modulation may cause unwanted emissions at frequencies far from the carrier frequency,

and noting

1. that the safety and passive services are in many cases allocated frequencies adjacent or close to those services employing high power transmitters;

2. that some administrations have adopted more stringent limits for spurious emissions than those specified in Appendix **S3**,

recommends that ~~the CCIR~~ITU-R

1. study as a matter of urgency the question of spurious emissions resulting from space services transmissions, and, on the basis of those studies, develop Recommendations for maximum permitted levels of spurious emissions in terms of mean power of spurious components supplied by the transmitter to the antenna transmission line;

~~5~~2. submit a report to ~~the next competent conference~~[WRC-99] on the results of its studies with a view to reviewing and including spurious ~~and out-of-band~~ emission limits for space services in Appendix **~~8~~S3** of the Radio Regulations~~, principally for the protection of the radio astronomy and other passive services.~~;

~~2~~3. continue the study of spurious emission levels in all frequency bands, emphasizing the study of those frequency bands, services and modulation techniques not presently covered by Appendix **~~8~~S3**;

~~4. study the categorizing of emissions and spurious emissions in terms of "mean power" and develop appropriate Recommendations to facilitate the interpretation and measurement of "mean power" as it applies to the various classes of emissions;~~

4. study the question of unwanted emissions resulting from transmitters of all services and all modulation methods, and on the basis of those studies, develop a Recommendation(s) for maximum permitted levels of spurious emissions and out-of-band emissions;

~~3~~5. establish appropriate measurement techniques for ~~spurious~~unwanted emissions, where those techniques do not currently exist, including the determination of reference levels for wideband transmissions as well as the applicability of reference measurement bandwidths;

6. study the reasonable boundary of spurious emissions and out-of-band emissions with a view to defining such a boundary in S1;

7. study those frequency bands and instances where for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix **S3** may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

8. study those frequency bands and instances where for technical or operational reasons, out-of-band limits may be required to protect safety services, and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

9. report the results of studies, under *recommends* 6, 7 and 8 above, to a competent conference(s).

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COMMITTEE 5

NOTE BY THE CHAIRMAN OF COMMITTEE 5

CONSIDERATION OF COUNTRY FOOTNOTES

Replace the text of the proposed modification to S5.323 with the following:

MOD S5.323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan and Ukraine, the band 862 - 960 MHz is also allocated to the aeronautical radionavigation service on a primary basis ~~until 1 January 1998. Up to this date, the aeronautical radionavigation service may use the band, subject to agreement obtained under No. **S9.21**. After this date, the aeronautical radionavigation service may continue to operate on a secondary basis~~. Such use is subject to agreement obtained under Article **14/S9.21** with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of its lifetime.

Reasons: To bring the text of the footnote into line with the actual situation regarding use of the spectrum and with requirement to comply with No. S4.10 and also because when this service has been in operation for a long time the compatibility with other services has been ensured.

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COMMITTEE 5

NOTE BY THE CHAIRMAN OF COMMITTEE 5

CONSIDERATION OF COUNTRY FOOTNOTES

In its second meeting held on 3 November Committee 5 considered the issue of country footnotes that were considered not in conformity with agenda item 1.1. The footnotes listed in DT/35 were reviewed and one, which was an editorial correction, was approved (ARS/63/2, S5.204) and two were forwarded to working groups of Committee 5 for consideration as they are related to other agenda items of the Conference (CHN/38/1, S5.369 and IRN/44/13, S5.202).

The remaining footnotes from DT/35 are included in the Annex to this document. They fall into the following categories:

a) a change from an "Alternative allocation" to an "Additional allocation";

b) the removal of a radiocommunication service in a footnote;

c) modifications with the objective to maintain the primary status beyond the specified time-frame in the footnote;

d) proposals to add names or to allow an upgrade from a secondary service to a primary service for the relevant country, either for the case being able to join a group of neighbouring countries or other cases.

Some proposals in these categories contribute towards a harmonization of the Table of Frequency Allocations and its footnotes by removing a radiocommunication service from additional allocations or by changing an alternative allocation to an additional allocation.

These proposals are being forwarded for consideration of the Plenary as it is considered that they are not in conformity with agenda item 1.1. In the Committee 5 discussions, when considering how to treat these footnotes, the following suggestions were made:

a) that discussion should be limited to a strict interpretation of agenda item 1.1, i.e. to requests from administrations to delete their country footnotes or to have their country's name deleted from footnotes, if no longer required;

b) that the agenda items of future WRCs should be more carefully worded to better allow treatment of such footnotes;

c) that such proposals should be dealt with by a future competent conference.

Furthermore in the Committee 5 discussions, some countries opposed some of the proposals listed in the Annex and some countries indicated that they have already consulted the other countries whose names appear in a footnote in the case where they wish to add their name.

Annex: 1

ANNEX

a) Change from "Alternative allocation" to "Additional allocation"

UZB/7/7

MOD S5.175 ~~*Alternative*~~*Additional allocation:* in Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the bands 68 - 73 MHz and 76 - 87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned.

If the other Administrations listed in the footnote do not support our proposal, then footnote S5.175 should be modified as follows:

UZB/7/8

MOD S5.175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, ~~Uzbekistan,~~ Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the bands 68 - 73 MHz and 76 - 87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned.

UZB/7/9

ADD S5.175A *Additional allocation:* in Uzbekistan, the bands 68 - 73 MHz and 76 - 87.5 MHz are also allocated to the broadcasting service on a primary basis.

UZB/59/4

MOD S5.175 ~~*Alternative*~~*Additional allocation:* in Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Ukraine, the bands 68 - 73 MHz and 76 - 87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned.

Reasons: Prolonged use of the bands by the fixed service in Uzbekistan and to ensure compatibility between services.

b) Removal of a radiocommunication service in a footnote

UZB/7/10

MOD S5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan and Ukraine, the band 8 500 - 8 750 MHz is also allocated to the land mobile ~~and radionavigation services~~service on a primary basis.

If the Administrations listed in that footnote do not support our proposal, then footnote S5.469 should be modified as follows:

UZB/7/11
MOD S5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Lithuania, Moldova, Mongolia, ~~Uzbekistan,~~ Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan and Ukraine, the band 8 500 - 8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis.

UZB/7/12
ADD S5.469A *Additional allocation:* in Uzbekistan, the band 8 500 - 8 750 MHz is also allocated to the land mobile service on a primary basis.

c) Modifications with the objective to maintain the primary status beyond the specified time-frame in the footnote

Provided the other countries concerned so agree, footnote S5.323 should be amended as follows:

ARM/AZE/BLR/ GEO/KAZ/UZB/ KGZ/RUS/TJK/ TKM/UKR/78/1
MOD S5.323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan and Ukraine, the band 862 - 960 MHz is also allocated to the aeronautical radionavigation service on a primary basis ~~until 1 January 1998. Up to this date, the aeronautical radionavigation service may use the band, subject to agreement obtained under Article **14**/No. **S9.21**. After this date, the aeronautical radionavigation service may continue to operate on a secondary basis~~; this use is restricted to aeronautical radionavigation service stations in operation at 1 January 1998.

Reasons: To bring the text of the footnote into line with the actual situation regarding use of the spectrum and with the requirement to comply with No. S4.10, and also because when this service has been in operation for a long time compatibility with other services has been ensured.

Proposals RUS/15/2, ARM/48/2, UZB/59/7 and TJK/64/2 are identical; proposals UZB/7/14 and BLR/45/18 are very similar.

d) Proposals to add names or to allow an upgrade from a secondary service to a primary service for the relevant country

(i) To be able to join a group of neighbouring countries

CZE/77/1
MOD S5.164 *Additional allocation:* in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Côte d'Ivoire, Denmark, Spain, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, Syria, the United

Kingdom, Senegal, Slovenia, Sweden, Switzerland, Swaziland, Togo, Tunisia, Turkey and Yugoslavia, the band 47 - 68 MHz ~~and~~, in Romania, the band 47 - 58 MHz, and in the Czech Republic the band 66 - 68 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band.

MEX/104/1
MOD S5.393 *Additional allocation:* in the United States, ~~and~~ India and Mexico, the band 2 310 - 2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (WARC-92)**.

MEX/104/2
MOD S5.480 *Additional allocation:* in Costa Rica, Ecuador, Guatemala, ~~and~~ Honduras and Mexico, the band 10 - 10.45 GHz is also allocated to the fixed and mobile services on a primary basis.

Reasons: To cater for national radiocommunication requirements in the immediate future.

(ii) Others

UZB/7/6
MOD S5.99 *Additional allocation:* in Saudi Arabia, Bosnia and Herzegovina, Iraq, The Former Yugoslav Republic of Macedonia, Libya, Uzbekistan, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810 - 1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

UZB/7/13
ADD S5.87A *Additional allocation:* in Uzbekistan, the band 526.5 - 1 606.5 kHz is also allocated to the radionavigation service on a primary basis.

UZB/7/15
MOD S5.314 *Additional allocation:* in Austria, Italy, Uzbekistan, the United Kingdom and Swaziland, the band 790 - 862 MHz is also allocated to the land mobile service on a secondary basis.

KRE/17/1
MOD S5.91 *Additional allocation:* in Australia, the Philippines, Democratic People's Republic of Korea, Singapore and Sri Lanka, the band 1 606.5 - 1 705 kHz is also allocated to the broadcasting service on a secondary basis.

KRE/17/2
MOD S5.140 *Additional allocation:* in Angola, Iraq, Democratic People's Republic of Korea, Rwanda, Somalia and Togo, the band 7 000 - 7 050 kHz is also allocated to the fixed service on a primary basis.

KRE/17/3

MOD S5.152 *Additional allocation:* in Armenia, Azerbaijan, Belarus, China, Côte d'Ivoire, Georgia, the Islamic Republic of Iran, Kazakstan, Moldova, Uzbekistan, Kyrgyzstan, Democratic People's Republic of Korea, Russia, Tajikistan, Turkmenistan and Ukraine, the band 14 250 - 14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW.

KRE/17/4

MOD S5.154 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Moldova, Uzbekistan, Kyrgyzstan, Democratic People's Republic of Korea, Russia, Tajikistan, Turkmenistan and Ukraine, the band 18 068 - 18 168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW.

KRE/17/6

MOD S5.382 *Different category of service:* in Saudi Arabia, Armenia, Austria, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, the Congo, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Georgia, Guinea, Hungary, Iraq, Israel, Jordan, Kazakstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, Syria, Kyrgyzstan, Democratic People's Republic of Korea, Romania, Russia, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine, Yemen and Yugoslavia, the allocation of the band 1 690 - 1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **S5.33**).

KRE/17/7

MOD S5.477 *Different category of service:* in Algeria, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, the Republic of Korea, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, the Islamic Republic of Iran, Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Democratic People's Republic of Korea, Singapore, Somalia, Sudan, Sweden, Thailand, Trinidad and Tobago, and Yemen, the allocation of the band 9 800 - 10 000 MHz to the fixed service is on a primary basis (see No. **S5.33**).

KRE/17/8

MOD S5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Democratic People's Republic of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Thailand, Togo, Tunisia and Zaire, the band 19.7 - 21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite

service in the band 19.7 - 21.2 GHz and of space stations in the mobile-satellite service in the band 19.7 - 20.2 GHz where such allocation to the mobile-satellite service is on a primary basis in the latter band.

KRE/17/9
MOD S5.542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, the Islamic Republic of Iran, Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Pakistan, Qatar, Syria, Democratic People's Republic of Korea, Singapore, Somalia, Sudan, Sri Lanka, Chad and Thailand, the band 29.5 - 31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **S21.3** and **S21.5** shall apply.

UZB/59/2
MOD S5.99 *Additional allocation:* in Saudi Arabia, Bosnia and Herzegovina, Iraq, The Former Yugoslav Republic of Macedonia, Libya, Uzbekistan, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810 - 1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

UZB/59/3
MOD S5.314 *Additional allocation:* in Austria, Italy, Uzbekistan, the United Kingdom and Swaziland, the band 790 - 862 MHz is also allocated to the land mobile service on a secondary basis.

Reasons: S5.99 - use within Uzbekistan of the fixed and mobile services in the band 1 810 - 1 830 kHz, those services having for a long time operated compatibly with other services, specifically the amateur service.

S5.314 - prolonged use within Uzbekistan of the band in question by the land mobile service and to ensure compatibility with other services, including the radionavigation service.

UZB/59/6
ADD S5.87A *Additional allocation:* in Uzbekistan the band 526.5 - 1 606.5 kHz is also allocated to the radionavigation service on a secondary basis.

Reasons: The band in question has for a long time also been used by stations in the radionavigation service.

KOR/79/1
MOD S5.259 *Additional allocation:* in Germany, Austria, Belgium, Cyprus, the Republic of Korea, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Syria, the United Kingdom, Sweden and Switzerland, the band 328.6 - 335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the

mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

Reasons: To use the frequency band 328.6 - 335.4 MHz for the mobile service in the Republic of Korea.

KOR/79/2
MOD S5.429 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, the Congo, the Republic of Korea, the United Arab Emirates, India, Indonesia, the Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Libya, Malaysia, Oman, Pakistan, Qatar, Syria, Democratic People's Republic of Korea, Singapore and Yemen, the band 3 300 - 3 400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service.

Reasons: To use the frequency band 3 300 - 3 400 MHz for the mobile service in the Republic of Korea.

KOR/79/3
MOD S5.432 *Different category of service:* in the Republic of Korea, Indonesia, Japan and Pakistan, the allocation of the band 3 400 - 3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **S5.33**).

Reasons: To use the frequency band 3 400 - 3 500 MHz for the mobile service in the Republic of Korea.

PHI/89/3
MOD S5.542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, the Islamic Republic of Iran, Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Pakistan, the Philippines, Qatar, Syria, Singapore, Somalia, Sudan, Sri Lanka, Chad and Thailand, the band 29.5 - 31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **S21.3** and **S21.5** shall apply.

Reasons: The Philippine Administration has additional requirements for fixed radio service, hence the proposal for inclusion to this footnote.

KRE/17/10
MOD S5.276 *Additional allocation:* in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, the Islamic Republic of Iran, Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Democratic People's Republic of Korea, Singapore, Somalia, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430 - 440 MHz is also allocated to the fixed service on a primary basis and the bands 430 - 435 MHz and 438 - 440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 6

FIRST SERIES OF TEXTS SUBMITTED BY COMMITTEE 5 TO THE EDITORIAL COMMITTEE

Committee 5 has concluded its consideration of Resolutions 211 and 710 under agenda item 1.9.2 of the Conference. It has also started its consideration of Resolution 712 under item 1.9.2 and some proposals under agenda item 1.9.1 and has unanimously adopted the attached text that is submitted for your consideration with a view to its subsequent submission to the Plenary.

Two Resolutions ([COM5-1] and [COM5-2]) have been approved in Committee 5. As these concern matters to be considered at a future WRC, references as to which conference should consider the matter have been kept in square brackets, pending decisions on the agendas of future conferences, currently under consideration in Working Group 1 of the Plenary.

V. RAWAT
Chairman of Committee 5

Annex: 1

ANNEX

MOD S5.391 In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, administrations shall not introduce high density mobile systems, as described in Recommendation ITU-R **SA.1154,** and shall take this Recommendation into account ~~Resolution **211 (WARC-92)**~~for the introduction of any other type of mobile system.

ARTICLE S5

MOD

MHz
400.15 – 410

Allocation to Services		
Region 1	Region 2	Region 3
401 - 402	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile	
402 - 403	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile	

ARTICLE S5

MOD

MHz
8 175 – 8 750

Allocation to Services		
Region 1	Region 2	Region 3
8 500 – ~~8 750~~8 550	RADIOLOCATION ~~[S5.333]~~ S5.468 S5.469	
~~8 500 – 8 750~~8 550 – 8 650	RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) ~~[S5.333]~~ S5.463A S5.468 S5.469	
~~8 500~~8 650 – 8 750	RADIOLOCATION ~~[S5.333]~~ S5.468 S5.469	

ADD S5.463A In the band 8 550 - 8 650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to stations of the radiolocation services nor constrain their use and development.

ARTICLE S5

MOD

MHz
8 750 – 10 000

Allocation to Services		
Region 1	Region 2	Region 3
9 500 – 9 800	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) ~~[S5.333]~~ S5.476A	

ADD S5.476A In the band 9 500 - 9 800 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to stations of the radionavigation and radiolocation services nor constrain their use and development.

RESOLUTION [COM5-1] (WRC-97)

CONSIDERATION BY A FUTURE COMPETENT WORLD RADIOCOMMUNICATION CONFERENCE OF ISSUES DEALING WITH ALLOCATIONS TO SCIENCE SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that WRC-97 recognized the importance of proper consideration of science service issues based on technical and operational criteria developed in ITU-R study groups;

b) that circumstances did not enable the completion of all necessary studies relating to a number of science proposals;

c) that a deficiency in telecommand (uplink) frequency allocations exists, compared to available telemetry (downlink) allocations in the 100 MHz to 1 GHz range;

d) that additional frequency bands above 71 GHz are needed to satisfy user requirements for passive sensing of the Earth's environmental conditions,

resolves

that, based on proposals from administrations and taking into account the results of studies in ITU-R study groups and the Conference Preparatory Meeting (CPM-99), the [1999] World Radiocommunication Conference should consider the following matters:

1) provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operations services in the frequency range 100 MHz to 1 GHz;

2) allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive) and space research (passive) services and the radio astronomy service,

invites ITU-R study groups

to complete the necessary studies, as a matter of urgency, taking into account the present use of allocated bands, with a view to presenting, at the appropriate time, the technical information likely to be required as a basis for the work of the Conference,

instructs the Secretary-General

to bring this Resolution to the attention of the international and regional organizations concerned.

MOD S22.5A § 5. In the frequency band 6 700 - 7 075 MHz, the maximum aggregate power flux-density produced at the geostationary-satellite orbit and within ±5° of inclination around the geostationary-satellite orbit by a non-geostationary-satellite system in the fixed-satellite service shall not exceed -168 dB(W/m^2) in any 4 kHz band. The maximum aggregate power flux-density shall be calculated in accordance with Recommendation ITU-R S.1256.

MOD

GHz
12.5 – 14.25

Allocation to Services		
Region 1	Region 2	Region 3
14 – 14.25	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505	

MOD

GHz
14.25 – 14.8

Allocation to Services		
Region 1	Region 2	Region 3
14.25 – 14.3	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505 S5.508 S5.509	
14.3 – 14.4 FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED-SATELLITE (Earth-to-space) S5.506 ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite
14.4 – 14.47	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research (space-to-Earth)	
14.47 – 14.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile ~~Land~~ Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radio Astronomy S5.149	

RESOLUTION [COM5-2]

POSSIBLE EXTENSION OF THE SECONDARY ALLOCATION TO MOBILE SATELLITE (EARTH-TO-SPACE) IN THE BAND 14.0 - 14.5 GHz TO COVER AERONAUTICAL APPLICATIONS

The World Radiocommunication Conference (Geneva 1997),

considering

a) that the band 14.0 - 14.5 GHz was allocated to the land mobile satellite (Earth-to-space) on a secondary basis prior to WRC-97;

b) that WRC-97 modified this allocation to the mobile satellite (Earth-to-space) except aeronautical, on a secondary basis;

c) that the band 14.0 - 14.5 GHz is also allocated to the fixed satellite (Earth-to-space), radionavigation, fixed and mobile except aeronautical mobile;

d) that there is a demand for possible use of the same type of terminals now used for land and maritime applications, on board aircraft to provide location and two way messaging functions;

e) that such demand justifies the consideration of possible extension of the allocation to include aeronautical application at a future competent conference;

f) that studies on the feasibility of such an extension must be completed before the relevant competent conference, with participation of ICAO and other relevant entities;

g) that Recommendation **34 (WRC-95)** states that future world radiocommunication conferences, whenever possible, should allocate frequency bands to the most broadly defined services with a view to providing the maximum flexibility in spectrum use,

resolves

that [WRC-99] shall examine the possibility of the extension of the secondary allocation to "mobile-satellite service (Earth-to-space) except aeronautical" in the 14.0 - 14.5 GHz band to incorporate aeronautical use, subject to the satisfactory outcome of technical compatibility studies,

resolves to invite ITU-R

to complete in time for [WRC-99] the technical and operational studies on the feasibility of sharing of the band 14.0 - 14.5 GHz between the services referred to in *considering* c) above and the aeronautical mobile-satellite service, on secondary basis,

instructs the Director

to invite the relevant organizations (e.g., ICAO) to participate in these studies.

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WORKING GROUP 1
OF THE PLENARY

NOTE FROM THE CHAIRMAN OF COMMITTEE 5 TO THE CHAIRMAN
OF WORKING GROUP 1 OF THE PLENARY

Committee 5 could not decide on the following agenda items due to the incomplete nature of ITU-R studies required to ensure proper consideration.

– Agenda item 1.9.2, Resolution 712 (Rev.WRC-95), *resolves* 1 concerning provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operation services in the frequency range 100 MHz to 1 GHz.

– Agenda item 1.9.4.1, allocation of frequency bands above 50 GHz to the earth exploration-satellite (passive) service.

Committee 5 recognized that this Conference may well act to address the earth exploration-satellite (passive) service requirements between 50.2 and 71 GHz, and requests that WG PL1 consider adding the following items to the draft agenda for consideration by WRC-99:

1) provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operation services in the frequency range 100 MHz to 1 GHz;

2) allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive), space research (passive) and radio astronomy services.

Committee 5 also considered Conference agenda item 1.3 - "to review Appendix 28 (S7) to the Radio Regulations, taking into account Resolution 60 (WARC-79), Resolution 712 (Rev.WRC-95) and Recommendation 711 (WARC-79)".

Committee 5 concurred with the CPM Report and agreed that there is not sufficient material at this stage for updating Appendix 28 (S7). Therefore, this item is also referred to WG PL1 for consideration of its inclusion in the draft agenda for WRC-99.

V. RAWAT
Chairman, Committee 5

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COMMITTEE 6

FIRST SERIES OF TEXTS FROM COMMITTEE 4
TO THE EDITORIAL COMMITTEE

At its 4th meeting (4 November 1997), Committee 4 approved the following texts which are submitted to Committee 6 for consideration and for subsequent transmittal to the Plenary Meeting:

- Articles S4 and S7 of the Simplified Radio Regulations (Attachment 1).
- Article S53 of the Simplified Radio Regulations (Attachment 2).
- Appendix S13 of the Simplified Radio Regulations (Attachment 3).
- Resolution 339 (Rev.WRC-97) (Attachment 4).
- Provisions Nos. S5.79A, S5.82, S5.84 and S5.131 of Article S5 of the Simplified Radio Regulations (Attachment 5).
- Recommendation 7 (Rev.WRC-97) (Attachment 6).

All these texts were approved unanimously by Committee 4.

E. GEORGE
Chairman of Committee 4

ATTACHMENT 1

ARTICLE S4

NOC **S4.1 - S4.3**

MOD **S4.4** Administrations of the Members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations.

NOC **S4.5 - S4.22**

ARTICLE S7

NOC **S7.1 - S7.8**

ATTACHMENT 2

ARTICLE S53

Order of Priority of Communications

MOD S53.1 ~~The order of priority for communications[1]~~ All stations in the maritime mobile service and the maritime mobile-satellite service shall be ~~as follows, except where impracticable in a fully automated system in which, nevertheless, category 1 shall receive priority:~~capable of performing four levels of priority in the following order:

1. Distress calls, distress messages, and distress traffic.
2. Urgency ~~C~~communications ~~preceded by the urgency signal~~.
3. Safety ~~C~~communications ~~preceded by the safety signal~~.
4. ~~Communications relating to radio direction-finding.~~Other communications.
5. ~~Communications relating to the navigation and safe movement of aircraft engaged in search and rescue operations.~~
6. ~~Communications relating to the navigation, movements and needs of ships and aircraft, and weather observation messages destined for an official meteorological service.~~
7. ~~ETATPRIORITENATIONS – Radiotelegrams relating to the application of the United Nations Charter.~~
8. ~~ETATPRIORITE – Government radiotelegrams with priority and Government calls for which priority has been expressly requested.~~
9. ~~Service communications relating to the working of the telecommunication service or to communications previously exchanged.~~
10. ~~Government communications other than those shown in 8 above, ordinary private communications, RCT[2] radiotelegrams and press radiotelegrams.~~

SUP S53.1.1

SUP S53.1.2

ADD S53.1A In a fully automated system, where it is impracticable to offer all four levels of priority, category 1 shall receive priority until such time as intergovernmental agreements[1] remove exemptions granted for such systems from offering the complete order of priority.

ADD S53.1A.1 [1] Requirements and performance standards for radio systems and equipment for maritime distress and safety radiocommunications are developed and adopted by the International Maritime Organization.

ATTACHMENT 3

APPENDIX S13*

Distress and Safety Communications (Non-GMDSS)

(see Article **S30**)

PART A

Part A1. General Provisions

MOD § 1. The provisions specified in this Appendix are obligatory (see Resolution **331(~~Mob-87~~Rev.WRC-97)**) in the maritime mobile service for stations using the frequencies and techniques prescribed in this ~~Chapter~~Appendix and for communications between these stations and aircraft stations. However, stations of the maritime mobile service, when additionally fitted with any of the equipment used by stations operating in conformity with the provisions specified in Chapter **SVII** shall, when using that equipment, comply with the appropriate provisions of that Chapter. The provisions of this Appendix are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

NOC § 2. to § 8.

NOC § 9.

MOD *a)* until the full implementation of the global maritime distress and safety system (GMDSS), of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions[1] or, on the carrier frequency 4 125 kHz, transmitting and receiving J3E emissions or, on the frequency 156.8 MHz, transmitting and receiving class G3E emissions (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**);

NOC § 9. *b)*

MOD § 10. ~~Until the full implementation of the GMDSS and until a competent conference decides otherwise, a~~All provisions of the Radio Regulations pertaining to the ~~present~~ distress, urgency and safety communications ~~shall~~using the techniques and frequencies described in this Appendix shall be maintained in force for all stations using these techniques and frequencies for distress, urgency and safety communications (see Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

Part A2. Frequencies for Distress and Safety

Section I. Availability of Frequencies

C. 2 182 kHz

MOD § 2. (1) The carrier frequency 2 182 kHz~~2~~ is an international distress frequency for radiotelephony (see also Nos. **S5.108** and **S5.111**); it shall be used for this purpose by ship, aircraft and survival craft stations and by emergency position-indicating radiobeacons using frequencies in the authorized bands between 1 605 kHz and 4 000 kHz when requesting assistance from the maritime services. It is used for distress calls and distress traffic, for signals of emergency position-indicating radiobeacons, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2 182 kHz. The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be ~~H3E~~J3E. ~~Class of emission A3E may continue to be used by apparatus intended solely for distress, urgency and safety purposes (see No. **S51.53**).~~ The class of emission to be used by emergency position-indicating radiobeacons shall be as specified in Appendix **S19** (see also Part A5, paragraph 3). ~~The class of emission J3E may be used for the exchange of d~~Distress traffic on 2 182 kHz following the ~~acknowledged~~ reception of a distress call using ~~digital selective calling techniques on 2 187.5 kHz taking~~ DSC should take into account that ~~other~~some shipping in the vicinity may not be able to receive this traffic (see also Appendix **S15** and Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

SUP ~~2 Where administrations provide at their coast stations a watch on 2 182 kHz for receiving class J3E emissions as well as class A3E and H3E emissions, ship stations may communicate with them using class J3E emissions.~~

Section II. Protection of Distress and Safety Frequencies

B. 500 kHz

MOD § 15. (1) Apart from the transmissions authorized on 500 kHz, and taking account of No. **S52.28**, all transmissions on the frequencies included between ~~490~~495 kHz and ~~510~~505 kHz are forbidden ~~(see No. **S5.81** and Resolution **210 (Mob-87)**)~~. Until 1 February 1999 this band is comprised between 490 kHz and 510 kHz.

