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**Documents of the World Administrative Radio Conference (WARC-79)
(Geneva, 1979)**

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- This PDF includes Document DT No. 101-237
- The complete set of conference documents includes Document No. 1-984, Document DT No. 1-237

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/101 has not been published
(E/F/S)

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/102-E

22 October 1979

Original: English

WORKING GROUP 6A

DRAFT NOTE TO THE CHAIRMAN OF COMMITTEE 4

In the examination of proposals relating to Article N11, it has been noted that the expression "acceptable level of interference" appears for which no definition exists in the Radio Regulations.

Committee 4 is therefore requested kindly to consider, as a matter of urgency, the possibility of establishing a definition for this expression.

J.K. BJORNSJÖ
Chairman of Working Group 6A



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/103-E

22 October 1979

Original: English

WORKING GROUP 6A

DRAFT NOTE TO THE CHAIRMAN OF COMMITTEE 4

In the examination of proposals relating to Article N11, Working Group 6A has established that all the characteristics specified in Appendix 1A were not required for initiating the co-ordination procedure prescribed in Sections II and III of that Article.

Committee 4 is therefore requested kindly to indicate which of the characteristics in Appendix 1A are required for co-ordination:

- a) between assignments to space radiocommunication stations pertaining to different networks;
- b) between assignments to space radiocommunication stations and assignments to terrestrial stations.

Appendix 1A would have to be annotated accordingly.

J.K. BJÖRNSJÖ
Chairman of Working Group 6A



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/104-E

22 October 1979

Original : French
English
Spanish

WORKING GROUP 5A

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5A

The proposals relating to the definition of assignment, allotment, allocation and related terms are annexed herewith for consideration by Working Group 5A.

Annex : 1



A N N E X

E/31/1 ADD Section VA. Frequency terminology.

PNG/39A/61 ADD 3133G Assignment : A frequency of specified value and associated bandwidth that has been designated by an Administration for use by one or more stations under prescribed conditions.

G/53A/5 ADD 3006C Assignment : A frequency of specified value and associated bandwidth that has been designated by an Administration for use by one or more stations under prescribed conditions. See also Nos. 3134/85, 3138/89, 3139/90 and 3140/91 for related terms.

ARG/149/152 ADD 3006C Assignment : Channel authorized by an administration for use by one or more stations of a specified service in accordance with the rules laid down by the administration (see Nos. 3134A, 3138A and 3443A).

PNG/39A/60 ADD 3133F Allotment : A frequency channel normally specified from an agreed channelling plan that has been designated for assignment by one or more Administrations for use in a defined area or areas.

G/53A/4 ADD 3006B Allotment : A frequency channel, normally specified from an agreed channelling plan, that has been designated for assignment by one or more Administrations for use in a defined area or areas.

ARG/149/151 ADD 3006B Allotment : Channel which may be assigned to a station by one or more administrations of one or more areas agreed under an allotment plan.

E/31/3 ADD 3133B Allotted frequency : A frequency which may be used by one or more Administrations in one or more countries or specific geographical areas, in accordance with a Plan drawn up by a competent Conference.

GRC/86A/418 ADD 3133B Frequency Allotment : A frequency channel, normally specified from an agreed plan, that has been designated for assignment by one or more administrations for use in a defined area or areas.

I/135/3 ADD 3006B Frequency Allotment :
Determination of a frequency and of an associated frequency band which may be used by one or more administrations in one or more predetermined countries or geographical areas.

Note : If this proposal is adopted by the WARC-79, Resolution No. 6 of the WARC 1959 can be deleted.

F/57A/860 Allotment (of a radio channel) : Entering of a given channel in an international agreement for the purpose of its use for a radiocommunication service, in one or more particular geographical areas and in specified conditions, by one or more Administrations.

Associated term : allot a channel

PNG/39A/59 ADD 3133E Allocation : A frequency band of specified limits that has been designated in a table of frequency allocations for use by one or more named radio services under specific conditions.

G/53A/3 ADD 3006A Allocation : A frequency band of specified limits that has been designated in a table of frequency allocations for use by one or more named radio services under specific conditions.