Section III. Watch on Distress Frequencies

A. 500 kHz

MOD § 19. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz which employ Morse telegraphy shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at x h 15 and x h 45, Coordinated Universal Time (UTC), by an operator using headphones or loudspeaker (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

NOC § 19. (2)

MOD *a)* transmissions shall cease in the band between 490 kHz and 510 kHz ~~(see also Resolution **210 (Mob-87)**~~. From 1 February 1999 this band is reduced to the band between 495 kHz and 505 kHz;

ADD § 20A. The provisions of paragraphs 19 to 20 remain mandatory until 1 February 1999.

B. 2 182 kHz

MOD § 21. (1) Coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix on 2 182 kHz ~~shall~~should, during their hours of service, maintain a watch on 2 182 kHz (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch should be indicated in the List of Coast Stations.

MOD (2) These stations ~~shall~~should maintain this watch by means of an operator using some aural method, such as headphones, split headphones or loudspeaker.

MOD (3) In addition, ship stations should keep the maximum watch practicable on the carrier frequency 2 182 kHz for receiving by any appropriate means the radiotelephone alarm signal described in Part A5, paragraph 6(1), and the navigational warning signal described in Part A5, paragraphs 12(1), (2) and (3), as well as distress, urgency and safety signals. (See also Resolution **331 (Rev.WRC-97).**)

MOD § 22. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz (see also Resolution **331 (Rev.WRC-97)**).

MOD § 23. In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 1 605 kHz and 2 850 kHz ~~shall,~~using the techniques described in this Appendix for distress purposes, should during their hours of service, and as far as possible, take steps to keep watch on the

international distress carrier frequency 2 182 kHz for three minutes twice each hour beginning at x h 00 and x h 30, Coordinated Universal Time (UTC) (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by coast stations should be indicated in the List of Coast Stations.

ADD § 23B The provisions of paragraphs 21 to 23A. Remain mandatory until 1 February 1999.

MOD *C. 4 125 kHz ~~and~~, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 kHz*

MOD § 24. (1) All coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes may, during their hours of service, maintain a watch on the carrier frequencies 4 125 kHz or 6 215 kHz ~~or both~~, 8 291 kHz, 12 290 kHz and 16 420 kHz (see paragraphs 4(1) and 6 above, as well as Table **S15.1** of Appendix **S15**). Such watch should be indicated in the List of Coast Stations.

D. 156.8 MHz

MOD § 25. (1) A coast station providing an international maritime mobile radiotelephone service in the band 156 - 174 MHz and which forms an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix should, during its working hours in that band, maintain an efficient aural watch on 156.8 MHz (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)** and Recommendation **306**). Such watch should be indicated in the List of Coast Stations.

MOD (2) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz, using the techniques and frequencies described in this Appendix. Ship stations fitted only with radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**).

MOD (3) Ship stations, when in communication with a port station, using the techniques and frequencies described in this Appendix may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch, on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by port stations should be indicated in the List of Coast Stations.

MOD (4) Ship stations, when in communication with a coast station in the ship movement service using the techniques and frequencies described in this Appendix, and subject to the agreement of the administrations concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided the watch on 156.8 MHz is being maintained by the coast station (see also Resolution **331 (~~Mob-87~~Rev.WRC-97)**). Such watch by coast stations in the ship movement service should be indicated in the List of Coast Stations.

ATTACHMENT 4

MOD

RESOLUTION 339 (~~WRC-95~~Rev.WRC-97)

COORDINATION OF NAVTEX SERVICES

The World Radiocommunication Conference (Geneva, ~~1995~~1997),

considering

a) that the Voluntary Group of Experts (VGE) has suggested that, in the interests of simplification, this Conference may decide that it is no longer necessary for ITU to continue frequency coordination of NAVTEX services in addition to the operational coordination undertaken by the International Maritime Organization (IMO);

b) that ~~the~~ IMO has established a Coordinating Panel on NAVTEX to, *inter alia*, coordinate the operational aspects of NAVTEX services such as allocation of transmitter identification character (B1) and time schedules in the planning stages for transmissions on the frequencies 490 kHz, 518 kHz or 4 209.5 kHz;

c) that coordination in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz is essentially operational;

d) ~~that consideration should be given to an effective means of publishing and recording information on frequency assignments for NAVTEX services, if ITU no longer undertakes coordination of NAVTEX services,~~that Article **14A** of the Radio Regulations has been suppressed by WRC-95 with effect from 18 November 1995;

e) that the frequency band around 518 kHz is also allocated to the aeronautical radionavigation service on a primary basis;

f) that WRC-95 resolved in its Resolution **23 (WRC-95)** that, with effect from 18 November 1995, the Bureau shall not examine with respect to Nos. **1241-1245** of the Radio Regulations, and shall not apply the related provisions to frequency assignment notices in the non-planned bands below 28 000 kHz,

resolves

~~1. to abrogate the current Article **14A** of the Radio Regulations with immediate effect and to replace the related procedures with those contained in the Annex to this Resolution;~~

~~2. that~~ to invite administrations to apply the procedures ~~in the Annex to this Resolution may also be applied~~established by the International Maritime Organization (IMO), taking into account the IMO's NAVTEX Manual, for coordinating the use of the ~~frequency~~frequencies 490 kHz, 518 kHz and 4 209.5 kHz ~~for NAVTEX-type transmissions as well as for the use of the frequency 490 kHz, when it becomes available for NAVTEX-type transmissions~~,

instructs the Secretary-General

1. to ~~arrange for the necessary consultations with~~invite IMO ~~on the need for ITU to continue frequency~~to provide the ITU with information on a regular basis on operational coordination for NAVTEX services ~~and report the results to WRC-97 to enable it to decide on this item~~in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz;

2. to publish this information in the List of Coast Stations (see **S20.7**).

SUP

ANNEX TO RESOLUTION 339 (WRC-95)

ATTACHMENT 5

MOD

kHz
315 – 495

Allocation to Services		
Region 1	Region 2	Region 3
315 – 325 AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) S5.73 S5.72 S5.75	**315 – 325** MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical Radionavigation	**315 – 325** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73
325 – 405 AERONAUTICAL RADIONAVIGATION S5.72	**325 – 335** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) **335 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
405 – 415 RADIONAVIGATION S576 S5.72	**405 – 415** RADIONAVIGATION S5.76 Aeronautical Mobile	
415 – 435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION S5.72 **435 – 495** MARITIME MOBILE S5.79 ADD S5.79A Aeronautical Radionavigation S5.72 S5.81 S5.82	**415 – 495** MARITIME MOBILE S5.79 ADD S5.79A Aeronautical Radionavigation S5.80 S5.77 S5.78 S5.81 S5.82	

MOD

kHz
495 – 1 606.5

Allocation to Services		
Region 1	Region 2	Region 3
495 – 505	MOBILE (distress and calling) S5.83	
505 – 526.5 MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION S5.72 S5.81 ~~S5.84~~	**505 – 510** MARITIME MOBILE S5.79 S5.81 **510 – 525** MOBILE ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION **525 – 535** BROADCASTING S5.86 AERONAUTICAL RADIONAVIGATION	**505 – 526.5** MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Land Mobile S5.81 **526.5 – 535** BROADCASTING Mobile S5.88
526.5 – 1 606.5 BROADCASTING S5.87	**535 – 1 605** BROADCASTING	**535 – 1 606.5** BROADCASTING

MOD

kHz
4 063 – 5 450

Allocation to Services		
Region 1	Region 2	Region 3
4 063 – 4 438	MARITIME MOBILE ADD S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 S5.128 S5.129	
4 438 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 – 4 650** FIXED MOBILE except aeronautical mobile
4 650 – 4 700	AERONAUTICAL MOBILE (R)	
4 700 – 4 750	AERONAUTICAL MOBILE (OR)	
4 750 – 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING S5.113	**4 750 – 4 850** FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113	**4 750 – 4 850** FIXED BROADCASTING S5.113 Land Mobile
4 850 – 4 995	FIXED LAND MOBILE BROADCASTING S5.113	
4 995 – 5 003	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	
5 003 – 5 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
5 005 – 5 060	FIXED BROADCASTING S5.113	
5 060 – 5 250	FIXED Mobile except aeronautical mobile S5.133	
5 250 – 5 450	FIXED MOBILE except aeronautical mobile	

ADD S5.79A When establishing coast stations in the NAVTEX service in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution **339 (Rev.WRC-97)**).

MOD S5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution **331 (~~Mob-87~~Rev.WRC-97)**), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles **S31** and **S52**~~, and Resolution **339 (WRC-95)**~~. In using the band 415 - 495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz.

MOD S5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **S31** and **S52** and in Appendix **S13**~~ (see Resolution **339 (WRC-95)**)~~.

MOD S5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques~~ (see Resolution **339 WRC-95**)~~.

ATTACHMENT 6

MOD

RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

ADOPTION OF STANDARD FORMS FOR SHIP STATION AND SHIP EARTH STATION LICENCES AND AIRCRAFT STATION AND AIRCRAFT EARTH STATION LICENCES[1, 2]

The World~~ Administrative Radio Conference~~Radiocommunication Conference, Geneva, ~~1979~~1997,

considering

a) that the standardization of the licence forms issued to stations installed on board ships and aircraft making international voyages and flights would greatly facilitate the task of inspection of such stations;

b) that standard licence forms for ship stations and for aircraft stations would serve as a useful guide to those administrations desiring to improve their existing national licences;

c) that standard licence forms could be advantageously used by these administrations as the form of certification specified in No. **~~2027~~S18.8** of the Radio Regulations;

considering further

that the Administrative Radio Conference, Geneva, 1959, formulated:

a) a set of principles for the draft of a standard licence form (see Annex 1);

b) specimens of a ship station licence and of an aircraft station licence (see Annexes 2 and 3);

considering also

changes in radio systems and shipborne radiocommunication equipment introduced in relation to the implementation of the Global Maritime Distress and Safety System (GMDSS);

recommends

1. that administrations which find these forms practicable and acceptable should adopt them for international use;

2. that administrations should, as far as possible, endeavour to bring their national licence forms into line with these standard forms.

---

[1] Replaces Recommendation No. 17 of the Administrative Radio Conference, Geneva, 1959.

[2] Throughout this Recommendation, references to ship stations may include references to ship earth stations and references to aircraft stations may include references to aircraft earth stations.

MOD

ANNEX 1 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

Principles for the Formulation of Standard Ship and Aircraft Station Licences

The Administrative Radio Conference, Geneva, 1959, considered that, in formulating standard ship and aircraft station licences, the following set of principles should be applied:

1. The licence should, as far as possible, be prepared in tabular form, and each line and column of the table clearly numbered or lettered.

2. The licence for ship stations and the licences for aircraft stations should be as similar as possible.

3. The size of the licence should be international standard A4.

4. The licence should be designed in a form which facilitates its exhibition on board a ship or an aircraft.

5. The licence should be printed in Latin characters in the national language of the country which issues it. Those countries whose national language cannot be written in Latin characters should use their national language and, in addition, one working language of the Union.

6. The title "Ship Station Licence" or "Aircraft Station Licence" should appear at the top of the licence in the national language as well as in the three working languages of the Union.

These principles were used in formulating the two standard forms which are given in Annexes 2 and 3.

MOD

ANNEX 2 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

(Full name of the authority issuing the licence,
in the national language)
.....*

SHIP STATION LICENCE
LICENCE DE STATION DE NAVIRE
LICENCIA DE ESTACIÓN DE BARCO

No. .....
Period of validity .....

In accordance with *(Title of the National Regulation)* and with the Radio Regulations ~~annexed to~~ which complement the Constitution and the Convention of the International Telecommunication ~~Convention~~ Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

* The words "Ship Station Licence" written in the national language, if this is not one of the three working languages of the Union.

~~1~~	~~2~~	~~3~~	~~4~~
~~Name of ship~~	~~Call sign or other identification~~	~~Owner of ship~~	~~Public correspondence category~~

1	2			3	4
Name of ship	Identification of the ship station			Holder of licence	Accounting authority identification code, or additional information including accounting information if required
	Call sign	MMSI	Other identification (optional)		

		~~a~~	~~b~~	~~c~~	~~d~~
	Equipment	~~Type~~	~~Power (watts)~~	~~Class of emission~~ Type or description of equipment	~~Frequency bands or assigned frequencies~~ Frequencies
5	Transmitters				**
~~6~~	~~Ship's emergency transmitters~~				~~**~~
~~7~~	~~Survival craft transmitters~~				~~**~~
~~8~~6	Other equipment (optional)	~~(Optional)~~			

For the Issuing Authority:

.....

Place Date Authentication

MOD

ANNEX 3 TO RECOMMENDATION No. 7 (Rev.~~Mob-87~~WRC-97)

** Specifically or by reference to List V, columns 8 and 9.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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CONFERENCE

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WORKING GROUP 5C

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5B
TO THE CHAIRMAN OF WORKING GROUP 5C

During consideration of footnote S5.221 in Sub-Working Group 5B-1 (MSS below 1 GHz), all proposals dealing with allocation matters (i.e. suppression of S5.221) were withdrawn by the administrations proposing such suppression (CAN/35/6, INS/84/4, CTI/115/8). There only remain proposals for no change to the footnote (J/29/6, UGA/55/5, G/34/11, CUB/66/95) and deletion of country names from the footnote (IAP/40/220, INS/84/33, BFA/105/1).

SWG 5B-1 is of the opinion that the remaining proposals concerning S5.221 fall into categories 1 and 2.2 of Document DT/32. Therefore, proposals concerning S5.221 are forwarded to Working Group 5C for further consideration.

Y. ITO
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

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WORKING GROUP 5C

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5B
TO THE CHAIRMAN OF WORKING GROUP 5C

During consideration of footnote S5.221 in Sub-Working Group 5B-1 (MSS below 1 GHz), all proposals dealing with allocation matters (i.e. suppression of S5.221) were withdrawn by the administrations proposing such suppression (CAN/35/6, INS/84/4). There only remain proposals for no change to the footnote (J/29/6, UGA/55/5, G/34/11, CUB/66/95) and deletion of country names from the footnote (IAP/40/220).

SWG 5B-1 is of the opinion that the remaining proposals concerning S5.221 fall into categories 1 and 2.2 of Document DT/32. Therefore, proposals concerning S5.221 are forwarded to Working Group 5C for further consideration.

Y. ITO
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

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CITEL COORDINATORS

INFORMATION DOCUMENT

Mrs. Cecily Holiday is the General Coordinator for CITEL (region 2) during WRC-97. However, to consider specific issues, please find below a list of the coordinators of each item on the agenda.

Agenda item	Subject	Name		Box
1.2	Consistency between all provisions	Mr. Motokazu Okura	B	952
1.2	Appendix S4	Ms. Sueli Araujo	B	1322
1.3	Review of Appendix 28 (S7)	Mr. Karl Nebbia	USA	433
1.4	HF bands allocated to the broadcasting service	Ms. Sueli Araujo	B	1322
1.5	Adaptive MF/HF Systems	Mr. Karl Nebbia	USA	433
1.6	Matters related to the maritime mobile and maritime mobile-satellite services	Mr. Soenildath Boeddha	SUR	1317
1.7	Spurious emissions	Mr. Vassilios Mimis	CAN	328
1.8	Resolution 408	Mr. Soenildath Boeddha	SUR	1317
1.9.1	Issues concerning the mobile-satellite and fixed-satellite service below 1 GHz	Ms. Tara Hennessy	CAN	323
1.9.1	Issues concerning the mobile-satellite and fixed-satellite service between 1 and 3 GHz	Mr. Alonso Arturo Picazo	MEX	1628
		Ms. Ybeth Maita	VEN	1446
1.9.1	MSS non-GSO Networks	Mr. Warren Richards	USA	397
1.9.1	Feeder links of MSS non-GSO	Mr. Felix Castro	CLM	1432
1.9.2	Compatibility between mobile- and space-satellite services	Mr. Eduardo Gabelloni	ARG	1484

Agenda item	Subject	Name		Box
1.9.3	Wind profilers	Mr. Paul Rinaldo	USA	840
1.9.4	Allocation of frequencies to the service of exploration of the Earth by satellite	Mr. Eduardo Gabelloni	ARG	1484
1.9.5	Allocations to the space research service	Mr. Eduardo Gabelloni	ARG	1484
1.9.6	Frequency bands above 30 GHz by the fixed service for high-density applications	Mr. Felix Castro	CLM	1432
1.10	Review of Appendices 30 and 30A	Ms. Kimberly Baum	USA	402
4	Review of Resolutions and Recommendations of WRCs	Mr. Francisco Soares (COM5)	B	955
		Mr. Manoel de Almeida (COM4)	B	1328
7	Resolution 18	Mr. Frank Williams	USA	449
8.2	Future Conference agendas	Mr. Bruce Gracie	CAN	307

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COMMITTEE 5

The Former Yugoslav Republic of Macedonia

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of The Former Yugoslav Republic of Macedonia wishes to make the following proposals to the work of the Conference:

MKD/180/1
MOD S5.99 *Additional allocation:* in Saudi Arabia, Bosnia and Herzegovina, Iraq, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810 - 1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MKD/180/2
MOD S5.347 *Different category of service:* in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Colombia, Cuba, Denmark, Egypt, Spain, Greece, Hungary, Ireland, Italy, Jordan, Kenya, ~~The Former Yugoslav Republic of Macedonia,~~ Malawi, Mozambique, Panama, Portugal, Sri Lanka, Sweden, Swaziland, Yemen, Yugoslavia and Zimbabwe, the allocation of the band 1 452 - 1 492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007.

MKD/180/3
MOD S5.495 *Additional allocation:* in Belgium, Bosnia and Herzegovina, Croatia, Denmark, Spain, France, Greece, ~~The Former Yugoslav Republic of Macedonia,~~ Liechtenstein, Luxembourg, Monaco, Norway, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5 - 12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

MKD/180/4
MOD S5.511 *Additional allocation:* in Saudi Arabia, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, the United Arab Emirates, Guinea, the Islamic Republic of Iran, Iraq, Israel, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Lebanon, Libya, Pakistan, Qatar, Syria, Slovenia, Somalia and Yugoslavia, the band 15.35 - 15.4 GHz is also allocated to the fixed and mobile services on a secondary basis.

MKD/180/5
MOD S5.512 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, Cameroon, the Congo, Costa Rica, Egypt, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Indonesia, the Islamic Republic of Iran, Jordan, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Malaysia, Malawi, Morocco, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Singapore, Slovenia, Somalia, Sudan, Sweden, Swaziland, Tanzania, Chad, Thailand, Yemen and Yugoslavia, the band 15.7 - 17.3 GHz is also allocated to the fixed and mobile services on a primary basis.

MKD/180/6
MOD S5.514 *Additional allocation:* in Algeria, Germany, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, Honduras, India, the Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Nepal, Nicaragua, Oman, Pakistan, Qatar, Slovenia, Sudan, Sweden, and Yugoslavia, the band 17.3 - 17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **S21.3** and **S21.5** shall apply.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

The Former Yugoslav Republic of Macedonia

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of The Former Yugoslav Republic of Macedonia wishes to make the following proposals to the work of the Conference:

FYROM/180/1
MOD S5.99 *Additional allocation:* in Saudi Arabia, Bosnia and Herzegovina, Iraq, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810 - 1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

FYROM/180/2
MOD S5.347 *Different category of service:* in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Colombia, Cuba, Denmark, Egypt, Spain, Greece, Hungary, Ireland, Italy, Jordan, Kenya, ~~The Former Yugoslav Republic of Macedonia,~~ Malawi, Mozambique, Panama, Portugal, Sri Lanka, Sweden, Swaziland, Yemen, Yugoslavia and Zimbabwe, the allocation of the band 1 452 - 1 492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007.

FYROM/180/3
MOD S5.495 *Additional allocation:* in Belgium, Bosnia and Herzegovina, Croatia, Denmark, Spain, France, Greece, ~~The Former Yugoslav Republic of Macedonia,~~ Liechtenstein, Luxembourg, Monaco, Norway, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5 - 12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

FYROM/180/4
MOD S5.511 *Additional allocation:* in Saudi Arabia, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, the United Arab Emirates, Guinea, the Islamic Republic of Iran, Iraq, Israel, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Lebanon, Libya, Pakistan, Qatar, Syria, Slovenia, Somalia and Yugoslavia, the band 15.35 - 15.4 GHz is also allocated to the fixed and mobile services on a secondary basis.

FYROM/180/5
MOD S5.512 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, Cameroon, the Congo, Costa Rica, Egypt, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Indonesia, the Islamic Republic of Iran, Jordan, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Malaysia, Malawi, Morocco, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Singapore, Slovenia, Somalia, Sudan, Sweden, Swaziland, Tanzania, Chad, Thailand, Yemen and Yugoslavia, the band 15.7 - 17.3 GHz is also allocated to the fixed and mobile services on a primary basis.

FYROM/180/6
MOD S5.514 *Additional allocation:* in Algeria, Germany, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, Honduras, India, the Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, ~~The Former Yugoslav Republic of Macedonia,~~ Libya, Nepal, Nicaragua, Oman, Pakistan, Qatar, Slovenia, Sudan, Sweden, and Yugoslavia, the band 17.3 - 17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **S21.3** and **S21.5** shall apply.

_____

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 5

(ALLOCATIONS AND ASSOCIATED ISSUES)

Monday, 3 November 1997, at 1615 hours

Chairman: Mrs. V. RAWAT (Canada)

Subjects discussed		**Documents**
1	First report of Working Group 5A	137, 138
2	First report of Working Group 5B	154
3	First report of Working Group 5C	155
4	Consideration of country footnotes	DT/35

1 First report of Working Group 5A (Documents 137, 138)

1.1 The **Chairman of Working Group 5A** introduced the first report of the Working Group, which was contained in Document 137. The Working Group had reached agreement on a number of proposals for modifications and additions to Article S5 of the revised Radio Regulations, basing its work on Document 2, as requested by the Chairman of Committee 6.

1.2 The **Chairman** invited the Committee to consider the proposals in Document 137 one by one.

MOD S5.391

1.3 The **Chairman of Working Group 5A** pointed out that, should the modification be approved, it might be necessary to consider, under Conference agenda item 4, the suppression of Resolution 211 (WARC-92).

1.4 On that understanding, MOD S5.391 was **approved**.

MOD 400.15 - 410 MHz

1.5 **Approved**.

MOD 890 - 1 240 MHz, MOD 1 240 - 1 452 MHz, ADD S5.332, ADD S5.335

1.6 The **Chairman of Working Group 5A** explained that the modifications to allocations in the bands 890 - 1 240 MHz and 1 240 - 1 452 MHz and ADD S5.332 had been placed in square brackets pending the outcome of discussions on wind profiler radars in Working Group 5C, information on which was to be found in the note from the Chairman of Drafting Group 3 of Working Group 5C contained in § 9 of Document 137. He added that ADD S5.335 should be amended by including "Canada and" before "United States" to bring it into line with existing S5.334.

1.7 After a short discussion on how best to proceed, given concerns about potential incompatibilities should certain allocations for wind profiler radars be approved, the **Chairman** suggested that the matter should be referred back to Working Group 5A, pending the availability of a document setting out the conclusions of Working Group 5C in respect of wind profiler radars.

1.8 It was so **agreed**.

MOD 4 500 - 5 470 MHz, ADD S5.448A

1.9 The **Chairman of Working Group 5A** observed that the Working Group had reached broad agreement on the allocations in the bands 5 250 - 5 350 MHz and 5 350 - 5 460 MHz and had proposed two new footnotes, currently both numbered ADD S5.448A owing to an editorial oversight. However, two draft resolutions relating to the allocations had been proposed, which would require footnote references. He suggested that discussion of the proposals should be deferred pending the outcome of consideration of those resolutions by the Working Group.

1.10 It was so **agreed**.

MOD 8 175 - 8 750 MHz and ADD S5.463A

1.11 The **Chairman of Working Group 5A** said that the text of ADD S5.463A should be amended editorially by replacing "the stations of" by "stations in".

1.12 MOD 8 175 - 8 750 MHz and ADD S5.463A, as amended, were **approved**.

MOD 8 750 - 10 000 MHz, ADD S5.476A

1.13 The **Chairman of Working Group 5A** observed that the editorial change just approved for ADD S5.463A was also needed in ADD S5.476A.

1.14 In reply to the **delegate of Cuba**, the **Chairman** said that the main reason for establishing a primary allocation for the services was to provide protection from any future services in the band concerned. Furthermore, secondary allocation would not give protection from other services with secondary allocations in the same band. The **Chairman of Working Group 5A** added that, if the allocations were approved, it would be necessary to modify footnote S5.333. The Working Group would consider a modification once all the decisions related to the frequency bands covered by footnote S5.333 had been taken.

1.15 MOD 8 750 - 10 000 MHz and ADD S5.476A, as amended, were **approved**.

Draft Resolution [COM5-1] (WRC-97)

1.16 The **Chairman of Working Group 5A** pointed out that, although the Working Group had not yet considered allocations to earth exploration-satellite (passive) services in the band 50 - 71 GHz, the proposed draft Resolution should cover any decisions taken by the Conference in that regard.

1.17 Draft Resolution [COM5-1] (WRC-97) was **approved**.

1.18 At the suggestion of the **Chairman**, it was **agreed** that the Resolution should be transmitted to Working Group PLEN-1, which was considering items to be added to the draft agenda of WRC-99 and requiring action by ITU-R study groups.

1.19 The **Chairman of Working Group 5A** said that, given the decision just taken, it would not be necessary to introduce Document 138.

1.20 The first report of Working Group 5A to Committee 5, contained in Document 137, was **approved**, with the exception of MOD 890 - 1 240 MHz, MOD 1 240 - 1 452 MHz, ADD S5.332, ADD S5.335, MOD 4 500 - 5 470 MHz and the two proposed additions numbered ADD S5.448A, which were referred back to Working Group 5A for further consideration.

2 First report of Working Group 5B (Document 154)

2.1 The **Chairman of Working Group 5B** said that the Working Group had held four meetings and he hoped that the two sub-working groups established to study, respectively, MSS below 1 GHz and MSS in the 1 - 3 GHz range would complete their work shortly. Document 154 set out proposals by the Working Group for modifications to the Radio Regulations and for an associated draft resolution.

2.2 The **Chairman** invited the Committee to take up the proposals in Document 154.

MOD S22.5A

2.3 The modification to S22.5A was **approved**.

2.4 The **representative of BR** said that application of the provisions of Recommendation ITU-R S.1256 would require complex computer software which the Bureau did not currently possess and he appealed to administrations with such software to provide assistance to the Bureau.

If such help was not forthcoming, Study Group 4 might be requested to support the development of appropriate software.

2.5 The **Chairman** urged administrations to take note of those comments.

2.6 The **representative of BR** said that careful consideration should be given to *resolves* 3 of Resolution 115 (WRC-95) on the calculation of power flux-density at the geostationary satellite orbit in the band 6 700 - 7 075 MHz before any decision was taken regarding the abrogation of that Resolution at a subsequent meeting. The **delegate of India** endorsed those comments.