ARG/149/150 ADD 3006A Allocation : Frequency band intended for one or more services specified in the Table of Frequency Allocations.

GRC/86A/417 ADD 3133A Frequency Allocation : The authorization given by an administration to one or more named radio services to use a specified part of the radio frequency spectrum.

I/135/2 ADD 3006A Frequency Allocation :
Determination of the limits of a frequency band with a view to its use by one or more radiocommunication services in specified conditions.

Note : If this proposal is adopted by the WARC-79, Resolution No. 6 of the WARC 1959 can be deleted.

E/31/2 ADD 3133A Allocated frequency band : A frequency band, delimited in the Table of Frequency Allocations, which can be used for one or more radiocommunication services in conformity with the present Regulations.

GRC/86A/425 ADD 3138A Allocated Frequency Band : The frequency band of specified limits, for use by one or more radio services, according to the Radio Regulations (Article N7/5, Table of Frequency Allocations).

F/57A/859 Allocation (of a frequency band) : Entering of a particular frequency band in these Regulations for the purpose of its use by one or more radiocommunication services in specified conditions.

Associated term : allocate (a frequency band)

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/105(Rev.2)-E

24 October 1979

Original : French

WORKING GROUPS 5BA, 5BB, 5C,
5D AND 5E

NOTE BY THE CHAIRMAN OF AD HOC WORKING GROUP 5/3 TO THE
CHAIRMEN OF WORKING GROUPS 5BA, 5BB, 5C, 5D AND 5E

ISM FREQUENCIES

1. Ad hoc Working Group 5/3 of Committee 5 has, after a first phase of work, selected the frequencies below for world-wide ISM applications. The first five and the last three frequencies are in harmonic relation.

<u>Frequency</u>	<u>Band limits</u>
* 3 390 kHz	[3 380 kHz - 3 400 kHz]
* 6 780 kHz	[6 765 kHz - 6 795 kHz]
13 560 kHz	[13 553 kHz - 13 567 kHz]
27 120 kHz	[26 951 kHz - 27 283 kHz]
40 680 kHz	[40 660 kHz - 40 700 kHz]
* 433.92 MHz	[432.05 MHz - 434.79 MHz]
** [915 MHz]	[902 MHz - 928 MHz]
2 450 MHz	[2 400 MHz - 2 500 MHz]
	or [2 425 MHz - 2 475 MHz]
5 800 MHz	[5 725 MHz - 5 875 MHz]
24.125 GHz	[24.000 GHz - 24.250 GHz]
* 61.25 GHz	[61.0 GHz - 61.5 GHz]
* 122.50 GHz	[122.0 GHz - 123 GHz]
* 245.0 GHz	[244.0 GHz - 246 GHz]

This selection is accompanied by several reservations.

1.1 With the exception of the first two and last three frequencies, the tolerances for the frequencies correspond to those indicated in the present Radio Regulations. Some delegates found them too broad and therefore dangerous to radiocommunication services, while others considered them too restrictive and therefore unrealistic.

With regard to the particular case of 2 450 MHz, the delegates of Canada, Denmark, Japan, Kenya, USSR and the United States wished to preserve the tolerance of ± 50 MHz, while those of the Federal Republic of Germany, France, Greece, the Netherlands and Switzerland preferred to have it reduced to ± 25 MHz.

1.2 The delegate of France was totally opposed to the use of 915 MHz for ISM applications which it regarded as incompatible with the land mobile service. The delegate of Japan also emphasized the unsuitability of that frequency for the mobile service.



The delegates of Canada and the United States asked that the use of 915 MHz should continue to conform to the present provisions of the Radio Regulations for Region 2, whereas the other members of the Working Group favoured more severe restrictions, at least for Regions 1 and 3; for example, the German and Swiss delegates considered the tolerance of ± 13 MHz to be unacceptable. A proposal to replace the band 915 MHz by $1\,225 \pm 10$ MHz was deemed unacceptable by the delegates of Canada and the United States, while the other delegates reserved their position pending a fuller study. (It should be noted that the frequency $1\,225$ MHz has been adopted for the radionavigation satellite service.)

1.3 The members of the ad hoc Group unanimously supported more restrictive conditions for the newly selected frequencies or for those whose use might be extended to other Regions or countries, than for frequencies already entered in the Radio Regulations for ISM applications on a world-wide basis.

2. In view of this unanimously held opinion, the Group studied the contents of footnotes which would impose stricter constraints for new frequencies than for the frequencies now listed in the Radio Regulations. However, the Group is of the opinion that it should be specified that the equipment using the latter frequencies must not cause any harmful interference to radiocommunication services outside the bands thus designated.

3. It should be noted that for the first five frequencies Greece had proposed another set of frequencies in harmonic relation and close to that adopted by the Group; these frequencies would have the advantage of being within the bands of the amateur service, but the disadvantage would be that any equipment now in service would have to be modified and a transitional period would be required during which two families of frequencies would be simultaneously available for use. For that reason, this interesting proposal was not adopted by the Group.

4. The Group considered a draft Recommendation inviting the CCIR to study the radiation limits which should be imposed for ISM equipment, at least in the new frequency bands which might be used for such applications on a world-wide basis.

5. Greece reserved its position in general until such time as the restrictions which it deems necessary should be specified.

The United Kingdom also reserved its position, since it takes the view that the Radio Regulations cannot apply to ISM equipments.

DRAFT STANDARDIZED TEXTS

As it was not possible for the entire Working Group to be consulted, some draft standardized footnotes are proposed below between square brackets as an indication. The frequencies listed in paragraph 1 which are marked with one asterisk would correspond to the first standardized footnote; the frequency marked with two asterisks would correspond to the first standardized footnote in Regions 1 and 3 and to the second standardized footnote in Region 2; the remaining frequencies would correspond to the second standardized footnote.

/ In the case of new ISM frequencies

The frequency $\text{[} \quad \text{]}$ may be used for industrial, scientific and medical applications. Radiation shall be within the limits $\text{[} \quad \text{]}$ and $\text{[} \quad \text{]}$ and shall not cause harmful interference to radio services operating inside or outside this band in accordance with the provisions of these Regulations.

In the case of ISM frequencies listed in the Regulations in force on 1 January 1979

The frequency $\text{[} \quad \text{]}$ may be used for industrial, scientific and medical applications. Radiation shall be within the limits $\text{[} \quad \text{]}$ and $\text{[} \quad \text{]}$ and shall not cause harmful interference to radio services operating outside these limits in accordance with the provisions of these Regulations. Radio services desiring to operate within these limits must accept the harmful interference which may be caused by these applications. $\text{[} \quad \text{]}$

H. BERTHOD

Chairman of ad hoc Working Group 5/3

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/105(Rev.1)-E
22 October 1979
Original : FrenchWORKING GROUPS 5BA, 5BB, 5C AND 5DNOTE BY THE CHAIRMAN OF AD HOC WORKING GROUP 5-3 TO THE
CHAIRMEN OF WORKING GROUPS 5BA, 5BB, 5C and 5D

ISM FREQUENCIES

1. Ad hoc Working Group 5-3 of Committee 5 has, after a first phase of work, selected the following frequencies, the first five of which are in harmonic relation, for worldwide ISM applications :

<u>Frequency</u>	<u>Tolerance</u>
3 390 kHz	$\overline{\underline{3\ 380\ \text{kHz} - 3\ 400\ \text{kHz}}}$
6 780 kHz	$\overline{\underline{6\ 765\ \text{kHz} - 6\ 795\ \text{kHz}}}$
13 560 kHz	$\overline{\underline{\pm 0.05\ \%}}$
27 120 kHz	$\overline{\underline{\pm 0.6\ \%}}$
40 680 kHz	$\overline{\underline{\pm 0.05\ \%}}$
433.92 MHz	$\overline{\underline{\pm 0.2\ \%}}$
$\overline{\underline{915\ \text{MHz}}}$	$\overline{\underline{\pm 13\ \text{MHz}}}$ or $\overline{\underline{1\ 225\ \text{MHz} \pm 10\ \text{MHz}}}$
2 450 MHz	$\overline{\underline{\pm 50\ \text{MHz}}}$ or $\overline{\underline{\pm 25\ \text{MHz}}}$
5 800 MHz	$\overline{\underline{\pm 75\ \text{MHz}}}$
24.125 GHz	$\overline{\underline{\pm 125\ \text{MHz}}}$

(All these tolerances may be indicated in the form of band limits). This selection is accompanied by several reservations.