MOD 12.5 - 14.25 GHz

2.7 The modification to the allocations in the band 14 - 14.25 GHz was **approved**.

MOD 14.25 - 14.8 GHz

2.8 The modifications in the bands 14.25 - 14.5 GHz were **approved**.

Draft Resolution [COM5-2]

2.9 The **Chairman** said that *resolves further* of the draft Resolution was redundant and should be deleted.

2.10 Draft Resolution [COM5-2], as amended, was **approved**.

2.11 The **Chairman of Working Group 5B** recalled that, at its previous meeting, the Working Group had discussed the 2 GHz MSS allocations in Regions 1 and 3. A large number of countries in those Regions had supported no change to the allocations, but a few CITEL countries in Region 2 had proposed a change in the 1 980 - 2 010 MHz band. Another subject to be discussed, possibly in Sub-Working Group 5B2, was the date of entry into force of the 2 GHz MSS allocations in Region 2. Working Group 5B would prepare a document for consideration by Committee 5 on the 2 GHz allocations in Regions 1 and 3.

3 First report of Working Group 5C (Document 155)

3.1 The **Chairman of Working Group 5C** said that the Working Group had held four meetings to date. Drafting groups had been established to consider Conference agenda items 1.7, 1.8 and 1.9.3, and the results of their work were expected shortly. An informal group had also been established to consider the issue of high density fixed services operating in bands above 30 GHz. The Working Group had begun its consideration of Conference agenda item 1.1 on the deletion of footnotes or of country names from footnotes, while the proposals that did not relate specifically to that agenda item had been referred to Committee 5 for consideration. He drew attention to Document 155, which reflected the Working Group's view that it was not appropriate to review Appendix 28 (S7) to the Radio Regulations at the present juncture. He suggested that the Committee might forward to Working Group PLEN-1 a request for the inclusion of the review of Appendix 28 (S7) in the draft agenda for WRC-99.

3.2 It was so **agreed**.

4 Consideration of country footnotes (Document DT/35)

4.1 The **Chairman** invited the Committee to consider Document DT/35.

4.2 MOD S5.204 (proposal ARS/63/2) was **approved**.

4.3 The **Chairman** invited the Committee to suggest ways of dealing with categories 2.3 to 2.6 of the proposed footnotes.

4.4 The **delegate of France** considered that the examination of proposals not pertaining to agenda item 1.1 should be avoided lest a precedent be created. The **delegate of Sweden** added that proposals involving additional allocations should be referred to competent conferences. The **delegate of Russia** stressed that agenda items should be more clearly formulated in future.

4.5 The **delegate of the Czech Republic** did not support MOD S5.469 (proposal UZB/7/10) since it limited the rights of the countries listed.

4.6 The **delegate of Finland,** supported by the **delegate of Austria,** maintained that MOD S5.323 (proposal ARM/AZE/BLR/GEO/KAZ/UZB/KGZ/RUS/TJK/TKM/UKR/78/1) should not be considered, as it would seriously affect frequency allocations and services in the band concerned.

4.7 Following some further discussion, the **Chairman** said that she will report to the Plenary the suggestions made concerning treatment of the proposals not pertaining to item 1.1.

4.8 It was so **agreed**.

The meeting rose at 1745 hours.

The Secretary:
J. LEWIS

The Chairman:
V. RAWAT

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 5

SECOND REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1 Working Group 5A has held three meetings since the last meeting of Committee 5.

2 The attached proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

3 The next meeting of Working Group 5A is scheduled for Thursday, 6 November at 19.30.

1.

MOD

MHz
890 – 1 240

Allocation to Services		
Region 1	Region 2	Region 3
1 215 – 1 240	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) S5.330 S5.331 [~~S5.333~~] S5.332	

2.

MOD

MHz
1 240 – 1 452

Allocation to Services		
Region 1	Region 2	Region 3
1 240 – 1 260	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur S5.330 S5.331 S5.332 ~~–~~[~~S5.333~~] S5.334 [S5.334A] S5.335	
1 260 – 1 300	RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) Amateur S5.282 S5.330 S5.331 S5.332 ~~–~~[~~S5.333~~] S5.334 [S5.334A] S5.335	

ADD S5.332 In the band 1 215 - 1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services currently allocated on a primary basis.

SUP S5.333

[ADD S5.334A] *Additional allocation*: in South Africa the band 1 240 - 1 350 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

ADD S5.335 In Canada and the United States [and South Africa] in the band 1 240 - 1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service.

3.

MOD

MHz
2 670 – 3 300

Allocation to Services		
Region 1	Region 2	Region 3
3 100 – 3 300	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) S5.149 [~~S5.333~~] S5.428	

4.

MOD

MHz
4 500 – 5 470

Allocation to Services		
Region 1	Region 2	Region 3
5 250 – 5 255	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH ~~Space Research~~ [~~S5.333~~] S5.447D S5.448	
5 255 – 5 350	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) [~~S5.333~~] S5.448 S5.448A	

ADD S5.447D The allocation of the band 5 250 - 5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis.

ADD S5.448A The use of the frequency band 5 255 - 5 350 MHz by the earth exploration-satellite (active) and space research services (active) shall not constrain the future development and deployment of the radiolocation service.

5.

MOD

MHz
4 500 – 5 470

Allocation to Services		
Region 1	Region 2	Region 3
5 350 – 5 460	AERONAUTICAL RADIONAVIGATION S5.449 EARTH EXPLORATION-SATELLITE (active) Radiolocation S5.448B	

ADD S5.448B The earth exploration-satellite (active) service operating in the 5 350 - 5 460 MHz frequency band shall not cause harmful interference to, nor constrain the use and development of, the aeronautical radionavigation service.

6.

MOD

GHz
12.5 – 14.25

Allocation to Services		
Region 1	Region 2	Region 3
13.25 – 13.4	AERONAUTICAL RADIONAVIGATION S5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) ~~S5.498~~ S5.499 S5.498A	
13.4 – 13.75	RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH Standard Frequency and Time Signal-Satellite (Earth-to-space) ~~Space Research~~ [~~S5.333~~] S5.499 S5.500 S5.501 S5.501A	
13.75 – 14	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research [~~S5.333~~] S5.499 S5.500 S5.501 S5.502 S5.503 S5.503A	

SUP S5.498

ADD S5.498A The earth exploration-satellite (active) and space research (active) services operating in the 13.25 - 13.4 GHz band shall not cause harmful interference to, nor constrain the use and development of, the aeronautical radionavigation service.

ADD S5.501A In the band 13.4 - 13.75 GHz, the earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, nor constrain the use and development of, the radiolocation service. Other uses of the band by the space research service are on a secondary basis.

7.

MOD

GHz
14.8 – 17.3

Allocation to Services		
Region 1	Region 2	Region 3
17.2 – 17.3	RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) ~~Earth Exploration-Satellite (active)~~ ~~Space Research (active)~~ S5.512 S5.513 S5.513A	

ADD S5.513A Spaceborne active sensors operating in the frequency band 17.2 - 17.3 GHz shall not constrain the development of the radiolocation and other services currently allocated on a primary basis.

RESOLUTION [COM5-3]

THE USE OF THE 5 250 - 5 350 MHz FREQUENCY BAND BY SPACEBORNE ACTIVE SENSORS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the radiolocation service is allocated on a primary basis in the frequency band 5 250 - 5 350 MHz;

b) that the earth exploration-satellite (active) and the space research (active) services are allocated on a primary basis in the frequency band 5 250 - 5 350 MHz;

c) that the Conference Preparatory Meeting Report to WRC-97 concluded that terrestrial radars would not cause unacceptable interference to either synthetic aperture radars, scatterometers or altimeters, and that active spaceborne sensors and radiolocation systems are compatible provided that spaceborne-synthetic aperture radar and scatterometer design parameters are appropriately selected to ensure compatibility with radiolocation systems;

d) that guidelines for the appropriate selection of these parameters are contained in ITU-R Recommendation SA.1280;

e) that spaceborne sensors have operated since 1991 in this frequency band with no known reports of interference;

f) that many administrations have radiolocation systems operating in this band,

resolves

1 that ITU-R study, as a matter of urgency, specific sharing criteria and emission characteristics for spaceborne active sensors operating in this frequency band, with a view to enhance ITU-R Recommendation SA.1280;

2 that when developing spaceborne active sensors operating in this frequency band, one should take into account the guidelines for design of spaceborne active sensors found in ITU-R Recommendation SA.1280.

RESOLUTION [COM5-4]

THE USE OF THE 5 350 - 5 460 MHz FREQUENCY BAND BY SPACEBORNE ACTIVE SENSORS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the aeronautical radionavigation service is allocated on a primary basis in the frequency band 5 350 - 5 460 MHz;

b) that the earth exploration-satellite (active) service is allocated on a primary basis in the frequency band 5 350 - 5 460 MHz;

c) that the Conference Preparatory Meeting Report to WRC-97 concluded that spaceborne altimeters and aeronautical radionavigation systems are compatible in this frequency band;

d) that the Conference Preparatory Meeting Report to WRC-97 concluded that spaceborne synthetic aperture radars and airborne weather radars operating in the aeronautical radionavigation service are compatible in this frequency band;

e) that guidelines for the appropriate selection of design parameters of active spaceborne sensors are contained in ITU-R Recommendation SA.1280,

resolves

that ITU-R study specific sharing criteria and emission characteristics for spaceborne active sensors operating in the frequency band 5 350 - 5 460 MHz, with a view to provide further guidance on the matter of compatibility with aeronautical radionavigation systems. Such guidance will assist in the design of spaceborne active sensors, and may add to ITU-R Recommendation SA.1280.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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COMMITTEE 4

REPORT BY THE CHAIRMAN OF WORKING GROUP 4A

SECOND REPORT FROM WORKING GROUP 4A TO COMMITTEE 4

At its fourth meeting on 5 November 1997, the Working Group reviewed the text of Article S19, in accordance with Resolution 71(WRC-95), with a view to eliminating the ambiguities in the use of the terms "country", "member" and "administration" throughout Article S19. The attached text reflects the decisions of Working Group 4A in this regard, which were adopted unanimously.

The attached text also reflects the decisions of Committee 4 concerning provisions Nos. S19.96 and S19.99, which were approved at the fourth meeting of Committee 4 (Document 162).

The attention of the Committee is drawn to the fact that an additional provision (ADD S19.96A) is still under consideration in Working Group 4B.

ARTICLE S19

Identification of Stations

Section I. General Provisions

S19.1 § 1. All transmissions shall be capable of being identified either by identification signals or by other means[1].

S19.1.1 [1] In the present state of the technique, it is recognized nevertheless that the transmission of identifying signals for certain radio systems (e.g. radiodetermination, radio relay systems and space systems) is not always possible.

S19.2 § 2. (1) All transmissions with false or misleading identification are prohibited.

S19.3 (2) Where practicable and in appropriate services, identification signals should be automatically transmitted in accordance with relevant ITU-R Recommendations.

S19.4 (3) All transmissions in the following services should, except as provided in Nos. **S19.13** to **S19.15**, carry identification signals:

S19.5 *a)* amateur service;

S19.6 *b)* broadcasting service;

S19.7 *c)* fixed service in the bands below 28 000 kHz;

S19.8 *d)* mobile service;

S19.9 *e)* standard frequency and time signal service.

S19.10 (4) All operational transmissions by radiobeacons shall carry identification signals. However, it is recognized that, for radiobeacons and for certain other radionavigation services that normally carry identification signals, during periods of malfunction or other non-operational service the deliberate removal of identification signals is an agreed means of warning users that the transmissions cannot safely be used for navigational purposes.

S19.11 (5) All transmissions by satellite emergency position- indicating radiobeacons (EPIRBs) operating in the band 406 - 406.1 MHz or the band 1 645.5 - 1 646.5 MHz, or by EPIRBs using digital selective calling techniques, shall carry identification signals.

S19.12 (6) When identification signals are transmitted they shall comply with the provisions of this Article.

S19.13 (7) However, the requirements for certain transmissions to carry identification signals need not apply to:

S19.14 *a)* survival craft stations when transmitting distress signals automatically;

S19.15 *b)* emergency position-indicating radiobeacons (except for those in No. **S19.11**).

S19.16 § 3. In transmissions carrying identification signals a station shall be identified by a call sign, by a maritime mobile service identity or by other recognized means of identification which may be one or more of the following: name of station, location of station, operating agency, official registration mark, flight identification number, selective call number or signal, selective call identification number or signal, characteristic signal, characteristic of emission or other clearly distinguishing features readily recognized internationally.

S19.17 § 4. For transmissions carrying identification signals, in order that stations may be readily identified, each station shall transmit its identification as frequently as practicable during the course of transmissions, including those made for tests, adjustments or experiments. During such transmissions, however, identification signals shall be transmitted at least hourly, preferably within the period from five minutes before to five minutes after the hour (UTC) unless to do so would cause unreasonable interruption of traffic, in which case identification shall be given at the beginning and end of transmissions.

S19.18 § 5. Identification signals shall wherever practicable be in one of the following forms:

S19.19 *a)* speech, using simple amplitude or frequency modulation;

S19.20 *b)* international Morse code transmitted at manual speed;

S19.21 *c)* a telegraph code compatible with conventional printing equipment;

S19.22 *d)* any other form recommended by the Radiocommunication Sector.

S19.23 § 6. To the extent possible the identification signal should be transmitted in accordance with relevant ITU-R Recommendations.

S19.24 § 7. Administrations should ensure that wherever practicable superimposed identification methods be employed in accordance with ITU-R Recommendations.

S19.25 § 8. When a number of stations work simultaneously in a common circuit, either as relay stations, or in parallel on different frequencies, each station shall, as far as practicable, transmit its own identification or those of all the stations concerned.

S19.26 § 9. Administrations shall ensure, except in the cases mentioned in Nos. **S19.13** to **S19.15**, that all transmissions not carrying identification signals can be identified by other means when they are capable of causing harmful interference to the services of another administration operating in accordance with these Regulations.

S19.27 § 10. Administrations shall, having regard to the provisions of these Regulations relating to the notification of assignments for recording in the Master Register, adopt their own measures to ensure compliance with the provisions of No. **S19.26**.

MOD S19.28 § 11. Each Member State reserves the right to establish its own measures for identifying its stations used for national defense. However, it shall use, as far as possible, call signs recognizable as such, and containing the distinctive characters of its nationality.

Section II. Allocation of International Series and Assignment of Call Signs

ADD S19.28A § 11A.(1) For the purpose of the supply of identification signals, a "territory or geographical area" shall be understood to mean the territory within the limits of which the station is located. For mobile stations, it shall be understood to mean the territory within the limits of which the responsible administration is located. A territory which does not have full responsibility for its international relations shall also be considered as a geographical area for this purpose.

ADD S19.28B § 11A.(2) In all documents of the Union where the terms "***allocation of call sign series***" and "***assignment of call signs***" are to be used, they shall be used with the following meaning:

Identification means	Terms used in these Regulations
International series of call signs (including MIDs and selective call numbers)	Allocation to the administration of a Member State (see definition in CS No. 1002)
Call signs (including MIDs and selective call numbers)	Assignment by any administration to stations operating in a territory or geographical area (see S19.28A)

MOD S19.29 § 12. (1) All stations open to international public correspondence, all amateur stations, and other stations which are capable of causing harmful interference beyond the boundaries of the ~~country to~~ territory or geographical area in which they ~~belong~~ are located, shall have call signs from the international series allocated to ~~each country~~ its administration as given in the Table of Allocation of International Call Sign Series in Appendix **S42**.

S19.30 (2) As the need arises, ship stations and ship earth stations to which the provisions of Chapter **SIX** apply, and coast stations or coast earth stations capable of communicating with such ship stations, shall have assigned to them maritime mobile service identities in accordance with Section VI of this Article.

S19.31 (3) It is not compulsory to assign call signs from the international series to stations identified by maritime mobile service identities or which are easily identified by other means (see No. **S19.16**) and whose signals of identification or characteristics of emission are published in international documents.

S19.32 § 13. Should the available call sign series in Appendix **S42** be exhausted, new call sign series may be allocated according to the principles set out in Resolution **13** relating to the formation of call signs and the allocation of new international series.

S19.33 § 14. Between radio conferences, the Secretary-General is authorized to deal with questions relating to changes in the allocation of series of call signs, on a provisional basis, and subject to confirmation by the following conference (see also No. **S19.32**).

MOD S19.34 § 15. The Secretary-General shall be responsible for allocating maritime identification digits to ~~countries~~[1]administrations and shall regularly publish information regarding allocated maritime identification digits (MID).

SUP S19.34.1

MOD S19.35 § 16. The Secretary-General shall be responsible for allocating additional maritime identification digits to ~~countries~~[2]administrations within the limits specified[3], provided that he is satisfied that the possibilities offered by the MIDs allocated to an administration will soon be exhausted despite judicious ship station identity assignment as outlined in Section VI and in conformity with the guidelines contained in the relevant ITU-R and ITU-T Recommendations (see Resolution **27 (WRC-95)**).

SUP S19.35.1

MOD S19.35.2 [3] In no circumstances may a ~~country~~administration claim more MIDs than the total number of its ship stations shown in the ITU List of Ship Stations (List V) divided by 1000.

MOD S19.36 § 17. A single MID has been allocated initially to each ~~country~~ administration. A second MID should not be requested unless the MID first allocated is more than 80% exhausted in the basic category of three trailing zeros and the rate of assignments is such that 90% exhaustion is foreseen. The same criteria should be applied to subsequent requests for MIDs.

S19.37 § 18. The Secretary-General shall be responsible for supplying series of selective call numbers or signals (see Nos. **S19.92** to **S19.95**) at the request of the administrations concerned.

MOD S19.38 § 19. (1) Each ~~country~~administration shall choose the call signs and, if the selective calling system used is in accordance with Recommendation ITU-R M.257-3, the ship station selective call numbers and the coast station identification numbers of its stations from the international series allocated or supplied to it; and shall notify this information to the Secretary-General

together with the information which is to appear in Lists I, II, IV, V, VI and VIIIA. These notifications do not include call signs assigned to amateur and experimental stations.

MOD **S19.39** (2) Each ~~country~~administration shall choose the maritime mobile service identities of its stations from the maritime identification digits allocated to it and notify this information to the Secretary-General for inclusion in the relevant lists, as provided for in Article **S20**.

S19.40 (3) The Secretary-General shall ensure that the same call sign, the same maritime mobile service identity, the same selective call number or the same identification number is not assigned more than once and that call signs which might be confused with distress signals, or with other signals of the same nature, are not assigned.

S19.41 § 20. (1) When a fixed station uses more than one frequency in the international service, each frequency may be identified by a separate call sign used solely for this frequency.

S19.42 (2) When a broadcasting station uses more than one frequency in the international service, each frequency may be identified by a separate call sign used solely for this frequency or by some other appropriate means, such as announcing the name of the place and frequency used.

S19.43 (3) When a land station uses more than one frequency, each frequency may, if desired, be identified by a separate call sign.

S19.44 (4) Where practicable, coast stations should use a common call sign for each frequency series[4].

S19.44.1 [4] By "frequency series" is meant a group of frequencies each of which belongs to one of the different bands between 4 000 kHz and 27 500 kHz that are allocated exclusively to the maritime mobile service.

Section III. Formation of Call Signs

S19.45 § 21. (1) The twenty-six letters of the alphabet, as well as digits in the cases specified below, may be used to form call signs. Accented letters are excluded.

S19.46 (2) However, the following combinations shall not be used as call signs:

S19.47 *a)* combinations which might be confused with distress signals or with other signals of a similar nature;

S19.48 b) combinations reserved for the abbreviations to be used in the radiocommunication services (see Recommendation ITU-R M.1172).

S19.49 *c)* for amateur stations, combinations commencing with a digit when the second character is the letter O or the letter I.

S19.50 § 22. Call signs in the international series are formed as indicated in Nos. **S19.51** to **S19.71**. The first two characters shall be two letters or a letter followed by a digit or a digit followed by a letter. The first two characters or in certain cases the first character of a call sign constitute the nationality identification[1].

S19.50.1 [1] For call sign series beginning with B, F, G, I, K, M, N, R and W, only the first character is required for nationality identification. In the cases of half series, the first three characters are required for nationality identification.

S19.51 *Land and fixed stations*

S19.52 § 23. (1)
– two characters and one letter, *or*
– two characters and one letter followed by not more than three digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

S19.53 (2) However, it is recommended that, as far as possible, the call signs of fixed stations consist of:
– two characters and one letter followed by two digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

S19.54 *Ship stations*

S19.55 § 24. (1)
– two characters and two letters, *or*
– two characters, two letters and one digit (other than the digits 0 or 1).

S19.56 (2) However, ship stations employing only radiotelephony may also use a call sign consisting of:
– two characters (provided that the second is a letter) followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter), *or*
– two characters and one letter followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

S19.57 *Aircraft stations*

S19.58 § 25. – two characters and three letters.

S19.59 *Ship's survival craft stations*

S19.60 § 26. – the call sign of the parent ship followed by two digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

S19.61 *Emergency position-indicating radiobeacon stations*

S19.62 § 27. – the Morse letter B and/or the call sign of the parent ship to which the radiobeacon belongs.

S19.63 *Aircraft survival craft stations*

S19.64 § 28. – the complete call sign of the parent aircraft (see No. **S19.58**), followed by a single digit other than 0 or 1.

S19.65 *Land mobile stations*

S19.66 § 29. – two characters (provided that the second is a letter) followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter), *or*

– two characters and one or two letters followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

S19.67 *Amateur and experimental stations*

S19.68 § 30. (1) – one character (see No. **S19.50.1**) and a single digit (other than 0 or 1), followed by a group of not more than three letters, *or*

– two characters and a single digit (other than 0 or 1), followed by a group of not more than three letters.

S19.69 (2) However, the prohibition of the use of the digits 0 and 1 does not apply to amateur stations.

S19.70 *Stations in the space service*

S19.71 § 31. When call signs for stations in the space service are employed, it is recommended that they consist of:

– two characters followed by two or three digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

Section IV. Identification of Stations Using Radiotelephony

S19.72 § 32. Stations using radiotelephony shall be identified as indicated in Nos. **S19.73** to **S19.82**.

S19.73 § 33. (1) *Coast stations*

– a call sign (see No. **S19.52**); *or*

– the geographical name of the place as it appears in the List of Coast Stations, followed preferably by the word RADIO or by any other appropriate indication.

S19.74 (2) *Ship stations*

– a call sign (see Nos. **S19.55** and **S19.56**); *or*

– the official name of the ship preceded, if necessary, by the name of the owner on condition that there is no possible confusion with distress, urgency and safety signals; *or*

– its selective call number or signal.

S19.75 (3) *Ship's survival craft stations*

– a call sign (see No. **S19.60**); *or*

– a signal of identification consisting of the name of the parent ship followed by two digits.

S19.76 (4) *Emergency position-indicating radiobeacon stations*

When speech transmission is used (see Appendix **S13**):

– the name and/or the call sign of the parent ship to which the radiobeacon belongs.

S19.77 § 34. (1) *Aeronautical stations*

– the name of the airport or geographical name of the place followed, if necessary, by a suitable word indicating the function of the station.

S19.78 (2) *Aircraft stations*

– a call sign (see No. **S19.58**), which may be preceded by a word designating the owner or the type of aircraft; *or*

– a combination of characters corresponding to the official registration mark assigned to the aircraft; *or*

– a word designating the airline, followed by the flight identification number.

S19.79 (3) In the exclusive aeronautical mobile frequency bands, aircraft stations using radiotelephony may use other methods of identification, after special agreement between governments, and on condition that they are internationally known.

S19.80 (4) *Aircraft survival craft stations*

– a call sign (see No. **S19.64**).

S19.81 § 35. (1) *Base stations*

– a call sign (see No. **S19.52**); *or*

– the geographical name of the place followed, if necessary, by any other appropriate indication.

S19.82 (2) *Land mobile stations*

– a call sign (see No. **S19.66**); *or*

– the identity of the vehicle or any other appropriate indication.

Section V. Selective Call Numbers in the Maritime Mobile Service

S19.83 § 36. When stations of the maritime mobile service use selective calling devices in accordance with Recommendations ITU-R M.476-5, M.625-3, M.627-1 and M.257-3, their call numbers shall be assigned by the responsible administrations in accordance with the provisions below.

S19.84 *Formation of ship station selective call numbers and coast station identification numbers*

S19.85 § 37. (1) The ten digits from 0 to 9 inclusive shall be used to form selective call numbers.

S19.86 (2) However, combinations of numbers commencing with the digits 00 (zero, zero) shall not be used when forming the identification numbers for coast stations.

S19.87 (3) Ship station selective call numbers and coast station identification numbers in the series are formed as indicated in Nos. **S19.88**, **S19.89** and **S19.90**.

S19.88 (4) *Coast station identification numbers*

– four digits (see No. **S19.86**).

S19.89 (5) *Ship station selective call numbers*

– five digits.

S19.90 (6) *Predetermined groups of ship stations*

– five digits consisting of:

– the same digit repeated five times; *or*

– two different digits repeated alternately.

S19.91 *Assignment of ship station selective call numbers and coast station identification numbers*

S19.92 § 38. (1) In cases where selective call numbers for ship stations and identification numbers for coast stations are required for use in the maritime mobile service and the selective calling system is in accordance with Recommendation ITU-R M.257-3, the selective call numbers and identification numbers shall be supplied by the Secretary-General on request. Upon notification by an administration of the introduction of selective calling for use in the maritime mobile service:

S19.93 *a)* selective call numbers for ships will be supplied as required in blocks of 100 (one hundred);

S19.94 *b)* coast station identification numbers will be supplied in blocks of 10 (ten) to meet actual requirements;

S19.95 *c)* selective call numbers for selective calling of predetermined groups of ship stations in accordance with No. **S19.90** will be supplied as required as single numbers.

MOD **S19.96** (2) Each administration shall choose the selective call numbers to be assigned to its ship stations from the blocks of the series supplied to it. Administrations shall notify the ITU immediately in accordance with **S20.16** when assigning selective call numbers to ship stations.

S19.97 (3) Each administration shall choose the coast station identification numbers to be assigned to its coast stations from the blocks of the series supplied to it.

Section VI. Maritime Mobile Service Identities in the Maritime Mobile Service and the Maritime Mobile-Satellite Service

S19.98 *A. General*

MOD **S19.99** § 39. When a station[1] in the maritime mobile service or the maritime mobile-satellite service is required to use maritime mobile service identities, the responsible administration shall assign the identity to the station in accordance with the provisions described in Nos. **S19.100** to **S19.126**, in accordance with relevant ITU-R and ITU-T Recommendations (see Resolution **27(WRC-95)**). Administrations shall notify the ITU immediately in accordance with **S20.16** when assigning maritime mobile service identities.

S19.99.1 [1] In this Section a reference to a ship station or a coast station may include the respective earth stations.

S19.100 § 40. (1) Maritime mobile service identities are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations and group calls.

S19.101 (2) These identities are formed in such a way that the identity or part thereof can be used by telephone and telex subscribers connected to the general telecommunications network principally to call ships automatically in the shore-to-ship direction.

S19.102 (3) There are four kinds of maritime mobile service identities:

S19.103 i) ship station identities;

S19.104 ii) group ship station call identities

S19.105 iii) coast station identities;

S19.106 iv) group coast station call identities.

SUP **S19.107**

S19.108 *B. Maritime Identification Digits (MID)*

S19.109 § 42. These provisions do not require an administration to assign numerical identities until it determines that such identities are necessary. They do not concern the assignment of ship station identities without trailing zeros, since it is assumed that there is enough capacity inherent in the system to provide for the assignment of such identities to all ship stations which an administration may wish to identify in this manner.

S19.110 *C. Ship Station Identities*

S19.111 § 43. (1) Administrations should:

S19.112 *a)* follow the guidelines contained in the relevant ITU-R and ITU-T Recommendations for the assignment of ship station identities;

S19.113 *b)* make optimum use of the possibilities of forming identities from the single MID allocated to them;

S19.114 *c)* take particular care in assigning ship station identities with six significant digits (three-trailing-zero identities), which should be assigned only to ship stations which can reasonably be expected to require such an identity for automatic access on a world-wide basis for public switched networks;

S19.115 *d)* assign one-trailing-zero or two-trailing-zero identities to vessels when they require automatic access only on a national or regional level, as defined in the relevant ITU-T Recommendations;

S19.116 *e)* assign ship station identities without trailing zeros to all other vessels requiring a numerical identification.