1.1 With the exception of the first two frequencies, the tolerances for the frequencies shown are as indicated in the present Radio Regulations. Some find them too broad and hence dangerous to radiocommunication services, while others consider them too restrictive and therefore unrealistic.

With regard to the particular case of 2 450 MHz, the delegates of Canada, Denmark, Japan, Kenya and the United States would like the tolerance of ± 50 MHz to be maintained, while those of the Federal Republic of Germany, France, Greece, the Netherlands, Switzerland, and the USSR would prefer to have it reduced to ± 25 MHz.

1.2 The delegate of France is totally opposed to the use of 915 MHz by the ISM, a user which it regards as incompatible with the land mobile service. The delegate of Japan also emphasized the unsuitability of that frequency for the mobile service.

The delegates of Canada and the United States asked that the utilization of the band 915 MHz should continue to conform to the present provisions of the Radio Regulations for Region 2, whereas the other members of the Working Group desired more severe restrictions, at least for Regions 1 and 3; for example, the German and Swiss delegates considered the tolerance of ± 13 MHz to be unacceptable. A proposal to replace the band 915 MHz by $1\ 225 \pm 10$ MHz was deemed unacceptable by the delegates of Canada and the United States, while the other delegates reserved their position pending a fuller study.



1.3 Members of the Ad Hoc Group unanimously support more restrictive conditions for the newly selected frequencies, or for those whose utilization might be extended to other Regions or countries, than for frequencies already entered in the Radio Regulations for ISM applications on a world-wide basis.

2. In view of this unanimously held opinion, the Group studied the contents of footnotes which would impose, for new frequencies, stricter constraints than for the frequencies now listed in the Radio Regulations. However, for such frequencies it should be specified in the opinion of the Group, that the equipments using them must not cause any interference to radiocommunication services outside the bands thus designated.

3. It should be noted that for the first five frequencies Greece had proposed another set of frequencies in harmonic relation and close to that adopted by the Group; these frequencies would have the advantage of being within the bands of the amateur service, but the disadvantage would be that any equipments now in service would have to be modified and a transitional period would be required during which two families of frequencies would have been simultaneously available for use. For that reason, this interesting proposal was not adopted by the Group.

4. The Group considered a draft Recommendation inviting the CCIR to study the radiation limits which should be imposed for ISM equipments, at least in the new frequency bands which might be used for such applications on a world-wide basis.

5. Greece reserved its position in general until such time as the restrictions which it deems necessary should be specified.

The United Kingdom also reserved its position, since it takes the view that the Radio Regulations cannot apply to ISM equipments.

H. BERTHOD

Chairman of ad hoc Working Group 5-3

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/105-E

22 October 1979

Original : French

WORKING GROUPS 5BA, 5BB, 5C

NOTE BY THE CHAIRMAN OF AD HOC WORKING GROUP 5-3
TO THE CHAIRMEN OF WORKING GROUPS 5BA, 5BB AND 5C

ISM FREQUENCIES

1. Ad Hoc Working Group 5-3 of Committee 5 has, after a first phase of work, approved the following frequencies, which are in harmonic relation, for ISM applications :

- 3 390 kHz (tolerance : 3 380 kHz - 3 400 kHz)
- 6 780 kHz (tolerance : 6 765 kHz - 6 795 kHz)
- 13 560 kHz (tolerance : $\pm 0.05 \%$)
- 27 120 kHz (tolerance : $\pm 0.6 \%$)
- 40 680 kHz (tolerance : $\pm 0.05 \%$)

The last three frequencies and the corresponding tolerances reproduce the present values of the Radio Regulations (these tolerances may be indicated in the form of band limits).

2. The Group is studying the contents of footnotes which would impose, for the first two frequencies, stricter constraints than for the frequencies now listed in the Radio Regulations. However, for the last three frequencies, it should be specified, in the opinion of the Group, that the equipments using them must not cause any interference to radiocommunication services outside the bands thus designated.

3. The Group is continuing its work on the higher frequencies. It should be noted that Greece has proposed another set of frequencies in harmonic relation and close to that adopted by the Group; these frequencies would have the advantage of being within the bands of the amateur service, but the disadvantage would be that any equipments now in service would have to be modified and a transitional period would be required during which two families of frequencies would have been simultaneously available for use. For that reason, this interesting proposal was not adopted by the Group.

4. Greece and the United Kingdom reserved their position on the above points.

H. BERTHOD
Chairman of Ad Hoc Working Group 5-3



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/106(Rev.1)-E

30 October 1979

Original : English

WORKING GROUP 4B

DRAFT RESOLUTION

Relating to the propagation information
used in the determination of coordination area

The World Administrative Radio Conference (Geneva, 1979),

considering

- a) that Appendix 28 of these Regulations provides a method for the determination of coordination area which incorporates certain material concerned with radiowave propagation;
- b) that the propagation information contained in Appendix 28 is based directly or indirectly on propagation data given in the texts of the CCIR;
- c) that CCIR studies of radiowave propagation are continuing, and the conclusions of these studies are subject to change and may in future show the need to revise those sections of Appendix 28 which incorporate the propagation information,

recognizing that

- a) a period of several years is generally required to accumulate sufficient data to form reliable conclusions concerning radiowave propagation;
- b) for administrative reasons it is desirable that the propagation information used for the determination of coordination area should not be revised very frequently and, in any case, should be revised only if the effect of such revision on the size of the coordination area is significant;
- c) in Appendix 28 the coordination area is determined without the need for detailed knowledge of the propagation characteristics of individual paths, and it is desirable that this approach be maintained,

invites the CCIR to continue to study propagation data concerned with the determination of coordination area, and to maintain the relevant CCIR texts in a format which would permit direct insertion into Appendix 28 in place of the existing sections 3, 4, 6 and Annex II;

resolves that

1. each Plenary Assembly of the CCIR should come to a Conclusion as to whether, according to the propagation information given in the most recent CCIR Recommendations, any revision of sections 3, 4 or 6 or Annex II of Appendix 28 of these Regulations is warranted;
2. when a Plenary Assembly of the CCIR, in accordance with paragraphs [1, 2, 2a, and 3] has come to a Conclusion that a revision of sections 3, 4 or 6 or Annex II of Appendix 28 is warranted, the Director of the CCIR shall inform the Secretary-General of the ITU of the necessary amendments to Appendix 28;



/ requests that /

1. the Administrative Council place, as an extraordinary item, on the agenda of the next worldwide administrative radio conference, the consideration of the Conclusion of the CCIR;
2. the Secretary-General, upon affirmation of the Conclusion of the CCIR by said radio conference, incorporate the amendments agreed at said conference in a document which contains the new text of sections 3, 4 and 6, and of Annex II of Appendix 28 in a form suitable for direct substitution in the version of Appendix 28 then in force, and send this document to all Administrations and to the IFRB;

/ and decides that / from a date established by said radio conference, the revised text shall form the basis of all subsequent determinations of coordination area using Appendix 28.

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/106-E

23 October 1979

Original : English

WORKING GROUP 4B

DRAFT RESOLUTION

Relating to the propagation information
used in the determination of coordination area

The World Administrative Radio Conference (Geneva, 1979)

considering

- a) that Appendix 28 of these Regulations provides a method for the determination of coordination area which incorporates certain material concerned with radiowave propagation;
- b) that the propagation information contained in Appendix 28 is based directly or indirectly on propagation data given in the texts of the CCIR;
- c) that CCIR studies of radiowave propagation are continuing, and the conclusions of these studies are subject to change and may in future show the need to revise those sections of Appendix 28 which incorporate the propagation information,

recognizing that

- a) a period of several years is generally required to accumulate sufficient data to form reliable conclusions concerning radiowave propagation;
- b) for administrative reasons it is desirable that the propagation information used for the determination of coordination area should not be revised very frequently and, in any case, should be revised only if the effect of such revision on the size of the coordination area is significant;
- c) in Appendix 28 the coordination area is determined without the need for detailed knowledge of the propagation characteristics of individual paths, and it is desirable that this approach be maintained,