S19.117 (2) The 9-digit code constituting a ship station identity is formed as follows:

$$M_1I_2D_3X_4X_5X_6X_7X_8X_9$$

wherein

$$M_1I_2D_3$$

represent the Maritime Identification Digits and X is any figure from 0 to 9.

S19.118 *D. Group Ship Station Call Identities*

S19.119 § 44. (1) Group ship station call identities for calling simultaneously more than one ship are formed as follows:

$$0_1M_2I_3D_4X_5X_6X_7X_8X_9$$

where the first figure is zero and X is any figure from 0 to 9.

MOD S19.120 (2) The particular MID represents only the ~~country~~territory or geographical area of the administration assigning the group ship station call identity and so does not prevent group calls to fleets containing more than one ship nationality.

S19.121 *E. Coast Station Identities*

S19.122 § 45. (1) Coast station identities are formed as follows:

$$0_1 0_2 M_3 I_4 D_5 X_6 X_7 X_8 X_9$$

where the first two figures are zeros and X is any figure from 0 to 9.

MOD **S19.123** (2) The MID reflects the ~~country~~territory or geographical area in which the coast station or coast earth station is located.

S19.124 *F. Group Coast Station Call Identities*

S19.125 § 46. (1) Group coast station call identities for calling simultaneously more than one coast station are formed as a subset of coast station identities, as follows:

$$0_1 0_2 M_3 I_4 D_5 X_6 X_7 X_8 X_9$$

where the first two figures are zeros and X is any figure from 0 to 9.

MOD **S19.126** (2) The particular MID represents only the ~~country~~territory or geographical area of the administration assigning the group coast station call identity. The identity may be assigned to stations of one administration which are located in only one geographical region as indicated in the relevant ITU-T Recommendation.

Section VII. Special Provisions

S19.127 § 47. (1) In the aeronautical mobile service, after communication has been established by means of the complete call sign, the aircraft station may use, if confusion is unlikely to arise, an abbreviated call sign or identification consisting of:

S19.128 *a)* in radiotelegraphy, the first character and last two letters of the complete call sign (see No. **S19.58**);

S19.129 *b)* in radiotelephony:

– the first character of the complete call sign; *or*

– the abbreviation of the name of the owner of the aircraft (company or individual); *or*

– the type of aircraft;

followed by the last two letters of the complete call sign (see No. **S19.58**) or by the last two characters of the registration mark.

S19.130 (2) The provisions of Nos. **S19.127**, **S19.128** and **S19.129** may be amplified or modified by agreement between administrations concerned.

S19.131 § 48. The distinguishing signals allotted to ships for visual and aural signalling shall, in general, agree with the call signs of ship stations.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

Document 184-E
5 November 1997

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

B.1 **PLENARY MEETING**

FIRST SERIES OF TEXTS SUBMITTED BY THE
EDITORIAL COMMITTEE TO THE PLENARY MEETING

The following texts are submitted to the Plenary Meeting for **first reading**:

Source	**Document**	**Title**
COM 5	175	Article S5 RR S5.391 Table of Frequency Allocations, 400.15 - 410 MHz Table of Frequency Allocations, 8 175 - 8 750 MHz RR S5.463A Table of Frequency Allocations, 8 750 - 10 000 MHz RR S5.476A Table of Frequency Allocations, 12.5 - 14.25 GHz Table of Frequency Allocations, 14.25 - 14.8 GHz RR S22.5A Resolution [COM5-1] (WRC-97) Resolution [COM5-2] (WRC-97)
COM 4	177	Articles S4 and S7 of the Simplified Radio Regulations Article S53 of the Simplified Radio Regulations Appendix S13 of the Simplified Radio Regulations Resolution 339 (Rev.WRC-97) Provisions Nos. S5.79A, S5.82, S5.84 and S5.131 of Article S5 of the Simplified Radio Regulations Recommendation 7 (Rev.WRC-97)

A.-M. NEBES
Chairman of Committee 6

Annex: 22 pages

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NOTE BY THE CHAIRMAN

The attached pages contain the first series of texts received by Committee 6 from Committees 4 and 5 and submitted to the Plenary Meeting for first reading.

Under No. 362 of the ITU Convention (Geneva, 1992), the terms of reference of Committee 6, which are reproduced in Document 121 of the Conference, are to perfect the form of the texts adopted by the Conference without altering their sense. By force of circumstance, this work is often carried out in difficult conditions and with stringent time constraints.

Therefore, in order to facilitate the task of Committee 6, speed up the submission of texts to the Plenary Meeting and expedite the production of the Final Acts at the end of the Conference, it is proposed that well-established abbreviations widely used and accepted in ITU may be used in the version of the Final Acts submitted for signing. The Secretary-General, under the authority of the Editorial Committee, shall ensure, when preparing the published version of the Final Acts, that the abbreviations in question are written out in full, as appropriate, in line with the prevailing editorial rules applied in the instruments of the Union.

Furthermore, should any editorial problems arise in the preparation of the definitive Final Acts of WRC-97 by Union headquarters, the Conference may wish to instruct the Secretary-General to refer them to the Chairman and Vice-Chairmen of the Editorial Committee.

Under No. 461 of the Convention, the Editorial Committee is also responsible for the numbering of texts approved by the Conference which will constitute the Final Acts. However, in view of the above-mentioned time constraints, the Conference may wish to entrust the final numbering of chapters, articles, paragraphs, resolutions and recommendations to the Secretary-General.

Pending preparation of the definitive version, texts will, for the duration of the Conference and in the Final Acts, retain their original numbering, together with the customary symbols in the left-hand margin identifying their source and the action which the Conference has taken on them.

A.-M. NEBES
Chairman

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MOD S5.391 In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R **SA.1154,** and shall take this Recommendation into account for the introduction of any other type of mobile system.

ARTICLE S5

MOD

MHz
400.15 – 410

Allocation to Services		
Region 1	Region 2	Region 3
401 - 402	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) Fixed Mobile except aeronautical mobile	
402 - 403	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	

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ARTICLE S5

MOD

MHz
8 175 – 8 750

Allocation to Services		
Region 1	Region 2	Region 3
8 500 – 8 550	RADIOLOCATION S5.468 S5.469	
8 550 – 8 650	RADIOLOCATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) S5.463A S5.468 S5.469	
8 650 – 8 750	RADIOLOCATION S5.468 S5.469	

ADD S5.463A In the band 8 550 - 8 650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation services.

ARTICLE S5

MOD

MHz
8 750 – 10 000

Allocation to Services		
Region 1	Region 2	Region 3
9 500 – 9 800	RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) EARTH EXPLORATION-SATELLITE (active) S5.476A	

ADD S5.476A In the band 9 500 - 9 800 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radionavigation and radiolocation services.

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MOD

GHz
12.5 – 14.25

Allocation to Services		
Region 1	Region 2	Region 3
14 – 14.25	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505	

MOD

GHz
14.25 – 14.8

Allocation to Services		
Region 1	Region 2	Region 3
14.25 – 14.3	FIXED-SATELLITE (Earth-to-space) S5.506 RADIONAVIGATION S5.504 Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research S5.505 S5.508 S5.509	
14.3 – 14.4 FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED-SATELLITE (Earth-to-space) S5.506 Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite	**14.3 – 14.4** FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radionavigation-Satellite
14.4 – 14.47	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Space Research (space-to-Earth)	

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14.47 – 14.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.506 MOBILE except aeronautical mobile Mobile-Satellite (Earth-to-space) except aeronautical mobile-satellite Radio Astronomy S5.149

MOD S22.5A § 5. In the frequency band 6 700 - 7 075 MHz, the maximum aggregate power flux-density produced at the geostationary-satellite orbit and within ±5° of inclination around the geostationary-satellite orbit by a non-geostationary-satellite system in the fixed-satellite service shall not exceed -168 dB(W/m^2) in any 4 kHz band. The maximum aggregate power flux-density shall be calculated in accordance with Recommendation ITU-R S.1256.

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RESOLUTION [COM5-1] (WRC-97)

CONSIDERATION BY A FUTURE COMPETENT WORLD RADIOCOMMUNICATION CONFERENCE OF ISSUES DEALING WITH ALLOCATIONS TO SCIENCE SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that WRC-97 recognized the importance of proper consideration of science service issues based on technical and operational criteria developed in ITU-R study groups;

b) that circumstances did not enable the completion of all necessary studies relating to a number of proposals concerning science services;

c) that a deficiency in telecommand (uplink) frequency allocations exists, compared to available telemetry (downlink) allocations in the 100 MHz to 1 GHz range;

d) that additional frequency bands above 71 GHz are needed to satisfy user requirements for passive sensing of the Earth's environmental conditions,

resolves

that, on the basis of proposals from administrations and taking into account the results of studies in ITU-R study groups and the Conference Preparatory Meeting (CPM-99), the [1999] World Radiocommunication Conference should consider the following matters:

1 provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operations services in the frequency range 100 MHz to 1 GHz;

2 allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive) and space research (passive) services and the radio astronomy service,

invites ITU-R study groups

to complete the necessary studies, as a matter of urgency, taking into account the present use of allocated bands, with a view to presenting, at the appropriate time, the technical information likely to be required as a basis for the work of the Conference,

instructs the Secretary-General

to bring this Resolution to the attention of the international and regional organizations concerned.

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RESOLUTION [COM5-2] (WRC-97)

POSSIBLE BROADENING OF THE SECONDARY ALLOCATION TO MOBILE-SATELLITE SERVICE (EARTH-TO-SPACE) IN THE BAND 14.0 - 14.5 GHz TO COVER AERONAUTICAL APPLICATIONS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the band 14.0 - 14.5 GHz was allocated to the land mobile-satellite service (Earth-to-space) on a secondary basis prior to WRC-97;

b) that WRC-97 replaced this by an allocation to the mobile-satellite service (Earth-to-space) except aeronautical mobile-satellite, on a secondary basis;

[c) that the band 14.0 - 14.5 GHz is also allocated to the fixed-satellite (Earth-to-space), radionavigation, fixed and mobile except aeronautical mobile;]

d) that there is a demand for use on board aircraft, in order to provide location and two-way messaging functions, of the same type of terminals now used for land and maritime applications;

e) that such demand justifies the consideration of possible broadening of the allocation to include aeronautical applications at a future competent conference;

f) that studies on the feasibility of such a broadening of the allocation must be completed before the aforementioned competent conference, with the participation of ICAO and other relevant entities;

g) that Recommendation **34 (WRC-95)** states that future world radiocommunication conferences, whenever possible, should allocate frequency bands to the most broadly defined services with a view to providing maximum flexibility in spectrum use,

resolves

that [WRC-99] shall examine the possibility of broadening the secondary allocation to the mobile-satellite service (Earth-to-space) except aeronautical mobile-satellite in the 14.0 - 14.5 GHz band to include aeronautical use, subject to the satisfactory outcome of technical compatibility studies,

invites ITU-R

to complete in time for [WRC-99] the technical and operational studies on the feasibility of sharing of the band 14.0 - 14.5 GHz between the services referred to in *considering* c) above and the aeronautical mobile-satellite service, with the latter service on a secondary basis,

instructs the Director of BR

to invite the relevant organizations (e.g. ICAO) to participate in these studies.

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ARTICLE S4

NOC **S4.1 - S4.3**

MOD **S4.4** Administrations of the Members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations.

NOC **S4.5 - S4.22**

ARTICLE S7

NOC **S7.1 - S7.8**

ARTICLE S53

Order of Priority of Communications

MOD **S53.1** All stations in the maritime mobile service and the maritime mobile-satellite service shall be capable of offering four levels of priority in the following order:

1. Distress calls, distress messages, and distress traffic.
2. Urgency communications.
3. Safety communications.
4. Other communications.

SUP **S53.1.1**

SUP **S53.1.2**

ADD **S53.1A** In a fully automated system, where it is impracticable to offer all four levels of priority, category 1 shall receive priority until such time as intergovernmental agreements[1] remove exemptions granted for such systems from offering the complete order of priority.

ADD **S53.1A.1** [1] Requirements and performance standards for radio systems and equipment for maritime distress and safety radiocommunications are developed and adopted by the International Maritime Organization.

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APPENDIX S13*

Distress and Safety Communications (Non-GMDSS)

(see Article **S30**)

PART A

Part A1. General Provisions

MOD § 1. The provisions specified in this Appendix are obligatory (see Resolution **331 (Rev.WRC-97)**) in the maritime mobile service for stations using the frequencies and techniques prescribed in this Appendix and for communications between these stations and aircraft stations. However, stations of the maritime mobile service, when additionally fitted with any of the equipment used by stations operating in conformity with the provisions specified in Chapter **SVII** shall, when using that equipment, comply with the appropriate provisions of that Chapter. The provisions of this Appendix are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

NOC § 2. to § 8.

NOC § 9.

(MOD) *a)* until the full implementation of the global maritime distress and safety system (GMDSS), of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions[1] or, on the carrier frequency 4 125 kHz, transmitting and receiving J3E emissions or, on the frequency 156.8 MHz, transmitting and receiving class G3E emissions (see also Resolution **331 (Rev.WRC-97)**);

NOC § 9. *b)*

MOD § 10. All provisions of the Radio Regulations pertaining to the distress, urgency and safety communications using the techniques and frequencies described in this Appendix shall be maintained in force for all stations using these techniques and frequencies for distress, urgency and safety communications (see Resolution **331 (Rev.WRC-97)**).

Part A2. Frequencies for Distress and Safety

Section I. Availability of Frequencies

C. 2 182 kHz

MOD § 2. (1) The carrier frequency 2 182 kHz is an international distress frequency for radiotelephony (see also Nos. **S5.108** and **S5.111**); it shall be used for this purpose by ship, aircraft and survival craft stations and by emergency position-indicating radiobeacons using frequencies in the authorized bands between 1 605 kHz and 4 000 kHz when requesting assistance from the maritime services. It is used for distress calls and distress traffic, for signals of emergency position-indicating radiobeacons, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2 182 kHz. The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be J3E. The class of emission to be used by emergency position-indicating radiobeacons shall be as specified in Appendix **S19** (see also Part A5, paragraph 3). Distress traffic on 2 182 kHz following the reception of a distress call using digital selective calling should take into account that some shipping in the vicinity may not be able to receive this traffic (see also Appendix **S15** and Resolution **331 (Rev.WRC-97)**).

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Section II. Protection of Distress and Safety Frequencies

B. 500 kHz

MOD § 15. (1) Apart from the transmissions authorized on 500 kHz, and taking account of No. **S52.28**, all transmissions on the frequencies included between 495 kHz and 505 kHz are forbidden. Until 1 February 1999, this applies to frequencies between 490 kHz and 510 kHz.

Section III. Watch on Distress Frequencies

A. 500 kHz

(MOD) § 19. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz which employ Morse telegraphy shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at x h 15 and x h 45, Coordinated Universal Time (UTC), by an operator using headphones or loudspeaker (see also Resolution **331 (Rev.WRC-97)**).

NOC § 19. (2)

MOD *a)* transmissions shall cease in the band between 490 kHz and 510 kHz. From 1 February 1999, this band is reduced to the band between 495 kHz and 505 kHz;

ADD § 20A. The provisions of paragraphs 19 to 20 remain mandatory until 1 February 1999.

B. 2 182 kHz

MOD § 21. (1) Coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix on 2 182 kHz should, during their hours of service, maintain a watch on 2 182 kHz (see also Resolution **331 (Rev.WRC-97)**). Such watch should be indicated in the List of Coast Stations.

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MOD (2) These stations should maintain this watch by means of an operator using some aural method, such as headphones, split headphones or loudspeaker.

MOD (3) In addition, ship stations should keep the maximum watch practicable on the carrier frequency 2 182 kHz for receiving by any appropriate means the radiotelephone alarm signal described in Part A5, paragraph 6(1), and the navigational warning signal described in Part A5, paragraphs 12(1), (2) and (3), as well as distress, urgency and safety signals. (See also Resolution **331 (Rev.WRC-97)**.)

MOD § 22. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz (see also Resolution **331 (Rev.WRC-97)**).

MOD § 23. In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 1 605 kHz and 2 850 kHz using the techniques described in this Appendix for distress purposes, should during their hours of service, and as far as possible, take steps to keep watch on the international distress carrier frequency 2 182 kHz for three minutes twice each hour beginning at x h 00 and x h 30, Coordinated Universal Time (UTC) (see also Resolution **331 (Rev.WRC-97)**). Such watch, in the case of coast stations, should be indicated in the List of Coast Stations.

ADD § 23B The provisions of paragraphs 21 to 23A remain mandatory until 1 February 1999.

MOD *C. 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 kHz*

MOD § 24. (1) All coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes may, during their hours of service, maintain a watch on the carrier frequencies 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 kHz (see paragraphs 4(1) and 6 above, as well as Table **S15.1** of Appendix **S15**). Such watch should be indicated in the List of Coast Stations.

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D. 156.8 MHz

MOD § 25. (1) A coast station providing an international maritime mobile radiotelephone service in the band 156 - 174 MHz and which forms an essential part of the coverage of the area for distress purposes using the techniques and frequencies described in this Appendix should, during its working hours in that band, maintain an efficient aural watch on 156.8 MHz (see also Resolution **331 (Rev.WRC-97)** and Recommendation **306**). Such watch should be indicated in the List of Coast Stations.

MOD (2) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz, using the techniques and frequencies described in this Appendix. Ship stations fitted only with radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea (see also Resolution **331 (Rev.WRC-97)**).

MOD (3) Ship stations, when in communication with a port station, using the techniques and frequencies described in this Appendix may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch, on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station (see also Resolution **331 (Rev.WRC-97)**). Such watch by port stations should be indicated in the List of Coast Stations.

MOD (4) Ship stations, when in communication with a coast station in the ship movement service using the techniques and frequencies described in this Appendix, and subject to the agreement of the administrations concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided the watch on 156.8 MHz is being maintained by the coast station (see also Resolution **331 (Rev.WRC-97)**). Such watch by coast stations in the ship movement service should be indicated in the List of Coast Stations.

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MOD

RESOLUTION 339 (Rev.WRC-97)

COORDINATION OF NAVTEX SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the Voluntary Group of Experts (VGE) suggested that, in the interests of simplification, WRC-95 might decide that it is no longer necessary for ITU to continue frequency coordination of NAVTEX services in addition to the operational coordination undertaken by the International Maritime Organization (IMO);

b) that IMO has established a Coordinating Panel on NAVTEX to, *inter alia*, coordinate the operational aspects of NAVTEX services, such as allocation of transmitter identification character (B1) and time schedules, in the planning stages for transmissions on the frequencies 490 kHz, 518 kHz or 4 209.5 kHz;

c) that coordination in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz is essentially operational;

d) that Article **14A** of the Radio Regulations was deleted by WRC-95 with effect from 18 November 1995;

e) that the frequency band around 518 kHz is also allocated to the aeronautical radionavigation service on a primary basis;

f) that WRC-95 resolved in its Resolution **23 (WRC-95)** that, with effect from 18 November 1995, the Bureau shall not examine with respect to Nos. **1241** to **1245** of the Radio Regulations, and shall not apply the related provisions to, frequency assignment notices in the non-planned bands below 28 000 kHz,

resolves

to invite administrations to apply the procedures established by IMO, taking into account the IMO's NAVTEX Manual, for coordinating the use of the frequencies 490 kHz, 518 kHz and 4 209.5 kHz,

instructs the Secretary-General

1. to invite IMO to provide ITU with information on a regular basis on operational coordination for NAVTEX services on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz;

2. to publish this information in the List of Coast Stations (see **S20.7**).

SUP

ANNEX TO RESOLUTION 339 (WRC-95)

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MOD

kHz
315 – 495

Allocation to Services		
Region 1	Region 2	Region 3
315 – 325 AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) S5.73 S5.72 S5.75	**315 – 325** MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical Radionavigation	**315 – 325** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73
325 – 405 AERONAUTICAL RADIONAVIGATION S5.72	**325 – 335** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) **335 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
405 – 415 RADIONAVIGATION S576 S5.72	**405 – 415** RADIONAVIGATION S5.76 Aeronautical Mobile	
415 – 435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION S5.72 **435 – 495** MARITIME MOBILE S5.79 ADD S5.79A Aeronautical Radionavigation S5.72 S5.81 S5.82	**415 – 495** MARITIME MOBILE S5.79 ADD S5.79A Aeronautical Radionavigation S5.80 S5.77 S5.78 S5.81 S5.82	

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MOD

kHz
495 – 1 606.5

Allocation to Services		
Region 1	Region 2	Region 3
495 – 505	MOBILE (distress and calling) S5.83	
505 – 526.5 MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION S5.72 S5.81	**505 – 510** MARITIME MOBILE S5.79 S5.81	**505 – 526.5** MARITIME MOBILE S5.79 ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Land Mobile S5.81
	510 – 525 MOBILE ADD S5.79A S5.84 AERONAUTICAL RADIONAVIGATION	
526.5 – 1 606.5 BROADCASTING S5.87	**525 – 535** BROADCASTING S5.86 AERONAUTICAL RADIONAVIGATION	**526.5 – 535** BROADCASTING Mobile S5.88
	535 – 1 605 BROADCASTING	**535 – 1 606.5** BROADCASTING

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MOD

kHz
4 063 – 5 450

Allocation to Services		
Region 1	Region 2	Region 3
4 063 – 4 438	MARITIME MOBILE ADD S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 S5.128 S5.129	
4 438 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 – 4 650** FIXED MOBILE except aeronautical mobile
4 650 – 4 700	AERONAUTICAL MOBILE (R)	
4 700 – 4 750	AERONAUTICAL MOBILE (OR)	
4 750 – 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING S5.113	**4 750 – 4 850** FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113	**4 750 – 4 850** FIXED BROADCASTING S5.113 Land Mobile
4 850 – 4 995	FIXED LAND MOBILE BROADCASTING S5.113	
4 995 – 5 003	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	
5 003 – 5 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
5 005 – 5 060	FIXED BROADCASTING S5.113	
5 060 – 5 250	FIXED Mobile except aeronautical mobile S5.133	
5 250 – 5 450	FIXED MOBILE except aeronautical mobile	

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ADD S5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution **339 (Rev.WRC-97)**).

MOD S5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution **331 (Rev.WRC-97)**), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles **S31** and **S52**. In using the band 415 - 495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz.

MOD S5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **S31** and **S52** and in Appendix **S13**.

MOD S5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques.

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MOD

RECOMMENDATION 7 (Rev.WRC-97)

ADOPTION OF STANDARD FORMS FOR SHIP STATION AND SHIP EARTH STATION LICENCES AND AIRCRAFT STATION AND AIRCRAFT EARTH STATION LICENCES[1, 2]

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the standardization of the licence forms issued to stations installed on board ships and aircraft making international voyages and flights would greatly facilitate the task of inspection of such stations;

b) that standard licence forms for ship stations and for aircraft stations would serve as a useful guide to those administrations desiring to improve their existing national licences;

c) that standard licence forms could be advantageously used by these administrations as the form of certification specified in No. **S18.8** of the Radio Regulations,

considering further

that the Administrative Radio Conference (Geneva, 1959), formulated:

a) a set of principles for the draft of a standard licence form (see Annex 1);

b) specimens of a ship station licence and of an aircraft station licence (see Annexes 2 and 3),

considering also

changes in radio systems and shipborne radiocommunication equipment introduced in connection with the implementation of the Global Maritime Distress and Safety System (GMDSS),

recommends

1. that administrations which find these forms practicable and acceptable should adopt them for international use;

2. that administrations should, as far as possible, endeavour to bring their national licence forms into line with these standard forms.

---

[1] Replaces Recommendation 17 of the Administrative Radio Conference (Geneva, 1959).

[2] Throughout this Recommendation, references to ship stations may include references to ship earth stations and references to aircraft stations may include references to aircraft earth stations.

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MOD

ANNEX 1 TO RECOMMENDATION 7 (Rev.WRC-97)

Principles for the Formulation of Standard Ship and Aircraft Station Licences

The Administrative Radio Conference (Geneva, 1959), considered that, in formulating standard ship and aircraft station licences, the following set of principles should be applied:

1. The licence should, as far as possible, be prepared in tabular form, and each line and column of the table clearly numbered or lettered.

2. The licence for ship stations and the licences for aircraft stations should be as similar as possible.

3. The size of the licence should be international standard A4.

4. The licence should be designed in a form which facilitates its exhibition on board a ship or an aircraft.

5. The licence should be printed in Latin characters in the national language of the country which issues it. Those countries whose national language cannot be written in Latin characters should use their national language and, in addition, English, Spanish or French.

6. The title “Ship Station Licence” or “ Aircraft Station Licence” should appear at the top of the licence in the national language as well as in English, Spanish and French.

These principles were used in formulating the two standard forms which are given in Annexes 2 and 3.

BLUE PAGES

MOD

ANNEX 2 TO RECOMMENDATION 7 (Rev.WRC-97)
(Full name of the authority issuing the licence,
in the national language)
.....*

SHIP STATION LICENCE
LICENCE DE STATION DE NAVIRE
LICENCIA DE ESTACIÓN DE BARCO

No. .....

Period of validity .....

In accordance with *(Title of the National Regulation)* and with the Radio Regulations which complement the Constitution and the Convention of the International Telecommunication Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

1	2			3	4
Name of ship	Identification of the ship station			Holder of licence	Accounting authority identification code, or additional information including accounting information if required
	Call sign	MMSI	Other identification (optional)		

	Equipment			Type or description of equipment	Frequencies
5	Transmitters				**
6	Other equipment (optional)				

For the Issuing Authority:

.....

Place Date Authentication

* The words "Ship Station Licence" written in the national language, if this is not English, Spanish or French.

** Specifically or by reference to List V, columns 8 and 9.

BLUE PAGES

(MOD)

ANNEX 3 TO RECOMMENDATION 7 (Rev.WRC-97[1])

(Full name of the authority issuing the licence,
in the national language)
.....*

AIRCRAFT STATION LICENCE
LICENCE DE STATION D'AÉRONEF
LICENCIA DE ESTACIÓN DE AERONAVE

No. .....
Period of validity .....

In accordance with (*Title of the National Regulation*) and with the Radio Regulations which complement the Constitution and the Convention of the International Telecommunication Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

1	2	3	4
Nationality and registration mark of the aircraft	Call sign or other identification	Type of aircraft	Owner of aircraft

		a	b	c	d
	Equipment	Type	Power (watts)	Class of emission	Frequency bands or assigned frequencies
5	Transmitters				**
6	Survival craft transmitters (when applicable)				**
7	Other equipment	(Optional)			

For the Issuing Authority:

.....

Place Date Authentication

---

[1] Note by the Editorial Committee - Annex 3 to Recommendation 7 (Rev.WRC-97) was not considered by Committee 4. It is included here by Committee 6 with the editorial modifications as introduced by Committee 4 to Annex 2 to that Recommendation.

* The words "Aircraft Station Licence" written in the national language, if this is not English, Spanish or French.