resolves that

1. each Plenary Assembly of the CCIR [after the XVth Plenary Assembly] should come to a Conclusion as to whether, according to the propagation information given in the most recent CCIR Recommendations, any revision of sections 3, 4 or 6 or Annex II of Appendix 28 of these Regulations is warranted;
2. a revision of Appendix 28 under the provisions of paragraph 1 shall be considered warranted if such a revision [on the basis of technical evidence permitting no other interpretation] would not result in a decrease of any coordination distance by more than [15 %] or an increase in any coordination distance by more than [10 %] compared to the corresponding coordination distance derived according to the method of Appendix 28 then in force;



2a. no revision of Appendix 28 under the provisions of paragraph 1 shall be considered warranted if such a revision would result in a significant increase in the volume of data required to apply the method of Appendix 28, or in the complexity of application of the data;

/ 3. no revision of Appendix 28 under the provisions of paragraph 1 shall be considered warranted if a revision of Appendix 28 according to the procedures set down in this Resolution had been carried out following a Conclusion by the previous Plenary Assembly of the CCIR; 7

4. when a Plenary Assembly of the CCIR, in accordance with paragraphs / 1, 2, 2a, and 3 / has come to a Conclusion that a revision of sections 3, 4 or 6 or Annex II of Appendix 28 is warranted, the Director of the CCIR shall inform the Secretary-General of the ITU of the necessary amendments to Appendix 28;

5. the Secretary-General shall then incorporate the amendments in a document which contains the new texts of sections 3, 4 and 6 and Annex II of Appendix 28 in a form suitable for direct substitution into the version of Appendix 28 then in force, and shall send this document to all Administrations and to the IFRB;

6. from a date / X / days after the despatch of the revised text by the Secretary-General, the revised text shall form the basis of all subsequent determinations of coordination area using Appendix 28;

7. coordination agreements based on determination of coordination area using Appendix 28 shall not be affected by any subsequent revision of Appendix 28 implemented by the provisions of this Resolution;

8. if, as the result of a revision of Appendix 28 implemented by the provisions of this Resolution, an Administration wishes to re-coordinate an existing frequency assignment, it may do so by re-notifying the frequency assignment concerned;

invites the CCIR to continue to study propagation data concerned with the determination of coordination area, and to maintain the relevant CCIR texts in a format which would permit direct insertion into Appendix 28 in place of the existing sections 3, 4, 6 and Annex II.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/107-E

23 October 1979

Original : English

WORKING GROUP 5E

DRAFT

SECOND REPORT OF WORKING GROUP 5E TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency band between 51.4 and 84 GHz

1. All proposals relating to this band were considered and the Working Group decided unanimously to recommend the adoption of the Table and the related footnotes given in the Annex.
2. It was decided to refer the question of "except aeronautical mobile" in the bands 54.25 - 58.2 GHz and 59 - 64 GHz to Committee 4 for further study.
3. The requirement for ISM in the band 61 - 61.5 GHz as specified in footnote 3815D was approved on the condition that this frequency range is confirmed by the 5/ad hoc-3 Working Group of Committee 5.
4. Consideration of the Canadian proposal for the Earth exploration (passive) service in the bands 51.4 - 54.25, 58.2 - 59 GHz, and 64 - 65 GHz was deferred until the definition for this service is decided on in Working Group 5A. An early decision on this point would aid in finalizing the programme of Working Group 5E.
5. In the band 78 - 79 GHz, a decision on the options of either including the word "Active" in the Table or of including this band in the footnote 3815I was deferred awaiting a decision by Working Group 5A on a definition for the word "Active".

Dr. A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
51.4 - 59

Allocation to Services		
Region 1	Region 2	Region 3
51.4 - 54.25	EARTH EXPLORATION-SATELLITE (Passive)	
	SPACE RESEARCH (Passive)	
	3815/412J 3815A	
54.25 - 58.2	EARTH EXPLORATION-SATELLITE (Passive)	
	FIXED	
	INTER-SATELLITE	
	MOBILE [except aeronautical mobile]	
	SPACE RESEARCH (Passive)	
	3815B	
58.2 - 59	EARTH EXPLORATION-SATELLITE (Passive)	
	SPACE RESEARCH (Passive)	
	3815/412J 3815A	

MOD 3815/412J All emissions in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, [86 - 92 GHz, 101 - 102 GHz, 130 - 140 GHz, 182 - 185 GHz and 230 - 240 GHz] are prohibited. The use of passive sensors by other services is also authorized.