** Specifically or by reference.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Addendum 1 to
Document 185 -E
7 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

REPORT BY THE CHAIRMAN OF WORKING GROUP 4B

THIRD REPORT FROM WORKING GROUP 4B TO COMMITTE 4

DRAFT NEW RESOLUTION [COM4-1]

RELATING TO THE NEED FOR ADDITIONAL SEARCH AND RESCUE INFORMATION IN DATABASES

The World Radiocommunication Conference (Geneva, 1997),

noting

a) that the provisions of No. **S20.16** of Article **S20** of the simplified Radio Regulations require administrations to notify the Radiocommunication Bureau of ship station characteristics contained in the List of Ship Stations (List V) which currently includes:

name of ship, call sign, selective call number, country, auxiliary installations, class of ship, nature of service, hours of service, telegraph transmission frequency bands, telephone transmission frequency bands, accounting authority and remarks (e.g. Inmarsat id, MMSI);

b) that the provisions of No. **S20.15**, however, give the Bureau authority to change the content and form of this information in consultation with administrations; and

c) that administrations and IMO have expressed a need for additional information to be included in search and rescue databases including:

– vessel identification number (IMO number or national registration number);
– name, address and telephone number and, if applicable, telefax number of emergency contact person ashore;
– alternative 24-hour emergency telephone number;
– capacity for persons on board (passengers and crew),

resolves

to instruct the Director of the Radiocommunication Bureau to begin consultations with administrations with a view to incorporate the information contained in the Annex into the ITU maritime services database,

invites

administrations to consider also the incorporation of that information into their national databases.

ANNEX TO RESOLUTION [COM4-1]

REGISTRATION DATABASE FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM[1]

(See Article **S32**)

1 All identities used by the GMDSS for identifying vessels in distress shall be registered in accordance with this Annex. Administrations or organizations responsible for assigning these identities shall make suitable arrangements for ensuring registrations of these identities are made and maintained. Administrations shall notify this information to the Radiocommunication Bureau in accordance with No. **S20.16**.

2 Means shall be provided by the Radiocommunication Bureau and administrations maintaining national databases to allow rescue coordination centres immediate access to this database on a 24-hour per day, 7-day per week basis.

3 Each registration database should include the following information:

1) vessel name;

2) Maritime Mobile Service Identity (MMSI);

3) radio call sign;

4) EPIRB identification code (if applicable);

5) country (vessel flag state; may be derived from MMSI and call sign);

6) vessel identification number (IMO number or national registration number);

7) brief ship description (type);

8) name, address, telephone and (if applicable) telefax number of emergency contact person ashore;

9) alternative 24-hour emergency telephone number;

10) capacity for persons on board (passengers and crew);

11) ship's radio installation (Inmarsat A, B, C, M, VHF DSC, etc.); and

12) Inmarsat ship earth station identities (if applicable).

INTERNATIONAL TELECOMMUNICATION UNION

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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

REPORT BY THE CHAIRMAN OF WORKING GROUP 4B

THIRD REPORT FROM WORKING GROUP 4B TO COMMITTE 4

DRAFT NEW RESOLUTION [COM 4-1]

RELATING TO THE NEED FOR ADDITIONAL SEARCH AND RESCUE INFORMATION IN DATABASES

The World Radiocommunication Conference (Geneva, 1997),

noting

a) that the provisions of No. **S20.16** of Article **S20** of the simplified Radio Regulations require administrations to notify the Radiocommunication Bureau of ship station characteristics contained in the List of Ship Stations (List V) which currently includes:

name of ship, call sign, selective call number, country, auxiliary installations, class of ship, nature of service, hours of service, telegraph transmission frequency bands, telephone transmission frequency bands, accounting authority and remarks (e.g. Inmarsat id, MMSI);

b) that the provisions of No. **S20.15**, however, give the Bureau authority to change the content and form of this information in consultation with administrations; and

c) that administrations and IMO have expressed a need for additional information to be included in search and rescue databases including:

– vessel identification number (IMO number or national registration number);
– name, address and telephone number and, if applicable, telefax number of emergency contact person ashore;
– alternative 24-hour emergency telephone number;
– capacity for persons on board (passengers and crew),

resolves

to instruct the Director of the Radiocommunication Bureau to begin consultations with administrations with a view to incorporate the information contained in the Annex into the ITU maritime services database,

invites

administrations to consider also the incorporation of that information into their national databases.

ANNEX TO RESOLUTION [COM 4-1]

Registration database for the global maritime distress and safety system[1]

(See Article **S32**)

1 All identities used by the GMDSS for identifying vessels in distress shall be registered in accordance with this Annex. Administrations or organizations responsible for assigning these identities shall make suitable arrangements for ensuring registrations of these identities are made and maintained. Administrations shall notify this information to the Radiocommunication Bureau in accordance with No. **S20.16**.

2 Means shall be provided by the Radiocommunication Bureau and administrations maintaining national databases to allow rescue coordination centres immediate access to this database on a 24-hour per day, 7-day per week basis.

3 Each registration database should include the following information:

1) vessel name;

2) Maritime Mobile Service Identity (MMSI);

3) radio call sign;

4) EPIRB identification code (if applicable);

5) country (vessel flag state; may be derived from MMSI and call sign);

6) vessel identification number (IMO number or national registration number);

7) brief ship description (type);

8) name, address, telephone and (if applicable) telefax number of emergency contact person ashore;

9) alternative 24-hour emergency telephone number;

10) capacity for persons on board (passengers and crew);

11) ship's radio installation (Inmarsat A, B, C, M, VHF DSC, etc.); and

12) Inmarsat ship earth station identities (if applicable).

[1] See MOD Nos. **S32.5A** and **S19.39**.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97 WORLD RADIOCOMMUNICATION CONFERENCE

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6 November 1997
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PLENARY MEETING
COMMITTEE 5

Greece

PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-97 AGENDA ITEM 1.9.1 - MSS ALLOCATION IN THE 1.5/1.6 GHz BANDS

1 The above-mentioned matter is under consideration by Committee 5 and its subgroups. A decision has been taken at subgroup level to change the current maritime allocations at 1 525 - 1 544 MHz and 1 626.5 - 1 645.5 MHz into part of a generic allocation in mobile satellite bands with safeguards for maritime safety-related communications to be provided in footnote S5.353A.

2 Greece wishes to state that it opposes the generic allocations in these bands for the reasons given in IMO and ICAO Documents 53 and 93 respectively.

3 If generic allocations are, nevertheless, to be made, it is imperative that this be done in a way that does not have any detrimental effects on the Global Maritime Distress and Safety System (GMDSS). The Conference is invited to note that the GMDSS has been designed as a complete system, the ship requirements being defined by the nine communication functions set out in the International Convention for Safety of Life at Sea (SOLAS) 1974, as amended and which all ships subject to that Convention must be capable of performing. Any attempt to divide the GMDSS into separate parts, for any reason, will risk undermining the effectiveness and endanger the lives of mariners.

4 For the above reasons, and in view of the short time remaining of the full implementation (1 February, 1999), Greece cannot accept the draft text of ADD S5.353A which has the potential to restrict, severely, the amount of spectrum allocated to the GMDSS during coordination and it limits the bandwidth in which priority would be given to safety-related traffic to the aforementioned severely restricted spectrum.

5 Greece proposes that if the generic allocation is decided upon, an amended draft text for ADD S5.353A should read as follows:

ADD S5.353A In applying the procedures of No. **S9.11A** to the mobile-satellite service in the bands 1 530 - 1 544 MHz and 1 626.5 - 1 645.5 MHz priority shall be given to accommodating the spectrum requirements of the Global Maritime Distress and Safety System (GMDSS). Mobile-satellite systems shall not cause unacceptable interference to, nor claim protection from distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD RADIOCOMMUNICATION CONFERENCE

Addendum 1 to Document 187-E
11 November 1997
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COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

SUMMARY OF ADDITIONAL DECISIONS BY COMMITTEE 4 IN RELATION TO THE PLANNING PARAMETERS AND RELATED ISSUES

At its fifth and sixth meetings, on 6 and 7 November 1997, respectively, Committee 4 took the following decisions[1] concerning the planning parameters and related issues with respect to Steps 1 and 2, as identified in Annex 2 to Document 56, which are urgently required by the BR (category 1A in Annex 2 to Document 56), so as to enable the commencement of the planning process in accordance with Resolution 531 (WRC-95). The numbering of decisions follows the numbering of paragraphs in Annex 2 to Document 56. Notwithstanding the remaining pending issues, it was also **decided** that the Bureau can proceed with planning based on these decisions and the decisions already taken at the fourth meeting of Committee 4 (see Document 187).

1.1 Technical parameters on which any Plan revision shall be based

1.1.1 Minimization of the number of Plan options or alternatives:

– concerning Step 1, it was **decided** to follow the "alternative Step 1 option";

– concerning Step 2, in view of decisions that were made earlier on the issues involved in the national preferences option it was **decided** to merge those decisions with the "Baseline Option" and proceed accordingly.

In adopting "Alternative Step 1", Committee 4 **noted** the following consequential implications:

- grouping of the downlink of Portugal with that of the Azores;
- changing the downlink channels of Azores, Portugal and Cape Verde;
- removing the orbital position 31º W from the orbital positions scenario;
- use of the new orbital position at 33.5º W and redistribution of the beams currently at 31º W to orbital positions 30º W and 33.5º W.

In this connection, Committee 4 **decided**:

1) to consider orbital position 33.5º W as an orbital position of the Plan;

2) to suppress orbital position 31º W as an orbital position of the Plan;

[1] No decision has yet been taken concerning item 1.2.1.

3) administrations having beams on 31º W are considered to have agreed to the distribution of their beams to orbital positions 30º W and 33.5º W;

4) to request the Bureau to inform the countries not present at this Conference on the Conference decisions in this matter.

Concerning the requests from KAZ and UKR, referred to in Documents 123(Add.1) and 167, respectively, in which they asked for additional channels to meet their needs, it was **decided** to do the planning on the basis of five channels and the Bureau will see if other channels could be accommodated afterwards.

1.1.8 Translation frequency for Steps 1 and 2: unless written agreement is provided, the Bureau will use the initial strapping frequencies. However, ARS and ISR have already agreed to the use of proposed restrapping. For BRU, the use of the suggested option is an imperative one.

1.1.10 The following option was selected for Hong Kong/China: channels 1, 5, 9 and 13 at orbital position 122º E. The delegation of LAO reserved its position in this respect.

1.2.3 Modifications of Step 2 orbital positions during the Conference: following the report from the representative of the Bureau that **agreement has been reached** between the administrations concerned, it was **decided** as follows: HRV, BIH and SVN will be located at orbital position 34° E, while The Former Yugoslav Republic of Macedonia will be located at 23° E (Case 1).

1.2.4.2 Concerning the changes to Step 1 assignments, it was **decided**:

a) With respect to the request of the State of Israel for a change of its orbital position (and channels) from 13º W to 4º W: no decision has been taken yet. The Bureau will use the initial orbital position. Should the concerned delegations agree to the change, the Bureau will carry out a possibly manual calculation and provide the results accordingly.

b) With respect to RADIOSAT-6 and RADIOSAT-7: as the notified assignments for these satellite networks relate only to the feeder links, the French Administration requested the Bureau to include the relevant assignments of these satellite networks in the planning studies with a dummy downlink of 0 Watts and provide the delegation of France with the compatibility results of EPM feeder links. However, the networks in question will not appear in the draft Plan. The delegations of LUX and the USA reserved their positions in this regard.

c) With respect to BIFROST-1 and BIFROST-2:

- BIFROST-1 will not be included in the list of the systems for which the coordination was completed with success (coordination with Sweden is still required);
- BIFROST-2: Based on the statement of the delegation of NOR that the e.i.r.p. value is reduced by 0.5 dB, this system will be included in the list of the systems for which the coordination was completed with success.

1.2.6 Application of a lapsing time for additions and modifications, currently specified in Sections 4.2.5 of Appendix 30A and 4.3.5 of Appendix 30 taking into account the date of bringing into use.

a) With respect to Europsat-1: It was **decided** that the following note will be added in the draft revision of the Plan: *"Pending clarification of the date of bringing into use of this satellite network"*.

b) With respect to the status of the entry for LUX-SAT at 19° W: as this network had been cancelled, the assignment in the initial Plan will be restored.

1.2.8 Double entries: It was **decided** to treat the assignments to the Russian Federation as follows:

a) Those assignments successfully coordinated under Article 4 of Appendices 30 and 30A for satellite networks RST-1, 2, 3 and 5 at orbital positions 36° E, 56° E, 86° E and 140° E respectively, shall be entered in Step 1 of the Plan and the lapsing time of eight years shall not be applied.

b) Those assignments of the Russian Federation, that are related to orbital position 110° E, shall be subjected to the principles used for "new countries". A shaped beam will be used for the uplink. For the downlink, the ellipse calculated by the BR software will be used. The following set of channels will be used, with an e.i.r.p. of 58.9 dBW:

- option 1: 26, 28, 30, 32 and 34
- option 2[2]: 23, 27, 31, 35 and 39.

1.2.9 Number of channels per beam: It was **decided** that the BR shall proceed with Steps 1 and 2 in accordance with the decisions already taken by Committee 4 and for new countries in Regions 1 and 3, on the basis of five channels and four channels, respectively, except where already decided otherwise.

In this connection, it was **decided** to create an ad hoc Group, chaired by Mr. R. Barton (Australia), which was charged to prepare two draft new resolutions. The first resolution will treat all issues of a possible replanning of Appendices 30 and 30A for Regions 1 and 3, based on the guidelines contained in Document DT/80, which were **endorsed in principle**, and the planning principles in Document 76 (see proposal ARS/.../SYR/76/24, Section 1), taking account also of Resolution 531 and *resolves* 2 of Resolution 524. The second resolution (similar in nature to Resolution 25 of WRC-95) will treat the question that for multinational and subregional systems agreement is required from all countries within the coverage area of the satellite before it is put into service. It was further **decided** to request WG PL1 to include in the agenda for WRC-99, an item concerning replanning in line with item 3 of Document DT/80.

Other technical matter not mentioned explicitly in Annex 2 of Document 56

B) Inclusion of an entry in the Plan for Palestine: In accordance with the agreement between the parties concerned, it was **decided** to use the symbol YYY00001 for the provisional beam at orbital position 11º E (channels 1, 5, 9, 13 and 17) intended for exclusive use by Palestine. The relevant test points and ellipse parameters are in accordance with those described in Document DT/57(Rev.1).

C) Consideration of assignments for future Members of the Union: Following the advice of the Legal Affairs Unit of the ITU, it was **decided not to include,** at this Conference, any assignments in the Plan for States that are not Members of the Union.

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[2] The delegation of RUS stated that it would prefer this (second) option.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
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4 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 4

Source: Documents 160, 160(Add.1)

NOTE BY THE CHAIRMAN OF COMMITTEE 4

SUMMARY OF DECISIONS BY COMMITTEE 4 IN RELATION TO THE PLANNING PARAMETERS AND RELATED ISSUES

At its fourth meeting, on 4 November 1997, Committee 4 took the following decisions[1] concerning the planning parameters and related issues with respect to Steps 1 and 2, as identified in Annex 2 to Document 56, which are urgently required by the BR (category 1A in Annex 2 to Document 56), so as to enable the commencement of the planning process in accordance with Resolution 531 (WRC-95). The numbering of decisions follows the numbering of paragraphs in Annex 2 to Document 56.

1.1 Technical parameters on which any Plan revision shall be based

1.1.2 Committee 4 **decided** to use the technical parameters of Recommendation 521 (WRC-95).

1.1.3 Committee 4 **decided** to use the test points and ellipse parameters for Step 2 countries as contained in Document 136, together with the additional points submitted by the delegation of People's Republic of China in Document 38(Add.1).

1.1.4 Committee 4 **decided** to use improved feeder-link parameters, as contained in Recommendations ITU-R BO.1295 and ITU-R BO.1296.

1.1.5 Fast roll-off antenna characteristics: it was **decided** to apply it when requested on a case by case basis.

1.1.6 Committee 4 **decided** not to use a general reduction in the uplink e.i.r.p. values.

1.1.7 Committee 4 **decided** to a reduction of 5 dB in the downlink beam e.i.r.p. values, except for type A assignments (see section 2.2 of Document 56).

1.1.8 Alternate frequency translations: Committee 4 **decided** that interested delegations listed in Tables 5 and 13 of Document 56 should contact the Bureau for action on this matter. No action will be taken if no request is made by the commencement of the planning process.

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[1] No decision was yet taken concerning the following items: 1.1.1, 1.2.1, 1.2.2, 1.2.4.2, 1.2.8 and 1.2.9.

1.1.9 Concerning the specific "national preferences" requests, the following was **decided**:

1.1.9.1 Request of the Federal Republic of Germany to match, as part of Step 2, the downlink and uplink parameters for the D2-21600 beam: **accepted**.

1.1.9.2 Request of the Russian Federation to use, as part of Step 2, shaped uplink antennas for its "new country" beams in Step 2 of the planning exercises: **accepted**.

It was further **decided** that, at any time after the Conference, any administration could submit to the Bureau a request to use a shaped beam for the feeder link provided that other assignments in the Plan are not affected by this change.

1.1.10 With respect to the beam requirements for Hong Kong/China, it was **decided** to have a separate beam covering Hong Kong.

1.2 Other considerations needed to define the situation of Steps 1 and 2

1.2.3 Modification of Step 2 orbital positions during the Conference: from amongst the two alternatives for the countries referred to in Cases 1 and 2, i.e.: BIH, HRV, MKD and SVN (pages 53 and 54 of Document 56), it was **decided** to accept Case 1 (BIH, HRV and SVN on orbital position 34.0° E; MKD on orbital position 23.0° E), **subject to confirmation by SVN**.

1.2.4 With respect to the priority of Plan entries of different types, the following was **decided**:

1.2.4.1 Relative priority of a Step 1 Plan entry resulting from the successful application of Article 4 and that of a Step 2 Plan entry: As this issue is linked to the cut-off date for receipt of information on successful coordination in accordance with Article 4 of Appendices 30 and 30A (3 November 1997, 2000 Geneva local time), it was **decided** that Article 4 submissions received for publication of Part B after the above-mentioned cut-off date which have successfully completed coordination procedure of the current Article 4 should have to protect the revised Plan.

1.2.5 With respect to the compatibility issues between some categories of networks and services during the preparation of the Plans, the following decisions were taken:

1.2.5.1 Two different entries in the revised Plan: It was **decided** to request the Bureau to carry out:

a) OEPM and single entry C/I compatibility analysis between the assignments in Step 1 (Step 1 vis-à-vis Step 1);

b) OEPM and single entry C/I compatibility analysis between the new assignments in Step 2 (Step 2 vis-à-vis Step 2);

c) OEPM and single entry C/I compatibility analysis between the new assignments in Step 2 with respect to the assignments in Step 1 as well as in the opposite direction.

1.2.5.2 Entries in the revised Plan and Region 2 BSS Plan: It was **decided** to request the Bureau to carry out a compatibility analysis between the assignments resulting from Steps 1 and 2 with respect to the assignments in the Region 2 BSS Plan as well as in the opposite direction, in accordance with "*resolves* 2" of Resolution 524 (WARC-92).

1.2.5.3 Entries in the revised Plan and other services: It was **decided** to request the Bureau to perform a compatibility analysis in both directions between the BSS assignments and other services to the extent that the required information is available to the Bureau.

1.2.6 Committee 4 **decided to accept** the replacement of Australia's orbital positions 128° E and 98° E by 152° E and 164° E as requested by that Administration provided that the latter orbital positions are regarded as the Plan orbital positions and thus eight years lapsing time would not be applied in their regard.

1.2.7 With respect to the requests for revisions to the current Plan not submitted through the Article 4 process, Committee 4 **decided** to apply the same compatibility assessment approaches which were used for the establishment of Step 2, in the following cases:

1.2.7.1 Committee 4 **accepted** the request of the Socialist Republic of Viet Nam to align downlink Plan entries with its feeder-link Plan entry and the use of a fast roll-off antenna (and if necessary an e.i.r.p. reduction) to minimize interference.

1.2.7.2 Committee 4 **accepted** the request of the Republic of Korea to modify two of its test points.

1.2.7.3 Committee 4 **accepted** the request of the Democratic People's Republic of Korea to modify its test points using the current ellipse and taking the relevant rain climatic zone resulting from application of ITU-R Recommendation P.837-1.

1.2.7.4 Committee 4 **noted** that there were no other cases related to test points, beam, and other parameters.

1.2.7.5 Committee 4 **accepted** the request of an additional channel for the eastern Malaysian Plan entry (beam MLA22800).

1.2.10 Number of channels to be assigned to the Federated States of Micronesia and the Republic of Palau: Committee 4 **decided** to assign five channels to each of the Federated States of Micronesia and the Republic of Palau in accordance with planning principle 2.1.2 of Annex 1 to Resolution 531 (WRC-95).

Other technical matter not mentioned explicitly in Annex 2 of Document 56

A) Protection ratios: Committee 4 **decided** to adopt the values contained in Recommendation ITU-R BO.1297.

B) Inclusion of an entry in the Plan for Palestine: The meeting **decided** to add an entry for Palestine in the Plan with a provisional symbol [*] pending agreement on a replacement of this symbol.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 188-E
5 November 1997
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GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

SECOND REPORT OF WORKING GROUP 5B TO COMMITTEE 5

The following proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

Frequency range	Regions
NOC 87 - 108 MHz	1, 2, 3
NOC 146 - 148 MHz	1, 2, 3
NOC 170 - 230 MHz	1, 2, 3
NOC 406.1 - 430 MHz	1, 2, 3
NOC 1 000 - 1 525 MHz	1, 2, 3

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

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COMMITTEE 5

Papua New Guinea

PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 1.9.1 - RESOLUTION 118: USE OF THE BANDS 18.8 - 19.3 GHz AND 28.6 - 29.1 GHz BY NGSO FSS SYSTEMS

Introduction

The 1995 World Radiocommunication Conference adopted Resolution 118 which identifies the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz for use by non-geostationary fixed-satellite services (NGSO FSS). At WRC-95, the upper 400 MHz of each of these bands was made available for immediate NGSO FSS use by waiving Radio Regulation 2613 (S22.2) and providing for the application of Resolution 46 coordination procedures. The remaining 100 MHz bands were held in reserve until WRC-97, pending the completion of technical studies, with action identified for that Conference that would designate their use for NGSO FSS.

PNG/189/1

The technical studies involving NGSO FSS systems requested in Resolution 118 have been performed by the ITU-R and the conclusions are recorded in the Report of the Conference Preparatory Meeting (CPM-97). Noting these results, Papua New Guinea shares the views of other administrations that in order to be competitive with other broadband systems, NGSO FSS systems need access to an adequate amount of spectrum. Therefore, Papua New Guinea supports the administrations proposing that in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz, Resolution 46 applies and S22.2 does not apply.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 4

SUMMARY RECORD

OF THE

FOURTH MEETING OF COMMITTEE 4

(REGULATORY AND ASSOCIATED ISSUES)

Tuesday, 4 November 1997 at 0930 hours

Chairman: Mr. E. GEORGE (Germany)

Subjects discussed		**Documents**
1	Oral progress reports from Working Group Chairmen	-
2	Planning parameters and related issues for use in the revision of Appendices 30 and 30A	97, 160+Add.1
3	First report from Working Group 4A	132
4	First and second reports from Working Group 4B	156, 162
5	Approval of the summary record of the first meeting of Committee 4	119

1 Oral progress reports from Working Group Chairmen

1.1 The **Chairman of Working Group 4A** said that the Group had held two meetings, at which it had considered Articles S13 and S14. The Group had been able to take decisions on some points, but others, involving the activities of other Working Groups, would have to be dealt with later. It had also been able to take decisions on different questions relating to Appendix S4 and had come to a satisfactory conclusion with regard to Resolution 71 (WRC-95) on identification of stations. As far as publication of the BR Weekly Circular was concerned, Working Group 4A had decided to ask BR to prepare a document, which it would consider at its next meeting. In addition, it had decided to defer consideration of Articles S9 and S11 and Appendix S5 pending the outcome of the work of the other Working Groups.

1.2 The **Chairman of Working Group 4B** said that the Group had discussed adaptive MF/HF systems under item 1.5 of the Conference agenda and had set up an ad hoc group to report to it on the matter at its next meeting. On the questions relating to certificates and licences, Working Group 4B had set up two ad hoc groups: the first had practically finished its work and would be submitting its conclusions at the next meeting of the Working Group, and the second would continue the consideration of items still pending. The questions that Working Group 4B still had to deal with were those relating to items 1.6.5 and 4 of the Conference agenda.

1.3 The **Chairman of Working Group 4C** said that the Group had held three meetings since its last report to the Committee. It was at present considering proposals by administrations in connection with Article S12; the procedures in that Article had been accepted in general, but some aspects of coordination had given rise to lengthy and laborious discussion. In order to make those aspects easier to understand, an ad hoc group had been asked to draft texts which would be included in a resolution indicating the activities involved in coordination and which would also specify the role of the Bureau in connection with Article S12. The Working Group had not yet started to discuss the question of advancing the date of the availability of the additional bands that WARC-92 had allocated to HF broadcasting, or the measures to be taken with regard to existing resolutions or recommendations under item 4 of the present Conference's agenda. Finally, he drew attention to the need to bear in mind the financial implications of any decision on HF broadcasting.

1.4 The **Chairman of Working Group 4D** said that the use of the planning parameters and principles in Recommendation 521 (WRC-95) had been approved and that the Committee would have to take a decision on the points raised in Document 160+Add.1 so that the Group could continue its work.

2 Planning parameters and related issues for use in the revision of Appendices 30 and 30A (Documents 97, 160+Add.1)

2.1 The **Chairman of Working Group 4D** noted that the planning principles derived from the parameters set forth in Annex 2 to Document 56, which had been prepared by the Radiocommunication Bureau, and that Working Group 4D had arrived, after lengthy discussions, at a number of conclusions, which were to be found in Document 160 and the Addendum thereto.

2.2 The **delegate of Egypt** said that his country had submitted planning proposals in Document 97. He hoped that Committee 4 would consider the first of those proposals, which was concerned with the protection of assignments communicated to the Bureau under Article 4 of Appendices 30 and 30A.

2.3 The **Chairman** reminded the meeting that the Committee had already fixed a cut-off date for the receipt of information on coordination and that under Resolution 531 (WRC-95), assignments subject to Article 4 procedures would be taken into account in Steps 1 and 2 of the planning exercises on condition that coordination had been successfully completed and that their entry into service had been confirmed to BR. He doubted whether the approach advocated in Document 97 could be followed.

2.4 The **delegate of Egypt** recognized that the Committee had indeed set a cut-off date, but pointed out that the discussion on planning principles was still going on in Working Group 4D, particularly with regard to requests for modifications under Article 4.

2.5 The **representative of BR** considered, like the Chairman, that a cut-off date had been set for assignments for which coordination had been completed and which had been notified to BR and that the Egyptian proposal could be taken up in Working Group 4D.

2.6 The **Chairman** observed that systems for which coordination had not been completed and whose entry into service had not been confirmed to the Bureau would naturally be taken into consideration in subsequent modifications of the Plan, but not at the present Conference.

2.7 The **delegate of Israel** pointed out that unless coordination had been completed, the Bureau could not know in relation to what parameters the protection of assignments was necessary.

2.8 The **delegate of the Lao People's Democratic Republic** argued that existing systems, such as the Egyptian one, which would enter into service in five months' time, ought to be included in the Plan.

2.9 The **Chairman** repeated that Resolution 531 specified the systems that were to be taken into account in planning exercises.

2.10 The **delegate of Lebanon** thought the Conference should take account of the Egyptian system.

2.11 The **delegate of Australia**, speaking on behalf of a number of countries in the Asia-Pacific Region, said that he was concerned at the possibility of having to consider all requests submitted to the Bureau for modifications under Article 4. The Egyptian network could only be taken into account on an exceptional basis, because, in particular, of the implications that the services of that Region 1 network had for Region 3.

2.12 The **delegate of the United Kingdom** argued that, since Working Group 4D had not yet considered the action to be taken in Step 3, the Egyptian proposal could be considered in connection with the discussions it would hold on the treatment of proposals under Article 4. As far as Egypt's satellite network was concerned, since coordination under Article 4 had not yet been completed, the system did not fall into the category to which the cut-off date set by Committee 4 applied. He suggested that the proposal should be given favourable consideration together with the other questions relating to Step 3.

2.13 The **delegate of the Lao People's Democratic Republic** supported the previous speaker, adding that other systems that were due to be brought into use shortly could also be considered together with the Egyptian system.

2.14 The **delegate of Russia** supported the United Kingdom delegate's suggestion, which would make it possible to have a detailed discussion on the procedures to be followed in future.

2.15 The **delegate of Syria** was in favour of including the Egyptian network in the Plan with other exceptional cases to be considered by Working Group 4D. He was supported by the **delegate of Yemen**.

2.16 The **delegate of Israel** supported the United Kingdom delegate's proposal, on the grounds that in pre-Conference work it had been decided that Steps 1 and 2 of the planning process would be considered first, before modifications under Article 4.

2.17 The **delegate of Egypt** said that in connection with the consideration during Step 3 of cases submitted under Article 4, the question of priorities was extremely important, because some modifications made to existing assignments during Step 1 were liable to affect systems on the point of being brought into use, like the Egyptian one. It would not be fair to ask those systems not to jeopardize the protection of networks which were the subject of proposals for modification.

2.18 Following a request for clarification from the **delegate of the Lao People's Democratic Republic**, the **Chairman** said that the Committee seemed to him to be willing to consider that an exception should be made for the Egyptian system, as a unique case, the consequences of which would be considered by Working Group 4D, without opening the door to other systems that might be in the process of coordination. The **delegate of the Lao People's Democratic Republic** argued that his country's LSTAR 3B-4B system could also be regarded as an exception and should therefore be considered. The **delegate of the United Kingdom** explained that his proposal had been to consider Step 3 as a whole, including the Egyptian system, but not closing the door completely to other systems. The **delegate of Australia** said he was very hesitant about the idea of including new systems in Step 2 of the procedure, for which other systems had priority; in his opinion, unless Working Group 4D had very good reasons for making an exception, for a unique case, the decision taken should be adhered to and the deadline maintained.

2.19 The **delegate of Morocco** questioned whether, in view of the number of modifications communicated to BR, they could be dealt with properly under the Article 4 procedure. She pointed out that the countries around the Mediterranean which were not on the list found themselves more or less denied the right to any modification of the Plan, on account of the "first come, first served" principle. That principle ran counter to the principle stated in Resolution 531 to the effect that the number of channels should be compatible with the economical development of systems, should not have harmful effects and should preserve the balance between regions.

2.20 The **Chairman** noted that for Australia and other delegations, the Egyptian system would be the only one to be included in Steps 1 and 2. If the Lao People's Democratic Republic wanted to be treated on an equal footing with Egypt, the result would in practice be to call in question the decision on the cut-off date, which had been adopted unanimously. He would urge participants not to follow that course, but simply to take a position on the Egyptian "exception".

2.21 The **delegates of India**, **Viet Nam** and **Algeria** supported the Australian position. The **delegate of Lebanon** was of the same opinion and proposed that Working Group 4D should be asked to review all the issues raised during the debate, the only recommendation being that the Egyptian system should be included in Steps 1 and 2.

2.22 The **delegate of the United Kingdom**, supported by the **delegates of France**, **the Netherlands** and **Sweden**, said that he was not against including the Egyptian system in Steps 1 and 2, but considered that Working Group 4D should consider all other systems in the same situation.

2.23 The **delegate of Russia** having asked which of the Egyptian systems mentioned in Document 90 would be transferred from Step 3 to the earlier steps, the **delegate of Egypt** said that the system in question was NILESAT-1S and that, contrary to what was said on page 25 of Document 90, the system had 18 channels, not 40. That correction had been communicated to BR.

2.24 The **delegate of the Lao People's Democratic Republic** reiterated the view that all existing systems with assignments included in the Plan on the basis of priority dates of receipt ought to be considered. The **Chairman** repeated that all those systems would in fact be considered in Step 3 of the procedure, but that the introduction of any systems other than the Egyptian one in Steps 1 and 2 would be tantamount to reopening the debate on the cut-off date.

2.25 The **representative of BR** reminded participants that, if the draft Plan had to be ready for 14 November, it would preferable for any decisions on satellite networks to be taken by 5 November at the latest.

2.26 Following an exchange of views, the **Chairman** suggested that Working Group 4D should consider, firstly, whether the Egyptian system or any other systems for which the coordination procedure was at an advanced stage should be included in Step 1, on an exceptional basis, and, secondly, whether, if that were done, BR would be able to complete its work by 14 November. He also suggested that the possibility of reconsidering the 3 November cut-off date should not be ruled out.

2.27 The **delegate of Australia**, supported by the **delegate of the United Kingdom**, was of the opinion that the cut-off date should as far as possible be kept to, since otherwise BR might not have time to do its work.

2.28 The **delegate of Luxembourg**, supported by the **Chairman of Working Group 4D**, added that Working Group 4D would find it very difficult to determine for which systems the coordination procedure could be considered to be at an advanced stage and that it was liable to get bogged down in endless discussions.

2.29 The **Chairman**, noting the difficulty of reconciling the different viewpoints, suggested that those concerned should hold informal consultations.

2.30 It was so **agreed**.

The meeting was suspended at 1100 hours and resumed at 1615 hours.

2.31 The **Chairman** suggested that once delegations wishing to speak had done so, the debate should be declared closed and the Committee should then take a decision on the Egyptian proposal.

2.32 The **delegate of Algeria** said he did not want to reopen the debate, but would point out that reservations had already been expressed with regard to the planning exercise, in particular by the Moroccan delegation.

2.33 The **delegate of the United Kingdom** reiterated his position, considering that the Committee should stick to its original decision concerning the cut-off date for the receipt of information as given in Document 151. The **delegate of Australia** supported the delegate of the United Kingdom and asked the Chairman to close the debate. The **delegates of Israel, Thailand, Japan, India** and the **Islamic Republic of Iran** associated themselves with the position taken by the United Kingdom delegate.

2.34 The **delegate of Egypt** said that the NILESAT-1S system was an exceptional case and ought to be protected in any planning decisions adopted by the Conference. The **delegates of Mauritania** and the **United Arab Emirates** supported the request by the delegation of Egypt.

2.35 The **Chairman** said that, there being no further speakers on his list, the discussion on the item was closed, and that he would put the Egyptian proposal to the vote.

2.36 The proposal was **rejected** by 32 votes to 11, with 12 abstentions.

2.37 The **delegate of the Lao People's Democratic Republic** explained that he had voted in favour of including the Egyptian system in Step 1 on the grounds that it was a "real system", and regretted the fact that the proposal had been rejected, adding that his Administration's LSTAR 3B-4B system came into the same category as the Egyptian one.

2.38 That statement was **noted**.

2.39 The **Chairman** proposed that the Committee should resume consideration of Document 160 point by point.

2.40 The **Chairman of Working Group 4D** said that §§ 1.1.1 and 1.1.3 were still pending, but that § 1.1.2 had been approved by the Working Group, with comments explaining the positions of three countries.

2.41 The **Chairman** urged Working Group 4D to find a solution quickly to the important and urgent problems covered by § 1.1.1.

2.42 §§ 1.1.2, 1.1.4, 1.1.5, 1.1.6, 1.1.9.1 and 1.1.9.2 were **approved**.

2.43 With reference to § 1.1.7, the **delegate of China** requested that type B assignments should also be excluded and not be the subject of a 5 dB reduction.

2.44 The **Chairman** and the **Chairman of Working Group 4D** referred him to § 2.2 of Document 56, which gave a definition of type B assignments.

2.45 The **representative of BR** explained that the Bureau had not had time to deal with type B assignments using the criteria specified in Appendices 30 and 30A. However, given the vagueness of the expression "as far as possible" in § 5.4 of Resolution 531 (WRC-95) under "Step 1", he wondered whether it would not be possible for assignments which had been notified to be processed with the criteria specified in Appendices 30 and 30A.

2.46 The **delegate of China** said that the expression "as far as possible" was not tantamount to saying that the existing parameters would not be used and that he was in favour of a planning exercise to determine whether they could be.

2.47 That request was **noted**.

2.48 With reference to § 1.1.8, the **representative of BR** said that it would be necessary for the administrations concerned to contact the Bureau to confirm that they were in agreement with the suggestion made. Regarding § 1.1.10, he said that for the beam which would serve Hong Kong, the delegation of China had accepted the orbital position 122° E and channels 1, 5, 9 and 13.

2.49 The **delegate of the Lao People's Democratic Republic** said that his delegation would have to study the technical parameters proposed for Hong Kong before any final decision was taken on channels 1, 5, 9 and 13 at 122° E.

2.50 That comment was **noted** and § 1.1.10 was **approved**. § 1.2.1 was also **noted**.

2.51 Paragraph A of the section entitled "Other technical matter" was **approved**.

2.52 With regard to paragraph B of that section, the **Chairman of Working Group 4D** stated that according to the latest information he had received, the ad hoc Group had reached an agreement on the technical parameters to be included in the new entry in the Plan for Palestine. The **delegate of Israel** proposed that the new entry should continue to be marked with the provisional symbol [*] until the ad hoc Group had completed its discussions on the subject.

2.53 The Chairman concluded that the question of the provisional symbol in paragraph B of the section was to be left pending and declared consideration of Document 160 closed. He invited the Committee to take a decision on Addendum 1 to Document 160 point by point.

2.54 Concerning § 1.2.3, the **representative of BR** said that after a meeting of the four countries concerned, the **delegates of Croatia, The Former Yugoslav Republic of Macedonia** and **Bosnia and Herzegovina** had told him informally that an agreement had been reached on the first case considered in Document 56, § 3.12, i.e. for the allocation of the orbital position 34.0° E to Bosnia and Herzegovina, Croatia and Slovenia and 23.0° E to The Former Yugoslav Republic of Macedonia. The **Chairman**, noting that the delegate of Slovenia was not present, concluded that the item should remain pending until that agreement had been confirmed by the delegation of Slovenia.

2.55 §§ 1.2.4.1, 1.2.5 and 1.2.5.1, 1.2.5.3, 1.2.6, 1.2.7 and 1.2.7.1, 1.2.7.2, 1.2.7.3 and 1.2.10 were **approved**.

2.56 With regard to § 1.2.4.2, the **Chairman** observed that the question had been referred to ad hoc Group 2 for further investigation and thus remained pending.

2.57 Concerning § 1.2.5.2, the **delegate of Canada**, supported by the **delegate of Brazil**, proposed that, in order to make the position quite clear, the words "in accordance with the provisions of paragraph 2 of the *resolves* in Resolution 524" should be added at the end. Noting that there were no objections, the **Chairman** concluded that § 1.2.5.2 was approved.

2.58 On the subject of § 1.2.7.4, the **Chairman** asked the Committee to take note of the fact that no other case concerning test points, beams or other parameters had been raised.

2.59 With regard to § 1.2.7.5, the **representative of BR** said that in order to meet the request for an additional channel for the eastern Malaysian beam, it was channel 10 that had been chosen for inclusion in the planning exercise, with an e.i.r.p. of 58.7 dBW, the value of the nearest channel entered in the Plan. With that information, § 1.2.7.5 was **approved**.

2.60 Concerning §§ 1.2.8 and 1.2.9, the **Chairman** pointed out that Working Group 4D still had to take a decision on the questions at issue. On § 1.1.3, it had been decided by Working Group 4D to postpone the subject, which was also mentioned in § 1.1.3 of Document 160, until Circular-letter CR/76 was available as a Conference document and administrations had been asked to contact the Bureau for any comments on their entries. The **Chairman of Working Group 4D** explained that, after considering that Circular-letter, published in Document 136, the Working Group had in fact agreed to the test point and ellipse data specified therein and to the additional test points submitted by the Administration of China.

2.61 The **delegate of China** stated, with reference to the appendices to the Circular-letter, that his Administration had drawn the Bureau's attention to the fact that the beam proposed by the Russian Federation covered part of its territory and that its coverage area was excessive and contrary to the Radio Regulations. The **representative of BR** pointed out that the Bureau had duly reported that communication on page 44 of Document 56; the proposed downlink had been

mentioned in Circular-letter CR/76, in the absence of any comments in Working Group 4D. The **delegate of Russia** expressed surprise at the statement by the delegate of China, in view of the fact that the beam in question was based on test points chosen on Russian territory and that, like any beam, it was bound to spill over into adjacent areas. The **Chairman** invited the delegate of China and the delegate of Russia to continue the discussion outside the meeting and proposed that, if necessary, the matter could be referred to Working Group 4D.

2.62 It was so **agreed**.

2.63 § 1.1.3 of Document 160 was **approved**.

3 First report from Working Group 4A (Document 132)

3.1 The **Chairman of Working Group 4A** introduced Document 132, concerning the texts of Articles S4 and S7 of the Simplified Radio Regulations. It had not been found necessary to modify the Articles except for an amendment to Article S4.4 to make it clearer.

3.2 Document 132 was **approved**.

4 First and second reports from Working Group 4B (Documents 156, 162)

4.1 The **Chairman of Working Group 4B** introduced Document 156, the first report from Working Group 4B, which was concerned with Article S53 and Appendix S13 of the Simplified Radio Regulations and the question of the transfer of the coordination of operational aspects of NAVTEX services from ITU to IMO (Resolution 339 (WRC-95) and Article S5). He drew attention to some drafting changes to be made to the texts submitted in the document under consideration. In addition, in Part A2, section II, the last sentence of **MOD** § 15 (1) should be replaced by the following: "Until 1 February 1999, this frequency band in the band between 490 and 510 kHz". In Resolution 339, paragraph e), the words "frequency band 510 - 525 kHz" should be replaced by "frequency band near 518 kHz".

4.2 The texts submitted in Document 156 were **approved** with the modifications mentioned.

4.3 The **Chairman of Working Group 4B** introduced the second report from the Working Group (Document 162), which was concerned with Article S19 of the Simplified Radio Regulations and Recommendation 7 (Rev.Mob-87). He read out some drafting changes, which were **noted**.

4.4 The **Chairman** added that the beginning of the first paragraph of Annex 2 to Recommendation 7 should read as follows: "In accordance with … and with the Radio Regulations which complement the Constitution and the Convention of the International Telecommunication Union …" for the sake of consistency with No. 31 of the Constitution (Geneva, 1992).

4.5 With the editorial changes proposed orally, Document 162 was **approved**.

5 Approval of the summary record of the first meeting of Committee 4 (Document 119)

5.1 Document 119 was **approved**.

The meeting rose at 1740 hours.

The Secretary:
T. GAVRILOV

The Chairman:
E. GEORGE

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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COMMITTEE 6

SECOND SERIES OF TEXTS SUBMITTED BY COMMITTEE 5
TO THE EDITORIAL COMMITTEE

Committee 5 has concluded its consideration of revisions to Appendix 8 (S3) under agenda item 1.7 of the Conference. It has unanimously adopted that attached text that is submitted for your consideration with a view to its subsequent submission to the Plenary.

V. RAWAT
Chairman of Committee 5

Annex: 1

ANNEX

APPENDIX S3

Table Of Maximum Permitted Spurious Emission Power Levels

(See Article **S3**)

1. The following ~~table~~sections indicate~~s~~ the maximum permitted levels of spurious emissions, ~~in terms of the mean power level~~in terms of power as indicated in the tables, of any spurious component supplied by a transmitter to the antenna transmission line. Section 1 is applicable until 1 January 2012 to transmitters installed on or before 1 January 2003; Section 2 is applicable to transmitters installed after 1 January 2003 and to all transmitters after 1 January 2012. This Appendix does not cover out-of-band emissions. Out-of-band emissions are dealt with in provision S4.5 of the Radio Regulations.

2. Spurious emission from any part of the installation other than the antenna and its transmission line shall not have an effect greater than would occur if this antenna system were supplied with the maximum permitted power at that spurious emission frequency.

3. These levels shall not, however, apply to emergency position-indicating radiobeacon (EPIRB) stations, emergency locator transmitters, ships' emergency transmitters, lifeboat transmitters, survival craft stations or maritime transmitters when used in emergency situations.

4. For technical or operational reasons, ~~specific services may demand~~ more stringent levels than those specified ~~in the table~~may be applied to protect specific services in certain frequency bands. The levels applied to protect these services, such as safety and passive services, shall be those agreed upon by the appropriate world radiocommunication conference. More stringent levels may also be fixed by specific agreement between the administrations concerned. Additionally, special consideration of transmitter spurious emissions may be required for the protection of safety services, radio astronomy and space services using passive sensors. Information on the levels of interference detrimental to radio astronomy earth exploration satellites and meteorological passive sensing is given in the most recent version of ITU-R Recommendation SM.329.

5. ~~For radiodetermination stations, until acceptable methods of measurement exist, the lowest practicable power of spurious emission should be achieved.~~Spurious emission limits for combined radiocommunication and information technology equipment are those for the radiocommunications transmitters.

Section I. Spurious Emission Limits for Transmitters Installed on or before 1 January 2003 (valid until 1 January 2012)

6. The measurement methods for radar systems should be guided by Recommendation ITU-R M.1177. For those radar systems for which acceptable methods of measurement do not exist, the lowest practicable power of spurious emission should be achieved.

TABLE I

Attenuation values and absolute mean power levels used to calculate maximum permitted spurious emission power levels for use with radio equipment

Frequency Band Containing the Assignment (lower limit exclusive, upper limit inclusive)	For any spurious component the attenuation (mean power within the necessary bandwidth relative to the mean power of the spurious component concerned) shall be at least that specified below and the absolute mean power levels given shall not be exceeded (Note 1)
	~~Levels applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1994~~
9 kHz to 30 MHz	40 decibels 50 milliwatts (Notes ~~4~~2, ~~7~~3 and ~~8~~4)
30 MHz to 235 MHz	
- mean power above 25 watts	60 decibels 1 milliwatts (Note ~~9~~5)
- mean power 25 watts or less	40 decibels 25 microwatts
235 MHz to 960 MHz	
- mean power above 25 watts	60 decibels 20 milliwatts (Notes ~~10~~6 and ~~11~~7)
- mean power 25 watts or less	40 decibels 25 microwatts (Notes ~~10~~6, ~~11~~7)
960 MHz to 17.7 GHz	
- mean power above 10 watts	50 decibels 100 milliwatts (Notes ~~10~~6, ~~11~~7, ~~12~~8 and ~~13~~9)
- mean power 10 watts or less	100 microwatts (Notes ~~10~~6, ~~11~~7, ~~12~~8 and ~~13~~9)
Above 17.7 GHz	~~Due to the diverse nature of technologies employed by services operating above 17.7 GHz, further study by the ITU-R is required prior to the specification of levels. To the extent possible, the values to be observed should be those shown in appropriate ITU-R Recommendations. Until suitable Recommendations have been adopted, t~~The lowest possible values achievable shall be employed (see Recommendation **66 (Rev.WRC-[97])**).

Notes in ~~the~~ Table I ~~of Maximum Permitted Spurious Emission Power Levels~~

1) When checking compliance with the provisions of the table, it shall be verified that the bandwidth of the measuring equipment is sufficiently wide to accept all significant components of the spurious emission concerned.

~~2) For transmitters of mean power exceeding 50 kilowatts and which operate below 30 MHz over a frequency range approaching an octave or more, a reduction below 50 milliwatts is not mandatory, but a minimum attenuation of 60 decibels shall be provided and every effort should be made to comply with the level of 50 milliwatts.~~

~~3) For hand-portable equipment of mean power less than 5 watts which operates below 30 MHz, the attenuation shall be at least 30 decibels, but every effort should be made to attain 40 decibels attenuation.~~

~~4~~2) For mobile transmitters which operate below 30 MHz any spurious component shall have an attenuation of at least 40 decibels without exceeding the value of 200 milliwatts, but every effort should be made to comply with the level of 50 milliwatts wherever practicable.

~~5) For frequency modulated maritime mobile radiotelephone equipment which operates above 30 MHz, the mean power of any spurious emission falling in any other international maritime mobile channel, due to products of modulation, shall not exceed a level of 10 microwatts and the mean power of any other spurious emission on any discrete frequency within the international maritime mobile band shall not exceed a level of 2.5 microwatts. Where, exceptionally, transmitters of mean power above 20 watts are employed, these levels may be increased in proportion to the mean power of the transmitter.~~

~~6) For transmitters having a mean power of less than 100 milliwatts, it is not mandatory to comply with an attenuation of 40 decibels provided that the mean power level does not exceed 10 microwatts.~~

~~7~~3) For transmitters of a mean power exceeding 50 kilowatts which can operate on two or more frequencies covering a frequency range approaching an octave or more, while a reduction below 50 milliwatts is not mandatory, a minimum attenuation of 60 decibels shall be provided.

~~8~~4) For hand-portable equipment of mean power less than 5 watts, the attenuation shall be 30 decibels, but every practicable effort should be made to attain 40 decibels attenuation.

~~9~~5) Administrations may adopt a level of 10 milliwatts provided that harmful interference is not caused.

~~10~~6) Where several transmitters feed a common antenna or closely spaced antennae on neighbouring frequencies, every practicable effort should be made to comply with the levels specified.

~~11~~7) Since these levels may not provide adequate protection for receiving stations in the radio astronomy and space services, more stringent levels might be considered in each individual case in the light of the geographical position of the stations concerned.

~~12~~8) These levels are not applicable to systems using digital modulation techniques, but may be used as a guide. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation **66 (Rev.WRC-[97])**).

[~~13~~9]) These levels are not applicable to stations in the space services, but the levels of their spurious emissions should be reduced to the lowest possible values compatible with the technical and economic constraints to which the equipment is subject. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation **66 (Rev.WRC-[97])**).

Section II. Spurious Emission Limits for Transmitters Installed after 1 January 2003 and for all transmitters after 1 January 2012

Application of these Limits

7. The frequency range of the measurement of spurious emissions is from 9 kHz to 110 GHz or the second harmonic if higher.

8. Guidance regarding the methods of measuring spurious emissions is given in the most recent version of Recommendation ITU-R SM.329. The e.i.r.p. method specified in that Recommendation should be used when it is not possible to measure the power supplied to the antenna transmission line. Additionally, the e.i.r.p. method may need some modification for special cases, e.g. beam forming radars.

9. Guidance regarding the methods of measuring spurious emissions from radar systems is given in the most recent version of Recommendation ITU-R M.1177. The reference bandwidths required for proper measurement of radar spurious emissions should be calculated for each particular radar system. Thus, for the three general types of radar pulse modulation utilized for radionavigation, radiolocation, acquisition, tracking and other radiodetermination functions, the reference bandwidth values should be:

– for fixed frequency or non-pulse-coded radar, one over the radar pulse length, in seconds (e.g. if the radar pulse length is 1 microsecond, then the reference bandwidth is 1/1µs = 1 MHz);
– for fixed frequency, phase coded pulsed radar, one over the phase chip length, in seconds (e.g. if the phase coded chip is 2 microseconds long, then the reference bandwidth is 1/2µs = 500 kHz);
– for Frequency Modulated (FM) or chirped radar, the square root of the quantity obtained by dividing the radar bandwidth in MHz by the pulse length, in seconds (e.g. if the FM is from 1 250 to 1 280 MHz or 30 MHz during the pulse of 10 microseconds, then the reference bandwidth is $(30\ \text{MHz}/10\mu\text{s})^{1/2} = 1.73$ MHz).

For those radar systems for which acceptable methods of measurement do not exist, the lowest practicable power of spurious emission should be achieved.

10. The spurious emission levels are specified in the following reference bandwidths:

– 1 kHz between 9 and 150 kHz
– 10 kHz between 150 kHz and 30 MHz
– 100 kHz between 30 MHz and 1 GHz
– 1 MHz above 1 GHz

As a special case, the reference bandwidth of all space service spurious emissions should be 4 kHz.

11. For the purpose of setting limits, all emissions, including harmonic emissions, intermodulation products, frequency conversion products and parasitic emissions, which fall at frequencies separated from the centre frequency of the emission by ±250% or more of the necessary bandwidth of the emission will generally be considered as spurious emissions. However, this frequency separation may be dependent on the type of modulation used, the maximum bit rate in the case of digital modulation, the type of transmitter, and frequency coordination factors. For example, in the case of digital (including digital broadcasting) modulation systems, broadband systems, pulsed modulation systems and narrow-band high power transmitters, the frequency separation may need to differ from the ±250% factor. For multichannel or multicarrier transmitters/transponders, where several carriers may be transmitted simultaneously from a final output amplifier or an active antenna, the centre frequency of the emission is taken to be the centre of the -3 dB bandwidth of the transmitter or transponder.

12. Examples of applying 43 + 10log(P) to calculate attenuation requirements

Where specified in relation to mean power, spurious emissions are to be at least x dB down from the total mean power P, i.e. -x dBc. The power P (in Watts) is to be measured in a bandwidth wide enough to include the total mean power. The spurious emissions are to be measured in the reference bandwidths given in the Recommendation. The measurement of the spurious emission power is independent of the value of necessary bandwidth. Because the absolute emission power limit, derived from 43 + 10log(P), can become too stringent for high power transmitters, alternative relative powers are also provided in Table II.

Example 1

A land mobile transmitter, with any value of necessary bandwidth, must meet a spurious emission attenuation of 43 + 10log(P), or 70 dBc, whichever is less stringent. To measure spurious emissions in the frequency range between 30 and 1 000 MHz, Recommendation ITU-R **SM.329-7** *recommends* 4.1 indicates the use of a reference bandwidth of 100 kHz. For other frequency ranges, the measurement must use the appropriate reference bandwidths given in *recommends* 4.1.

With a measured total mean power of 10 Watts:

– Attenuation relative to total mean power = 43 + 10log(10) = 53 dB.
– The 53 dBc is less stringent than 70 dBc, so the 53 dBc value is used.
– Therefore: Spurious emissions must not exceed 53 dBc in a 100 kHz bandwidth, or converting to an absolute level, spurious emissions must not exceed 10 dBW - 53 dBc = -43 dBW in a 100 kHz reference bandwidth.

With a measured total mean power of 1 000 Watts:

– Attenuation relative to total mean power = 43 + 10log(1 000) = 73 dB.
– The 73 dBc is more stringent than 70 dBc limit, so the 70 dBc value is used.
– Therefore: Spurious emissions must not exceed 70 dBc in a 100 kHz bandwidth, or converting to an absolute level, spurious emissions must not exceed 30 dBW - 70 dBc = -40 dBW in a 100 kHz reference bandwidth.

Example 2

A space services transmitter, with any value of necessary bandwidth, must meet a spurious emission attenuation of 43 + 10log(P), or 60 dBc, whichever is less stringent. To measure spurious emissions at any frequency, Note 1 of Table II indicates using a reference bandwidth of 4 kHz.

With a measured total mean power of 20 Watts:

– Attenuation relative to total mean power = 43 + 10log(20) = 56 dB.

– The 56 dBc is less stringent than the 60 dBc limit, so the 56 dBc value is used.

– Therefore: Spurious emissions must not exceed 56 dBc in a 4 kHz reference bandwidth, or converting to an absolute level, spurious emissions must not exceed 13 dBW - 56 dBc = -43 dBW in a 4 kHz reference bandwidth.