ADD 3815A Radio astronomy observations in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz and 72.77 - 72.91 GHz may be carried out under national arrangements. Administrations are urged to take all practicable steps to protect radio astronomy observations in these bands from harmful interference.

ADD 3815B In the Federal Republic of Germany, Japan and the United Kingdom the band 54.25 - 58.2 GHz is also allocated to the radiolocation service on a primary basis.

GHz
59 - 66

Region 1	Region 2	Region 3
59 - 64	FIXED INTER-SATELLITE MOBILE <u>/</u> except aeronautical mobile <u>/</u> RADIOLOCATION <u>/</u> 3815C <u>/</u> <u>/</u> 3815D <u>/</u>	
64 - 65	EARTH EXPLORATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 3815/412J 3815A	
65 - 66	EARTH EXPLORATION-SATELLITE SPACE RESEARCH Fixed Mobile	

MOD 3815/412J All emissions in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, / 86 - 92 GHz, 101 - 102 GHz, 130 - 140 GHz, 182 - 185 GHz and 230 - 240 GHz / are prohibited. The use of passive sensors by other services is also authorized.

ADD 3815A Radio astronomy observations in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz and 64 - 65 GHz may be carried out under national arrangements. Administrations are urged to take all practicable steps to protect radio astronomy observations in these bands from harmful interference.

/ ADD 3815C The use of airborne radars in the bands 59 - 64 GHz / and 125 - 130 GHz / is prohibited. /

/ ADD 3815D The frequency 61.25 GHz is designated for ISM. Emissions must be contained within the limits of \pm 250 MHz of that frequency. /

GHz
66 - 76

Region 1	Region 2	Region 3
66 - 71	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 3815E	
71 - 74	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) 3815A	
74 - 75.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	
75.5 - 76	AMATEUR AMATEUR-SATELLITE	

ADD 3815E In the bands 43.5 - 47 GHz, 66 - 71 GHz, [95 - 100 GHz] connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

ADD 3815A Radio astronomy observations in the bands 52 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz and 72.77 - 72.91 GHz may be carried out under national arrangements. Administrations are urged to take all practicable steps to protect radio astronomy observations in these bands from harmful interference.

GHz
76 - 84 GHz

Region 1	Region 2	Region 3
76 - 78	RADIOLOCATION Amateur Amateur-satellite	
78 - 79	EARTH EXPLORATION-SATELLITE /-(Active)/ RADIOLOCATION SPACE RESEARCH /-(Active)/ Amateur Amateur-satellite /3815I/	
79 - 81	RADIOLOCATION Amateur Amateur-satellite	
81 - 84	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE MOBILE-SATELLITE (Space-to-Earth)	

(USA/45/255 ADD 3799B : proposed drafting) :

/-ADD 3815I Radars located on a spacecraft may be operated on a primary basis in the bands /17.6 - 17.7 GHz and 35.5 - 35.6 GHz/ and 78 - 79 GHz_7

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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23 October 1979

Original : English

WORKING GROUP 5E

DRAFT NOTE FROM THE CHAIRMAN OF WORKING GROUP 5E
TO THE CHAIRMAN OF WORKING GROUP 5/AD HOC 3

1. Working Group 5E has recommended to Committee 5 in Document No. 292 that the frequency 61.25 GHz be designated for ISM. Emissions would be contained within the limits of ± 250 MHz of that frequency.
2. The allocation would be conditional on the confirmation of this frequency by the Working Group 5/ad hoc 3.