TABLE II

Attenuation values used to calculate maximum permitted spurious emission power levels for use with radio equipment

Service category in accordance with Article **S1**, or equipment type (Note 15)	Attenuation (dB) below the power supplied to the antenna transmission line
All services except those services quoted below:	43 + 10 log(P), or 70 dBc, whichever is less stringent
Space services (earth stations) (Notes 10 and 14)	43 + 10 log(P), or 60 dBc, whichever is less stringent
Space services (space stations) (Notes 10 and 14)	43 + 10 log(P), or 60 dBc, whichever is less stringent
Radiodetermination	43 + 10 log(PEP), or 60 dB, whichever is less stringent
Broadcast television (Note 11)	46 + 10 log(P), or 60 dB, whichever is less stringent, without exceeding the absolute mean power level of 1 mW for VHF stations or 12 mW for UHF stations. However greater attenuation may be necessary on a case by case basis.
Broadcast FM	46 + 10 log(P), or 70 dBc, whichever is less stringent; the absolute mean power level of 1 mW should not be exceeded
Broadcasting at MF/HF	50 dBc and the absolute mean power level of 50 mW should not be exceeded
SSB from mobile stations (Note 12)	43 dB below PEP
Amateur services operating below 30 MHz (including with SSB) (Note 12)	43 + 10 log(PEP), or 50 dB, whichever is less stringent

Service category in accordance with Article **S1**, or equipment type (Note 15)	Attenuation (dB) below the power supplied to the antenna transmission line
Services operating below 30 MHz, except space, radiodetermination, broadcast, those using SSB from mobile stations, and amateur (Note 12)	43 + 10 log(X), or 60 dBc, whichever is less stringent, where X = PEP for SSB modulation, and X = P for other modulation
Low power device radio equipment (Note 13)	56 + 10 log(P) or 40 dBc, whichever is less stringent
Emergency position-indicating radio beacon, Emergency locator transmitter, Personal location beacon, Search and rescue transponder, Ship emergency, lifeboat, and survival craft transmitters; and Land, aeronautical or maritime transmitters when used in emergency	No limit

P: mean power in Watts at the antenna transmission line, in accordance with No. **S1.158**. When burst transmission is used, the mean power P and the mean power of any spurious emissions are measured using power averaging over the burst duration.

PEP: peak envelope power in Watts at the antenna transmission line, in accordance with No. **S1.157**.

dBc: decibels relative to the unmodulated carrier power of the emission. In the cases which do not have a carrier, for example in some digital modulation schemes where the carrier is not accessible for measurement, the reference level equivalent to dBc is decibels relative to the mean power P.

Notes in Table II

[10)] Spurious emission limits for all space services is stated in a 4 kHz reference bandwidth.

[11)] For analogue television transmissions, the mean power level is defined with a specified video signal modulation. This video signal has to be chosen in such a way that the maximum mean power level (e.g., at the video signal blanking level for negatively modulated television systems) is provided to the antenna transmission line.

[12)] All classes of emission using SSB are included in the category "SSB".

[13)] Low power radio devices having a maximum output power of less then 100 mW and intended for short range communication or control purposes; Such equipment is in general exempt from individual licensing.

[14] These values are "design objectives". If not decided otherwise by WRC-99, this note will not be applicable after 31 December 1999.

[15] In some cases of digital modulation (including digital broadcasting), broadband systems, pulsed modulation and narrow-band high power transmitters for all categories of services, there may be difficulties in meeting limits close to ±250% of the necessary bandwidth.

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COMMITTEE 4

AFRICAN COMMON PROPOSALS FOR THE WORK OF THE CONFERENCE

Please replace Part 2 as follows:

PART 2

Submitted by the following administrations

Algeria (People's Democratic Republic of), Benin (Republic of), Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Côte d'lvoire (Republic of), Egypt (Arab Republic of), Ethiopia (Federal Democratic Republic of), Gabonese Republic, Ghana, Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Tanzania (United Republic of), Chad (Republic of), Togolese Republic, Zimbabwe (Republic of)

HFBC (SSB)

AFR/192/2

Regarding the calendar for the introduction of SSB, African countries noted that despite several years of consideration of this matter, SSB transmissions are not extensively used. Moreover, there are indications that other types of transmission may probably develop more rapidly. Consequently, the African countries are of the view that a more flexible approach for the phasing in of SSB should be adopted instead of a rigid calendar. Such a system may consist of leaving it to the coordination meetings, with the assistance of the Bureau, to identify those parts of the HF bands to be used mainly for DSB, SSB or digital systems. Nevertheless, this approach should allow DSB to continue up to 2015. These parts will be modified as needed, to take account of the actual requirements of developing and developed countries.

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COMMITTEE 4
COMMITTEE 5

AFRICAN COMMON PROPOSALS FOR THE WORK OF THE CONFERENCE

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PART 1

Submitted by the following administrations

Algeria (People's Democratic Republic of), Benin (Republic of), Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Côte d'lvoire (Republic of), Egypt (Arab Republic of), Ethiopia (Federal Democratic Republic of), Gabonese Republic, Ghana, Guinea (Republic of), Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Tanzania (United Republic of), Chad (Republic of), Togolese Republic, Zambia (Republic of), Zimbabwe (Republic of)

HFBC (Planning)

AFR/192/1

The African delegations to this Conference, considering the importance of HFBC, which is still used by some of them for provision of national coverage, accept the planning system as contained in the CPM Report.

Their acceptance of the Report is based on the following assumptions:

- the HFBC system remains a seasonal planning system;
- the seasonal planning currently carried out by the Bureau, will, in future, be carried out by the Member States and their broadcasters in coordination meetings;
- the Bureau shall be given the task to participate in these meetings to ensure adequate protection to the requirements of those developing countries not present at the meeting;
- regional coordination meetings should be encouraged;
- the planning shall be limited to the HF bands exclusively allocated to the broadcasting service;
- the Bureau will develop and provide standard software to be used in the coordination procedure.

PART 2

Submitted by the following administrations

Algeria (People's Democratic Republic of), Benin (Republic of), Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Côte d'lvoire (Republic of), Egypt (Arab Republic of), Ethiopia (Federal Democratic Republic of), Gabonese Republic, Ghana, Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Tanzania (United Republic of), Chad (Republic of), Togolese Republic, Zimbabwe (Republic of)

HFBC (SSB)

AFR/192/2

Regarding the calendar for the introduction of SSB, African countries noted that despite several years of consideration of this matter, SSB transmissions are not extensively used. Moreover, there are indications that other types of transmission may probably develop more rapidly. Consequently, the African countries are of the view that a more flexible approach for the phasing in of SSB should be adopted instead of a rigid calendar. Such a system may consist of leaving it to the coordination meetings, with the assistance of the Bureau, to identify those parts of the HF bands to be used mainly for DSB, SSB or digital systems. Nevertheless, this approach should allow DSB to continue beyond 2015. These parts will be modified as needed, to take account of the actual requirements of developing and developed countries.

PART 3

Submitted by the following administrations

Algeria (People's Democratic Republic of), Benin (Republic of), Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Gabonese Republic, Ghana, Guinea (Republic of), Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Tanzania (United Republic of), Chad (Republic of), Togolese Republic, Zambia (Republic of), Zimbabwe (Republic of)

GMDSS

Resolution 331

In the interest of safety of life at sea, and in view of the fact that many ships will not have GMDSS equipment by 1 February 1999, the African Group proposes:

AFR/192/3

- The cut-off date for traditional SOLAS watchkeeping be extended.
- A gradual phasing out of 500 kHz W/T (Wireless Telegraphy/Morse), 2 182 kHz and channel 16 (156.8 MHz) R/T (Radiotelephony) watchkeeping beyond 1999.

PART 4

Submitted by the following administrations

Benin (Republic of), Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Gabonese Republic, Ghana, Guinea (Republic of), Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Tanzania (United Republic of), Chad (Republic of), Togolese Republic

NGSO FSS

At WRC-95 the African countries welcomed the use of new technologies which would provide new communication means at affordable costs. In this respect WRC-95 allocated 400 MHz and froze 100 MHz which was to be considered by WRC-97. There was only one system on the basis of which the decision of WRC-95 was taken. Since then other systems intending to use the Ku and Ka bands have come up.

African countries have considered proposals relating to NGSO FSS on both Ku and Ka bands, and they welcome the investment made so far, in order to make available to the international community new reliable communication means at an affordable cost.

AFR/192/4

They urge the Conference to take decisions allowing the use of new technologies based on constellations of low-Earth orbiting satellites provided that they do not adversely affect FSS and BSS plans provided in Appendices 30, 30A and 30B and do not limit possibilities of modification of these plans. They urge the Conference to avoid adopting decisions that may be considered as being anti-competitive by nature.

PART 5

Submitted by the following administrations

Algeria (People's Democratic Republic of), Benin (Republic of) Burkina Faso, Burundi (Republic of), Cameroon (Republic of), Egypt (Arab Republic of), Ghana, Guinea (Republic of), Kenya (Republic of), Liberia (Republic of), Malawi, Mali (Republic of), Morocco (Kingdom of), Mauritania (Islamic Republic of), Namibia (Republic of), Niger (Republic of the), Nigeria (Federal Republic of), Uganda (Republic of), Senegal (Republic of), South Africa (Republic of), Chad (Republic of), Togolese Republic, Zambia (Republic of)

Appendices S30 and S30A

AFR/192/5

The African delegations to this Conference make their proposals as contained in Documents 71 and 76 relating to a complete replanning of the frequency bands allocated to the broadcasting-satellite service. Consequently, this Conference should recommend to include in the agenda of WRC-99, as a priority item, the planning of these bands based on:

- an amount of spectrum per coverage area permitting the economic development of a broadcasting satellite which should be at least 400 MHz;
- means facilitating the development of subregional systems in a balanced manner between the different subregions.

The Conference should also adopt the principles to be used in this planning and any other related material as well as instructions to the Bureau for preparing a draft plan with the assistance of experts from administrations.

Should this approach be adopted by the Conference, the case of new countries may be either adopted by this Conference or be included in the overall planning.

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WORKING GROUP 5C

NOTE BY THE CHAIRMAN OF SUB-WORKING GROUP 5C3
ON HIGH ALTITUDE PLATFORM STATIONS

ARTICLE S1

Terms and Definitions

ADD S1.X *High Altitude Platform Station*: A station located on an object at an altitude of 20 to 50 km and at a specified, fixed, nominal point relative to the Earth.

ARTICLE S4

Assignment and Use of Frequencies

ADD S4.15A Transmissions to or from High Altitude Platform Stations shall be limited to bands specifically mentioned in Article **S5**.

ARTICLE S5

Frequency Allocations

GHz
42.5 – 54.25

Allocation to Services		
Region 1	Region 2	Region 3
47.2 – 50.2	FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE S5.149 S5.340 ADD S5.552A S5.555	

ADD S5.552A The allocation to the fixed service in the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz is designated for use by High Altitude Platform Stations. The use of the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz is subject to the provisions of Resolution [COM5-7].

ARTICLE S11

Notification and Recording of Frequency Assignments[1]

ADD S11.26 Notices relating to assignments for high altitude platform stations in the fixed service in the 47.2 - 47.5 GHz and 47.9 - 48.2 GHz bands shall reach the Bureau not earlier than five years before, preferably not later than three months before, and in no case later than one month before the assignments are brought into use.

MOD S11.24 Notices relating to assignments for stations of terrestrial services, except for those referred to in No. **S11.25** or **ADD S11.26**, shall reach the Bureau not earlier than three months before, preferably not later than one month before, and in no case later than one month after the assignments are brought into use.

DRAFT NEW RESOLUTION [COM5-7]

USE OF THE BANDS 47.2 - 47.5 GHz AND 47.9 - 48.2 GHz BY SERVICES USING HIGH ALTITUDE PLATFORM STATIONS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the band 47.2 - 50.2 GHz is allocated to the fixed, mobile and fixed-satellite services on a co-primary basis;

b) that WRC-97 has made provision for operation of high altitude platform stations, also known as stratospheric repeaters, within the fixed service in the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz;

c) that the ITU has among its purposes "to promote the extension of the benefit of the new telecommunication technologies to all the world's inhabitants" (No. 6 of the Constitution of the ITU (Geneva, 1992));

d) that systems based on new technologies using high altitude platforms will be able to provide high capacity, competitive services to urban and rural areas;

e) that high altitude platform systems are in an advanced stage of development and some countries have notified such systems to the ITU;

f) that the Radio Regulations Board issued a provisional rule of procedure concerning notification periods in **S11.24** (RR 1228) in February 1997, pending a final decision by WRC-97;

g) that in spite of the urgency attached to the development of such systems, technical, sharing and regulatory issues should be studied in order to achieve the most efficient use of the spectrum available for these systems;

h) that technical studies are required in order to ascertain the extent to which sharing of the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz is feasible between systems using high altitude

platforms in the fixed service and those systems in the fixed, fixed-satellite and mobile services, and to ascertain the requirements to protect radio astronomy services in adjacent bands from spurious emissions;

i) that the radio astronomy service has primary allocations in the bands 42.5 - 43.5 GHz and 48.94 - 49.04 GHz;

j) that ITU-R studies are already under way on the preferred characteristics of systems using high altitude relay platforms and the sharing feasibility between these systems and systems of other services and between these systems and other systems in the fixed service (Questions ITU-R 212/9, ITU-R 218/9 and ITU-R 251/4);

k) that No. **S5.552** urges administrations to reserve fixed-satellite service use of the band 47.2 - 49.2 GHz for feeder links for the broadcasting-satellite service and that preliminary ITU-R studies indicate that high altitude relay platforms in the fixed service could share with broadcasting-satellite feeder links;

l) that the development of services using high altitude platforms in these bands requires major investment and that the manufacturers and operators should be given the confidence to make the necessary investment in these applications,

resolves

1 to urge administrations to facilitate coordination between high altitude platforms in the fixed service operating in the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz and other co-primary services in their territory and adjacent territories;

2 that, on a provisional basis, the procedures of Article **S9** shall be used for coordination between satellite systems and high altitude platform systems;

3 to request the ITU-R to urgently carry out studies on the appropriate technical sharing criteria for the situations referred to in *considering* h), with priority given to the sharing with other systems in the fixed and fixed-satellite services, in particular the determination of the appropriate geographic separation from feeder links in the broadcasting-satellite service;

4 that WRC-99 review the results of these studies and consider the possible refinement of the regulatory provisions that might facilitate a broader application of these high altitude platform technologies,

further resolves

1 that notices concerning high altitude relay stations that were received prior to 27 October 1997, and provisionally recorded in the ITU Master International Frequency Register in accordance with the provisional rule of procedure issued by the Radio Regulations Board shall be maintained;

2 that from 22 November 1997, and pending the review of the sharing studies in *considering* h) and the review of the notification process by WRC-99, the Bureau shall accept notices in the bands 47.2 - 47.5 GHz and 47.9 - 48.2 GHz only for high altitude platform stations in the fixed service and for feeder links for the broadcasting-satellite service, and shall inform the notifying administrations accordingly.

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COMMITTEE 5

THIRD REPORT OF WORKING GROUP 5A TO COMMITTEE 5

The attached proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

4.

MOD

GHz
31.8 – 37

Allocation to Services		
Region 1	Region 2	Region 3
35.2 – ~~36~~35.5	METEOROLOGICAL AIDS RADIOLOCATION S5.549 ~~S5.551~~	
~~35.2~~35.5 – 36	EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) S5.549 ~~S5.551~~ ADD S5.551A	

SUP S5.551

ADD S5.551A In the band 35.5 - 36.0 GHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, meteorological aids and other services allocated on a primary basis.

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COMMITTEE 5

THIRD REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1 Working Group 5A has held one meeting since the last meeting of Committee 5.

2 The attached proposals for modification to the Radio Regulations were adopted by the Working Group and are submitted for your consideration.

3 The next meeting of Working Group 5A is scheduled for Saturday, 8 November 1997.

1.

MOD

MHz
7 450 – 8 175

Allocation to Services		
Region 1	Region 2	Region 3
7 450 - 7 550	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile S5.461A	
7 550 - 7 750	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	
7 750 - ~~7 900~~7 850	FIXED MOBILE except aeronautical mobile METEOROLOGICAL-SATELLITE (space-to-Earth) S5.461B	
~~7 750~~7 850 - 7 900	FIXED MOBILE except aeronautical mobile	

ADD S5.461A The use of the frequency band 7 450 - 7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary satellites. NGSO meteorological-satellite systems notified before 30 November 1997 in the band 7 450 - 7 550 MHz may continue to operate on primary basis until the end of their lifetime.

ADD S5.461B The use of the band 7 750 - 7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellites.

MOD TABLE **S21-4**

Frequency band	Service	Limit in dB(W/m^2) for angle of arrival (δ) above the horizontal plane			Reference bandwidth
		0° - 5°	5° - 25°	25° - 90°	
…					
7 250 - ~~7 750~~7 850 MHz	Meteorological-Satellite (S-E)	-152	-152+0.5(δ-5)	-142	4 kHz
…					

2.

NOC

GHz

12.5 – 14.25

Allocation to Services		
Region 1	Region 2	Region 3
12.75 – 13.25	FIXED FIXED-SATELLITE (Earth-to-space) S5.441 MOBILE Space Research (deep space) (space-to-Earth)	

3.

NOC

GHz

14.8 – 17.3

Allocation to Services		
Region 1	Region 2	Region 3
16.6 – 17.1	RADIOLOCATION Space Research (deep space) (Earth-to-space) S5.512 S5.513	

4.

MOD

GHz

31.8 – 37

Allocation to Services		
Region 1	Region 2	Region 3
35.2 – ~~36~~35.5	METEOROLOGICAL AIDS RADIOLOCATION S5.549 ~~S5.551~~	
~~35.2~~35.5 – 36	EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) S5.549 ~~S5.551~~	

SUP S5.551

5.

MOD

GHz
86 – 116

Allocation to Services		
Region 1	Region 2	Region 3
92 – ~~95~~94	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION S5.149 S5.556	
~~92 – 95~~94 – 94.1	~~FIXED~~ ~~FIXED-SATELLITE (Earth-to-space)~~ ~~MOBILE~~ RADIOLOCATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) ~~S5.149 S5.556~~ S5.562	
~~92~~94.1 – 95	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION S5.149 S5.556	

ADD S5.562 The use of the band 94 - 94.1 GHz by the earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars.

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COMMITTEE 5

Syrian Arab Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

The name of Syria is mentioned in the second frequency range of footnote S5.316 and as this part of the frequency range is a complementary part to the first frequency range mentioned in the same footnote, i.e. 790 - 830 MHz, Syria therefore is proposing the following modification taking into consideration that the band below 1 GHz is under consideration for new allocations for MSS by this Conference.

SYR/195/1

MOD S5.316 *Additional allocation:* in Germany, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Israel, Kenya, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Monaco, Norway, the Netherlands, Portugal, Syria, Sweden, Switzerland and Yugoslavia, the band 790 - 830 MHz, and in these same countries and in Spain, France, Gabon~~,~~ and Malta ~~and Syria~~, the band 830 - 862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band.

_____

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COMMITTEE 5

Estonia (Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of Estonia wishes to make the following proposal for the work of the Conference:

EST/196/1

MOD S5.275 *Additional allocation:* in Bosnia and Herzegovina, Croatia, Estonia, Finland, The Former Yugoslav Republic of Macedonia, Libya, Slovenia and Yugoslavia, the bands 430 - 432 MHz and 438 - 440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

Reasons: To add country name to join a group of neighbouring countries.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

REPORT BY THE CHAIRMAN OF WORKING GROUP 5B

THIRD REPORT OF WG 5B TO COMMITTEE 5

1 2 GHz issue

At the fourth meeting of WG 5B, it was proposed to resolve the issue of shift or extension of the MSS frequency allocation in the bands 1 980 - 2 010 MHz and 2 170 - 2 200 MHz in all three Regions and 2 010 - 2 025 MHz and 2 160 - 2 170 MHz in Region 2. This issue has been discussed since WRC-95 without any agreement being reached. According to discussion during the meeting, it was reported that most of the countries in Region 1 and Region 3 formally supports no change (NOC) to the current allocation, and few Region 2 countries have proposed modification to the 2 GHz MSS allocations in Regions 1 and 3.

Committee 5B therefore reports to Committee 5 that there should be no change to the 2 GHz MSS allocations in Regions 1 and 3.

The issue of advancing the date of entry into force of the Region 2 specific 2 GHz MSS allocations of 2 010 - 2 025/2 160 - 2 170 MHz should be discussed in the 5B2 Sub-Working Group.

WG 5B agreed to forward this status report to Committee 5 for its final consideration. The proposal is shown below.

NOC

MHz
1 700 – 2 010

Allocation to Services		
Region 1	Region 2	Region 3
1 980 – 2 010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389A S5.389B S5.389F	

[

MHz
2 010 – 2 170

	Allocation to Services		
	Region 1	Region 2	Region 3
NOC	**2 010 – 2 025** FIXED MOBILE S5.388	**2 010 – 2 025** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389C S5.389D S5.389E	**2 010 – 2 025** FIXED MOBILE S5.388
	…		
NOC	**2 160 – 2 170** FIXED MOBILE S5.388 S5.392A	**2 160 – 2 170** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.388 S5.389C S5.389D S5.389E	**2 160 – 2 170** FIXED MOBILE S5.388

]

NOC

MHz
2 170 – 2 450

Allocation to Services		
Region 1	Region 2	Region 3
2 170 – 2 200	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.388 S5.389A S5.389F S5.392A	

2 NGSO/MSS feeder link

For the use of the frequency spectrum in the bands 19.6 - 19.7/29.4 - 29.5 GHz for NGSO MSS feeder links, the removal of S.22.2 from these bands is generally supported. It was stated by those countries that the demand for the use of 2 x 400 MHz is large thus the removal of S22.2 from this band is justified. However, most of the CEPT countries considered that the allocation of 2 x 300 MHz is sufficient. After some discussion, this difference of opinion has not been resolved. WG 5B thus submits this result to COM 5 and requests its decision. The proposed modifications are shown below.

[**MOD**

GHz
18.6 – 20.2

Allocation to Services		
Region 1	Region 2	Region 3
19.3 – 19.7	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.523B MOD S5.523D MOBILE MOD S5.523C	

MOD

GHz
27 – 29.9

Allocation to Services		
Region 1	Region 2	Region 3
29.1 – 29.5	FIXED FIXED-SATELLITE (Earth-to-space) MOD S5.523C MOD S5.535A S5.539 MOD S5.541A MOBILE Earth Exploration-Satellite (Earth-to-space) S5.541 S5.540	

]

[**MOD S5.523C** ~~The use of the bands 19.3 - 19.7 GHz and 29.1 - 29.5 GHz by the FSS shall be in accordance with Resolution **120 (WRC-95)**.~~No. **S22.2** of the Radio Regulations shall continue to apply in the bands 19.3 - 19.7 GHz and 29.1 - 29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and fixed-satellite networks for which complete Appendix **S4** coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995.

MOD S5.523D The use of the band 19.3 - 19.~~6~~7 GHz (space-to-Earth) by GSO/FSS systems and by the feeder links for non-geostationary satellite systems in the MSS is subject to the application of the provisions of Resolution **46 (Rev.WRC-95)**/No. **S9.11A**, but not subject to the provisions of No. **S22.2**. The use of this band for other non-GSO/FSS, or for the case indicated in No. **MOD S5.523C**, systems is not subject to the provisions of Resolution **46 (Rev.WRC-95)**/No. **S9.11A** and shall continue to be subject to Articles **S9** (except No. **S9.11A**) and **S11** procedures**,** and to the provisions of No. **S22.2**.]

[**MOD S5.535A** The use of the band 29.1 - 29.~~4~~5 GHz (Earth-to-space) by the FSS is limited to GSO satellite systems and feeder links to non-GSO satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of Resolution **46 (Rev.WRC-95)**/No. **S9.11A**, but not subject to the provisions of No. **S22.2**, except as indicated in No. **MOD S5.523C** where such use is not subject to the provisions of Resolution **46 (Rev.WRC-95)**/No. **S9.11A** and shall continue to be subject to Articles **11/S9** (except No. **S9.11A**) and **13/S11** procedures, and to the provisions of No. **S22.2**.

MOD S5.541A Feeder links of non-GSO/MSS networks and GSO/FSS networks operating in the band 29.1 - 29.~~4~~5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix **S4** coordination information is considered as having been received by the Bureau after 17 May 1996 and until it is changed by a future competent world radiocommunication conference. Administrations submitting Appendix **S4** information for coordination before this date are encouraged to utilize these techniques to the extent practicable. These methods are also subject to review by the ITU-R (see Resolution **121 (WRC-95)**).

SUP RESOLUTION 120 (WRC-95)

Reasons: As Resolution 120 (WRC-95) is no longer required it is proposed that it be removed from the Radio Regulations.]

Consequential changes may be necessary to Resolutions 119, 121 and associated footnotes.

3 NGSO/FSS

Issues on NGSO/FSS systems were discussed in the meeting. The need for the frequency spectrum in the bands 18.8 - 19.3/28.6 - 29.1 GHz for the NGSO/FSS application is unanimously supported. It was also agreed that the regulatory provisions need to be further discussed in connection with the thoughts on the various sharing methods, such as coordination by Resolution 46, pfd limits and the epfd limits proposed in EUR/5 and F/62. These points are now being discussed in ad hoc 5B4 which is being chaired by Mr. Hauck.

INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

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COMMITTEE 4

REPORT BY THE CHAIRMAN OF WORKING GROUP 4B

FOURTH REPORT FROM WORKING GROUP 4B TO COMMITTEE 4

At its fifth meeting on 6 November 1997, the Working Group reviewed texts of Articles S5, S18, S47, S48, Appendix S18, Recommendation 305, and Resolutions 310, [COM4-2], [COM4-3], [COM4-4] and [COM4-5] and the corresponding provisions were modified accordingly.

The agreed texts and proposed actions, as reproduced, are submitted to Committee 4 for consideration.

ARTICLE S5

Frequency Allocations

MOD S5.287 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174 (see Resolution [**COM4-2**]).

MOD

APPENDIX S18

Table of Transmitting Frequencies in the VHF Maritime Mobile Band

(see Article **S52**)

Note ~~1~~: For assistance in understanding the Table, see notes *a)* to ~~*p)*~~*n)* below.

~~*Note 2:* Channels 01 to 28, except 15 and 17, correspond to the channels of Appendix 18 to the Radio Regulations, Geneva, 1959, and channels 15, 17, and 60 to 88 correspond to those additional channels made available for assignment in accordance with the provisions of Appendix 18 Mar to the Radio Regulations, Geneva, 1967.~~

~~*Note 3:* Channel designators 60 to 88 were chosen for the additional channels in order to separate them clearly from the original channels.~~

Channel desig-nator	Notes	Transmitting frequencies (MHz)		Intership	~~Port Operations~~		Ship movement		Public corres-pondence
		Ship Stations	Coast stations		~~Single frequency~~	~~Two frequency~~	Single frequency	Two frequency	
60	~~h)~~	156.025	160.625			~~17~~		~~09~~ x	~~25~~ x
01		156.050	160.650			~~10~~		~~15~~ x	~~08~~ x
61		156.075	160.675			~~23~~		~~03~~ x	~~19~~ x
02		156.100	160.700			~~08~~		~~17~~ x	~~10~~ x
62		156.125	160.725			~~20~~		~~06~~ x	~~22~~ x
03		156.150	160.750			~~09~~		~~16~~ x	~~09~~ x
63		156.175	160.775			~~18~~		~~08~~ x	~~24~~ x
04		156.200	160.800			~~11~~		~~14~~ x	~~07~~ x
64		156.225	160.825			~~22~~		~~04~~ x	~~20~~ x
05		156.250	160.850			~~06~~		~~19~~ x	~~12~~ x
65		156.275	160.875			~~21~~		~~05~~ x	~~21~~ x
06	~~g)~~f)	156.300		~~01~~ x					
66		156.325	160.925			~~19~~		~~07~~ x	~~23~~ x
07		156.350	160.950			~~07~~		~~18~~ x	~~01~~ x
67	~~k)~~ h)	156.375	156.375	~~09~~ x	~~10~~		~~09~~ x		
08		156.400		~~02~~ x					
68	~~m)~~	156.425	156.425		~~06~~		~~02~~ x		
09	~~l)~~i)	156.450	156.450	~~05~~ x	~~05~~		~~12~~ x		
69	~~m)~~	156.475	156.475	~~08~~ x	~~11~~		~~04~~ x		
10	~~k)~~ f)	156.500	156.500	~~03~~ x	~~09~~		~~10~~ x		
70	~~o)~~j)	156.525	156.525	Digital Selective calling for distress, safety and calling					
11	~~m)~~	156.550	156.550		~~03~~		~~01~~ x		
71	~~m)~~	156.575	156.575		~~07~~		~~06~~ x		
12	~~m)~~	156.600	156.600		~~01~~		~~03~~ x		
72	~~l)~~i)	156.625		~~06~~ x					
13	~~p)~~k)	156.650	156.650	~~04~~ x	~~04~~		~~05~~ x		
73	~~k)~~h)	156.675	156.675	~~07~~ x	~~12~~		~~11~~ x		
14	~~m)~~	156.700	156.700		~~02~~		0~~7~~ x		
74	~~m)~~	156.725	156.725		~~08~~		~~08~~ x		
15	~~j)~~g)	156.750	156.750	~~11~~ x	~~14~~		~~14~~ x		
~~75~~		~~156.775~~	~~Guardband 156.7625 - 156.7875 MHz~~						
75	n)	156.775					x		
16		156.800	156.800	DISTRESS, SAFETY AND CALLING					

Channel desig-nator	Notes	Transmitting frequencies (MHz)		Intership	~~Port Operations~~		Ship movement		Public corres-pondence
		Ship Stations	Coast stations		~~Single frequency~~	~~Two frequency~~	Single frequency	Two frequency	
~~76~~		~~156.825~~	~~Guardband 156.8125 - 156.8375 MHz~~						
76	n	156.825					x		
17	~~j)~~g)	156.850	156.850	~~12~~ x	~~13~~		~~13~~ x		
77		156.875		~~10~~ x					
18	~~f)~~m)	156.900	161.500			~~03~~	x	~~22~~ x	x
78		156.925	161.525			~~12~~		~~13~~ x	~~27~~ x
19	~~f)~~	156.950	161.550			~~04~~		~~21~~ x	x
79	~~f) m)~~	156.975	161.575			~~14~~		~~01~~ x	x
20	~~f)~~	157.000	161.600			~~01~~		~~23~~ x	x
80	~~f) m)~~	157.025	161.625			~~16~~		~~02~~ x	x
21	~~f)~~	157.050	161.650			~~05~~		~~20~~ x	x
81		157.075	161.675			~~15~~		~~10~~ x	~~28~~ x
22	~~f)~~	157.100	161.700			~~02~~		~~24~~ x	x
82	m)	157.125	161.725			~~13~~	x	~~11~~ x	~~26~~ x
23		157.150	161.750					x	~~05~~ x
83	m)	157.175	161.775				x	x	~~16~~ x
24		157.200	161.800					x	~~04~~ x
84	m)	157.225	161.825			~~24~~	x	~~12~~ x	~~13~~ x
25		157.250	161.850					x	~~03~~ x
85	j)	157.275	161.875				x	x	~~17~~ x
26		157.300	161.900					x	~~01~~ x
86	~~n)~~m)	157.325	161.925				x	x	~~15~~ x
27		157.350	161.950					x	~~02~~ x
87		157.375	~~161.975~~				x		~~14~~
28		157.400	162.000					x	~~06~~ x
88	~~h)~~	157.425	~~162.025~~				x		~~18~~
AIS 1	l)	161.975	161.975						
AIS 2	l)	162.025	162.025						

NOTES REFERRING TO THE TABLE

General notes

~~*a)* The figures in the column headed "Intership" indicate the normal sequence in which channels should be taken into use by mobile stations.~~

~~*b)* The figures in the columns headed "Port operations", "Ship movement" and "Public correspondence" indicate the normal sequence in which channels should be taken into use by each coast station. However, in some cases, it may be necessary to omit channels in order to avoid harmful interference between the services of neighbouring coast stations.~~

~~*c)*~~*a)* Administrations may designate frequencies in the intership~~, port operations~~ and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations under the conditions specified in Nos. **S51.69**, **S51.73**, **S51.74**, **S51.75**, **S51.76**, **S51.77** and **S51.78**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

~~*d)*~~*b)* The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may also be used for highspeed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.

~~*e)*~~*c)* The channels of the present Appendix, preferably ~~two adjacent~~ channel~~s~~ ~~from the series 87,~~ 28~~, 88,~~ with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations.

d) The frequencies in this table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **S5.226**.

e) Administrations having an urgent need to reduce local congestion may apply 12.5 kHz channel interleaving on a non-interference basis to 25 kHz channels, provided:

1) Recommendation ITU-R M.1084-2 shall be taken into account when migrating to 12.5 kHz;

2) it shall not affect the 25 kHz channels of the Appendix **S18** maritime mobile distress and safety frequencies, especially the channels 6, 13, 15, 16, 17, and 70, nor the technical characteristics mentioned in Recommendation ITU-R M.489-2 for these channels;

3) implementation of 12.5 kHz channel interleaving and consequential national requirements shall be subject to prior agreement between the implementing administrations and administrations whose ship stations or services may be affected.

Specific notes

~~*f)* The two-frequency channels for port operations (18, 19, 20, 21, 22, 79 and 80) may be used for public correspondence, subject to special arrangement between interested and affected administrations.~~

~~*g)*~~*f)* The frequency 156.300 MHz (channel 06) (see Appendix **S13**, Appendix **S15** and **S51.79**) may also be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. Ship stations shall avoid harmful interference to such communications on channel 06 as well as to communications between aircraft stations, ice-breakers and assisted ships during ice seasons.

~~*h)* Channels 60 and 88 can be used subject to special arrangements between interested and affected administrations.~~

~~*i)* The frequencies in this Table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **S5.226**.~~

~~*j)*~~*g)* Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters. ~~(However, see Recommendation **305**).~~

~~*k)*~~*h)* Within the European Maritime Area and in Canada these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **S51.69, S51.73, S51.74, S51.75, S51.76, S51.77** and **S51.78**.

~~*l)*~~*i)* The preferred first three frequencies for the purpose indicated in note ~~*c)*~~*a)* are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).

~~*m)* These channels (68, 69, 11, 71, 12, 14, 74, 79 and 80) are the preferred channels for the ship movement service. They may, however, be used for the port operations service until required for the ship movement service if this should prove to be necessary in any specific area.~~

~~*n)* This channel (86) may be used as a calling channel if such a channel is required in an automatic radiotelephone system when such a system is recommended by the ITU-R.~~

~~*o)*~~*j)* This channel (70) is to be used exclusively for digital selective calling for distress, safety and calling [(see Resolution **323 (Mob-87)**)].

~~*p)*~~*k)* Channel 13 is designated for use on a world-wide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement ~~and port operations~~ service~~s~~ subject to the national regulations of the administrations concerned.

l) The channels will be used for an automatic ship identification and surveillance system capable of providing worldwide operation on high seas unless other frequencies are designated on a regional basis for this purpose.

m) These channels 18, 82-86 may be operated as single frequency channels, subject to special arrangement between interested or affected administrations.

n) The use of these channels should be restricted to navigation related communications only and all precautions should be taken to avoid harmful interference to channel 16, e.g. by limiting the output power to 1 W or by geographical separation.

SUP

RECOMMENDATION No. 305

ADD

DRAFT NEW RESOLUTION [COM4-2]

UHF FREQUENCIES USED IN THE MARITIME MOBILE SERVICE FOR ON-BOARD COMMUNICATION

The World Radiocommunication Conference (Geneva, 1997),

considering

that this Conference has adopted the introduction of channel spacing of 12.5 kHz in to maritime UHF on-board communications to be used on a voluntary basis,

noting

that the current Recommendation ITU-R M.1174 contains the characteristics of equipment used for on-board communications in the bands between 450 and 470 MHz,

resolves to invite ITU-R

to modify this Recommendation by including also the characteristics of the equipment using the new 12.5 kHz channel spacing,

urges administrations

to submit contributions to ITU-R,

instructs the Secretary-General

to communicate this Resolution to the International Maritime Organization.

ADD

DRAFT NEW RESOLUTION [COM4-3]

REVIEW OF THE IMPROVED EFFICIENCY IN THE USE OF THE BAND 156 - 174 MHz BY STATIONS IN THE MARITIME MOBILE SERVICE

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the agenda of this Conference included the consideration of the use of Appendix **S18** to the Radio Regulations in respect of maritime mobile communications, and the use of new technology for maritime radiotelephony channels;

b) Recommendation **318** (Mob-87);

c) that Appendix **S18** identifies frequencies to be used for distress and safety communications on an international basis;

d) that the introduction of new technology to the maritime mobile service shall not disrupt the distress and safety communications in the VHF band including those established by the International Convention for the Safety of Life at Sea, 1974 as amended;

e) that the ITU Radiocommunication Sector is conducting studies on improving efficiency in the use of this band, and that these studies are still ongoing;

f) that changes made in Appendix **S18** should not prejudice the future use of these frequencies or the capabilities of systems or new applications required for use by the maritime mobile service;

g) that the congestion on Appendix **S18** frequencies calls for the implementation of efficient new technologies;

h) that the use of new technology on maritime VHF frequencies will facilitate the emerging needs for new services,

noting

that some administrations are considering adopting some of the above changes to their operations within Appendix **S18** frequencies,

resolves

that WRC-99 should consider the use of new technology in the band 156 - 174 MHz and consequential revision of Appendix **S18**,

instructs ITU-R

to continue studies on the following with a view to providing a report to the WRC-99:

i) to identify the future requirements of the maritime mobile service;

ii) to identify suitable technical characteristics of the system or interoperable systems to replace the existing technology;

iii) to identify necessary modifications to the frequency plan contained within Appendix **S18**;

iv) to recommend a timetable for the introduction of new technology and the necessary changes;

v) to study and recommend how new technology can be introduced without harming the distress and safety requirements,

instructs the Secretary-General

to communicate this Resolution to the International Maritime Organization.

MOD

RESOLUTION No. 310 (Rev.~~Mob-87~~WRC-97)

FREQUENCY PROVISIONS FOR DEVELOPMENT AND FUTURE IMPLEMENTATION OF SHIP MOVEMENT TELEMETRY, TELECOMMAND AND DATA EXCHANGE SYSTEMS

The World ~~Administrative~~ Radiocommunication Conference ~~for the Mobile Services, Geneva, 1987~~(Geneva, 1997),

considering

a) the need to specify radio frequencies which may be used by the maritime mobile service on a world-wide basis for ship movement requirements including transmission of electronic nautical chart data corrections, using digital automated data exchange, telemetry and telecommand techniques;

b) the developments now in progress in different portions of the frequency spectrum which will require common frequency bands in the future for efficient frequency utilization;

c) the importance of these systems in the safe and efficient operations of ships;

d) the advantages to port authorities for safe and efficient port management and operations;

noting

a) that the ~~CCIR~~ ITU-R is considering this matter particularly within its Question 55/8;

b) that further operational and technical information is needed in deciding the most effective frequency utilization and sharing criteria;

c) that the International Maritime Organization (IMO) has identified a need for data exchange, using digital transmission techniques, between shore and ship for ship's position and movement data, correction data of radionavigation systems and electronic nautical charts ~~(see CCIR Report 1044)~~;

resolves

that ~~the next~~a future competent world ~~administrative~~ radiocommunication conference ~~shall~~should review possible frequency provisions in the light of additional studies;

request administrations

to review the requirements relating to future ship movement telemetry, telecommand and data exchange systems and submit relevant results to the ITU-R,

requests ~~the CCIR~~ITU-R

to examine and advise on modulation techniques such as spread spectrum, frequency bands, bandwidths and data formats in coordination with administrations developing and testing these digital transmission systems;

invites the ~~Administrative~~ Council

to include this Resolution in the agenda of a forthcoming competent world ~~administrative~~ radiocommunication conference;

instructs the Secretary-General

to communicate this Resolution to the IMO and the International Hydrographic Organization (IHO).

ARTICLE S18

Licences

NOC S18.1

ARTICLE S47

Operator's Certificates

Section II. Categories of Operator's Certificates

NOC S47.19

NOC S47.23

NOC S47.24

NOC TABLE S47-1

Requirements for Radio Electronic and Operator's Certificates

ARTICLE S48

Personnel

NOC S48.5

NOC S48.6

MOD S48.7 § 5. The personnel of ship stations and ship earth stations for which a radio installation is not compulsory under international agreements or national regulations and which use the frequencies and techniques prescribed in Chapter **SVII** shall be adequately qualified and certificated in accordance with the administration's requirements. Guidance concerning appropriate qualifications and certification, is provided in Resolution [**COM4-4**]. This Resolution describes two appropriate certificates, for use by personnel of ship stations and ship earth stations for which a radio installation is not compulsory.

ADD

DRAFT NEW RESOLUTION [COM4-4]

MARITIME CERTIFICATION FOR PERSONNEL OF SHIP STATIONS AND SHIP EARTH STATIONS FOR WHICH A RADIO INSTALLATION IS NOT COMPULSORY

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that this Conference has considered the question of certification for personnel of ship stations and ship earth stations within the GMDSS;

b) that GMDSS will be fully implemented on the 1 February 1999 by ships subject to international agreement;

c) that ships not subject to international agreement have begun to adopt GMDSS systems and techniques;

d) that use of GMDSS equipment should be accompanied by appropriate training and certification;

e) that the Radio Regulations stipulate that service of every ship radio station working on frequencies assigned for international use shall be performed by operators holding a certificate;

f) that the present certificates described in Article **S47** of the Radio Regulations may be too demanding for radio operators of ship stations and ship earth stations on board ships for which a radio installation is not compulsory,

noting

that a number of administrations currently issue radio operator certificates specially designed for the non-compulsory sector,

resolves

that administrations wishing to implement special certification for the non-compulsory sector should implement the certificates contained in the Annex to this Resolution,

instructs

ITU-R to develop a Recommendation describing these certificates,

instructs the Secretary-General

to bring this Resolution to the attention of the International Maritime Organization.

ANNEX TO RESOLUTION [COM4-4]

Examination syllabus for radio operator's certificates appropriate to vessels using the frequencies and techniques of the GMDSS on a non-compulsory basis

Introduction

The introduction of the Global Maritime Distress and Safety System (GMDSS) in February 1992 made it necessary to harmonize the examination requirements for certificates for professional radio personnel. Harmonized examination procedures for the General Operator's Certificate and Restricted Operator's Certificate, based on the syllabi described in Article **S47** of the Radio Regulations, have already been introduced for maritime radio operators performing radiocommunication duties on board vessels subject to the International Convention for the Safety of Life at Sea (1974), as amended (SOLAS). The GMDSS will be fully implemented on 1 February 1999 for vessels subject to SOLAS.

For vessels not subject to SOLAS, and which install radiocommunication equipment on a voluntary basis, there are significant advantages to also using the GMDSS. However, it was foreseen by some administrations that such vessels would use some, but not all, of the frequencies and techniques of the GMDSS and that radio personnel on board such vessels would not need the same level of certification as radio personnel on board vessels which use all of the frequencies and techniques of the GMDSS on a compulsory basis. A syllabus has been developed which provides the flexibility for a depth of study, level of knowledge, and length of course appropriate to meet the certification requirements of radio personnel on board vessels which use some of the frequencies and techniques of the GMDSS on a non-compulsory basis. The syllabus also provides for certification in the use of satellite equipment where appropriate.

This Annex describes the syllabus developed to meet the certification requirements described above, and which are implemented in a number of countries under the title "Long Range Certificate" and "Short Range Certificate". [The Short Range Certificate should at least contain those elements of the syllabus which are relevant to sea area A1.]

Examination Syllabus

The examination should consist of theoretical and practical tests and should include at least:

A GENERAL KNOWLEDGE OF RADIOCOMMUNICATIONS IN THE MARITIME MOBILE SERVICE

A1 The general principles and basic features of the maritime mobile service.

B DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE RADIO EQUIPMENT

B1 The VHF radio installation. Use of VHF equipment in practice.

B2 The MF/HF radio installation. Use of MF/HF equipment in practice.

B3 Purpose and use of Digital Selective Calling (DSC) facilities and techniques.

C OPERATIONAL PROCEDURES OF THE GMDSS AND DETAILED PRACTICAL OPERATION OF GMDSS SUBSYSTEMS AND EQUIPMENT

C1 Basic introduction to Global Maritime Distress and Safety System (GMDSS) procedures.

C2 Distress, urgency and safety communication procedures in the GMDSS.

C3 Distress, urgency and safety communication procedures by radiotelephony in the old distress and safety system.

C4 Protection of distress frequencies.

C5 Maritime Safety Information (MSI) systems in the GMDSS.

C6 Alerting and Locating Signals in the GMDSS.

D OPERATIONAL PROCEDURES AND REGULATIONS FOR RADIOTELEPHONE COMMUNICATIONS

D1 Ability to exchange communications relevant to the safety of life at sea.

D2 Regulations, obligatory procedures and practices.

D3 Practical and theoretical knowledge of radiotelephone procedures.

D4 Use of the international phonetic alphabet and appropriate parts of the IMO Standard Marine Communication Phrases.

E OPTIONAL EXAMINATION MODULE FOR THE MARITIME MOBILE-SATELLITE SERVICE FOR VESSELS NOT SUBJECT TO A COMPULSORY FIT

E1 The general principles and basic features of the maritime mobile-satellite service.

E2 Operational procedures and detailed practical operation of ship earth stations in the GMDSS.

ADD

DRAFT NEW RESOLUTION [COM4-5]

RELATING TO THE EXHAUSTION OF THE MARITIME MOBILE SERVICE IDENTITY NUMBERING RESOURCE

The World Radiocommunication Conference (Geneva, 1997),

noting

a) that ships not required to carry GMDSS equipment may do so, for safety purposes;

b) that Digital Selective Calling Equipment on such ships for VHF radio, and/or Inmarsat ship earth station equipment requires the assignment of a unique Maritime Mobile Service Identity;

c) that not all administrations assign these identities to users of digital selective calling-equipped VHF radios on such ships, from the numbers intended for use by vessels sailing and communicating only with domestic coast stations,

considering

a) that VHF digital selective calling distress alerts require valid identities for use by search and rescue authorities;

b) that Recommendation ITU-R M.585 contains guidance for the assignment of MMSIs, including to non-compulsory ships which communicate only with domestic radio stations; and

c) that Recommendation ITU-R M.585 was derived from ITU-T Recommendation E.210,

recognizing

a) that even domestic ships which install Inmarsat will require the assignment of MMSI numbers from those numbers reserved for ships communicating worldwide, further depleting the resource; and

b) that future growth of Inmarsat B, C, and M mobile earth station use by non-compulsory ships is not anticipated to deplete the resource, however;

c) that growth projections of Inmarsat systems by non-compulsory ships could change,

noting further

that ITU-R can monitor the status of the MMSI resource by monitoring the available spare Maritime Identification Digits (first three digits of the MMSI) which are assigned by the ITU-R to administrations,

resolves to invite the Director of the Radiocommunication Bureau

to monitor the status of the MMSI resource, and to report to each WRC as to the anticipated reserve capacity and expected exhaustion of the resource,

resolves further to invite ITU-T and ITU-R

1 to keep under review the Recommendations for assigning Maritime Mobile Service Identities, with a view to identifying alternative resources before the resources are exhausted;

2 to consult each other when addressing changes to any of the Recommendations affecting the MMSI numbering resources; and

3 to complete studies on an urgent basis when a future WRC identifies the impending exhaustion of the MMSI resource,

instructs the Secretary-General

to communicate this Resolution to the IMO.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD
RADIOCOMMUNICATION
CONFERENCE

Document 199-E
6 November 1997
Original: English

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

COMMITTEE 5

SECOND REPORT OF WORKING GROUP 5C TO COMMITTEE 5

1 Working Group 5C has held two meetings since the last meeting of Committee 5.

2 The attached proposals concerning WRC-97 agenda item 1.8 (the possible deletion of all secondary allocations from the band 136 - 137 MHz, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87) and in order to meet the special needs of the aeronautical mobile (R) service) were adopted by WG 5C and are submitted for your consideration.

1.

ARTICLE S5

MHz

MOD **75.2 – 137**

Allocation to Services		
Region 1	Region 2	Region 3
117.975 – 136	AERONAUTICAL MOBILE (R) S5.111 MOD S5.198 S5.199 S5.200 S5.201	
136 – 137	AERONAUTICAL MOBILE (R) ~~Fixed~~ ~~Mobile except aeronautical mobile (R)~~ ~~S5.198~~ MOD S5.202 MOD S5.203 S5.203A	

MOD S5.198 *Additional allocation:* the band 117.975 - ~~137~~136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under Article **14**/No. **S9.21**.

MOD S5.203 ~~*Additional allocation:* the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a secondary basis (see Resolution **408 (Mob-87)**).~~In the band 136 - 137 MHz existing operational meteorological satellites may continue to operate, under the conditions defined in **S4.4**, relative to the aeronautical mobile service until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service and shall gradually cease operations of existing stations until that date.

ADD S5.203A *Additional allocation:* in Saudi Arabia, United Arab Emirates, Israel, Jordan, Mauritania, Oman, Qatar, Syria, Zambia and Zimbabwe, the band 136 - 137 MHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a secondary basis until 1 January [2005].

MOD S5.202 ~~*Different category of service*~~*Additional allocation*: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, United Arab Emirates, Georgia, Iran (Islamic Republic of), Jordan, Kazakstan, Latvia, ~~Lithuania,~~ Moldova, Oman, Uzbekistan, Poland, Syria, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Russia, Tajikistan, Turkmenistan, Turkey and Ukraine, the ~~allocation of the~~ band 136 - 137 MHz is also allocated to the aeronautical mobile (OR) service ~~is~~ on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service.

2.

DRAFT RESOLUTION [COM5-6] (WRC-97)

USE OF THE BAND 136 - 137 MHz BY SERVICES OTHER THAN THE AERONAUTICAL MOBILE (R) SERVICE

The World Radiocommunication Conference (Geneva, 1997),

having noted

a) the provisions of No. [**S5.203**] concerning the use of the band 136 - 137 MHz by the aeronautical mobile (R) service;

b) that frequencies allocated to the aeronautical mobile (R) service are reserved for communications related to safety and regularity of flight and therefore require special measures to ensure freedom from harmful interference,

considering

a) that the Table of Frequency Allocations includes allocations in the band 136 - 137 MHz to the aeronautical mobile (R) service on a primary basis, and to the aeronautical mobile (OR) service in some countries No. [**S5.202**] on a primary basis;

b) that No. [**S5.203**] also provides for operations of the meteorological-satellite service (space-to-Earth) until January 2002;

c) that the aeronautical mobile (R) service may be subject to harmful interference which would endanger the safety of air navigation and that it is therefore necessary to protect this service from harmful interference that might be caused by stations in the meteorological-satellite service (space-to-Earth),

resolves

that administrations operating or intending to operate stations in the meteorological-satellite service (space-to-Earth) in the band 136 - 137 MHz take all necessary steps to protect the aeronautical mobile (R) service.

3. Resolution 408 (Mob-87) is recommended to be suppressed.

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INTERNATIONAL TELECOMMUNICATION UNION

WRC-97

WORLD RADIOCOMMUNICATION CONFERENCE

Document 200-E
8 November 1997

GENEVA, 27 OCTOBER – 21 NOVEMBER 1997

LIST OF DOCUMENTS

(Documents 151 - 200)

Doc.	Source	Title	Destination
151	C4	Cut-off date for the receipt of information on successful coordination in accordance with Article 4 of Appendices 30 and 30A	C4
152	F	Proposals for the work of the Conference	C5
153	SG	Resolution 24 (WRC-95)	PL
154	WG 5B	First Report of Working Group 5B to Committee 5	C5
155	WG 5C	Note from the Chairman of Working Group 5C to the Chairperson of Committee 5	C5
156	WG 4B	First Report from Working Group 4B to Committee 4	C4
157	SG	ITU-R Recommendations and incorporation by reference	PL
158	ISR	A new category of space network	C4, C5
159	SG	Minutes of the second Plenary Meeting	PL
160+ Add.1, 2	WG 4D	Summary of conclusions reached by Working Group 4D	C4
161	CAN	Proposals for the work of the Conference	PL
162	WG 4B	Second report from Working Group 4B to Committee 4	C4
163	LUX	Proposals for the work of the Conference	C5
164(Rev.2)	SWG 5C1	Report by the Chairman of Sub-Working Group 5C1	WG 5C
165	MLA	Proposals for the work of the Conference	-

Doc.	Source	Title	Destination
166+Add.1	SG	Assignments which have been received by the Bureau under paragraphs 4.3.14 and 4.2.15 of Appendices 30 and 30A between the commencement of WRC-97 and 2000 hours on 3 November 1997	C4
167(Rev.1)	UKR	Proposals for the work of the Conference	C4
168	SG	Summary record of the third meeting of Committee 4	C4
169	Drafting Group 2 of WG 4C	Report of Drafting Group 2 of Working Group 4C	WG 4C
170(Rev.1)	SG	Reference to ITU-R Recommendations in the Radio Regulations	PL
171(Rev.1)	5C1	Note by the Chairman of Drafting Group 5C1 - Spurious emissions	WG 5C
172	Drafting Group 5C1	Note by the Chairman of Drafting Group 5C1	WG 5C
173(Rev.1)	Drafting Group 5C1	Note by the Chairman of Drafting Group 5C1	WG 5C
174+Cor.1	C5	Consideration of country footnotes	C5
175	C5	First series of texts submitted by Committee 5 to the Editorial Committee	C6
176	C5	Note from the Chairman of Committee 5 to the Chairman of Working Group 1 of the Plenary	WG PL1
177	C4	First series of texts submitted by Committee 4 to the Editorial Committee	C6
178(Rev.1)	WG 5B	Note from the Chairman of Working Group 5B to the Chairman of Working Group 5C	WG 5C
179	CITEL	Information document	-
180	FYROM	Proposals for the work of the Conference	C5
181	SG	Summary record of the second meeting of Committee 5	C5
182	WG 5A	Second report of Working Group 5A to Committee 5	C5
183	WG 4A	Second report from Working Group 4A to Committee 4	C4
184	C6	B.1 - First series of texts submitted by the Editorial Committee to the Plenary Meeting	PL

Doc.	Source	Title	Destination
185+Add.1	WG 4B	Third report from Working Group 4B to Committee 4	C4
186	GRC	Proposals for the work of the Conference	PL, C5
187	C4	Summary of decisions by Committee 4 in relation to the planning parameters and related issues	C4
188	WG 5B	Second report of Working Group 5B to Committee 5	C5
189	PNG	Proposals for the work of the Conference	C5
190	SG	Summary record of the fourth meeting of Committee 4	C4
191	C5	Second series of texts submitted by Committee 5 to the Editorial Committee	C6
192+Cor.1	AFR	African common proposals for the work of the Conference	C4, C5
193	SWG 5C3	Note by the Chairman of Sub-Working Group 5C3 on high altitude platform stations	WG 5C
194	WG 5A	Third report of Working Group 5A to Committee 5	C5
195	SYR	Proposals for the work of the Conference	C5
196	EST	Proposals for the work of the Conference	C5
197	WG 5B	Third report of Working Group 5B to Committee 5	C5
198	WG 4B	Fourth report from Working Group 4B to Committee 4	C4
199	WG 5C	Second report of Working Group 5C to Committee 5	C5
200	SG	List of documents (151-200)	-