Dr. A.W. ADEY
Chairman of Working Group 5E



WORLD ADMINISTRATIVE RADIO CONFERENCE

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24 October 1979

Original : English

COMMITTEE 5

Note from the Chairman of Working Group 5E

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 5

TO THE CHAIRMAN OF COMMITTEE 4

1. In a review by Working Group 5E of proposals for allocations in the bands 54.25 - 58.2 GHz and 59 - 64 GHz, sharing in each band between the intersatellite and the mobile service was proposed. The question of the necessity to include "except aeronautical mobile" in the mobile service for protection of the intersatellite service was raised.
2. A related issue is that of sharing between the intersatellite service and airborne radars in the radiolocation service in the bands 59 - 64 GHz and 126 - 134 GHz.
3. Committee 4 is requested to provide clarification on sharing between the pairs of services cited above.
4. Both issues are expected to arise in consideration of allocations at higher frequencies up to approximately 200 GHz.

Dr. A.W. ADEY
Chairman of Working Group 5E



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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23 October 1979

Original : English

WORKING GROUP 5E

DRAFT NOTE FROM THE CHAIRMAN OF WORKING GROUP 5E
TO THE CHAIRMAN OF COMMITTEE 4

1. In a review by Working Group 5E of proposals for allocations in the bands 54.25 - 58.2 GHz and 59 - 64 GHz, sharing in each band between the intersatellite and the mobile service was proposed. The question of the necessity to include "except aeronautical mobile" in the mobile service for protection of the intersatellite service was raised.
2. A related issue is that of sharing between the intersatellite service and airborne radars in the radiolocation service. (See Document No. 292)
3. Committee 4 is requested to provide clarification on sharing between the pairs of services cited above.
4. Both issues are expected to arise in consideration of allocations at higher frequencies up to approximately 200 GHz.

Dr. A.W. ADEY
Chairman of Working Group 5E



WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/110(Rev.1)-E

25 October 1979

Original: English

WORKING GROUP 5C

DRAFT

SIXTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands 87 - 138 MHz

1. Working Group 5C considered its fifth draft Report, contained in Document No. DT/85. The delegate of the U.S.S.R. proposed to suppress footnote 3541A on the grounds that the footnote, which involved 25 countries, would create difficulties in the application of the Radio Regulations. Moreover, he noted that the main reason for this footnote to be excluded was that the proposed allocation for the land mobile service in the band 47 - 68 MHz allocated in the Radio Regulations to the radio broadcasting service would cause harmful interference and would limit the operation of the radio broadcasting service. The delegate of Switzerland agreed with the principles outlined with regard to footnotes. However he could not agree to the deletion of any provision that was of benefit to the land mobile service. In his view, such a provision is now necessary to take account of certain developments.

In view of the extensive discussion that had already taken place both in the Working Group and in an ad hoc group set up to deal with this matter, the Working Group decided to defer decision on this Draft Report to a later meeting of Working Group 5C.

2. Working Group 5C considered all proposals to the bands 87.5 - 108 MHz. It was agreed by a majority to recommend the revised Table appearing in Annex 1 to this Report to Committee 5 for adoption.

The consideration of proposals in Region 1 concerning:

- the conditions governing the introduction of the BC service into the band 100 - 108 MHz (planning conference for Region 1);
- the protection of existing mobile operations in this band (with or without a time limit);
- the necessary procedures for transition from the existing situation to a future, expected, one;
- the necessary protection of services operating in adjacent bands below 87.5 and above 108 MHz, and
- the revised version of proposed footnote 265

were entrusted to an ad hoc group under the chairmanship of Mr. Schwarz from Switzerland.



3. Some delegations, while agreeing to reallocate the band 100 - 104 MHz to the broadcasting service, wished to see the mobile, except aeronautical mobile (R), service maintained in the band 104 - 108 MHz on a primary/permitted or secondary basis, with or without the broadcasting service on a primary basis.
4. The delegations of the Federal Republic of Germany, Belgium, Spain, France, Italy, Israel, Norway and the Netherlands reserved their position on the maintained and modified footnotes 264 and 265. Ireland reserved her position on footnote 265 only.
5. All proposals relating to the band 108 - 138 MHz were considered and it was agreed by a majority to recommend the revised Table appearing in Annex 2 to this Report to Committee 5 for adoption.
6. There were divided opinions whether to delete or maintain footnote 3573/273A.
7. India reserved her position on the date in the proposed additional footnote 3578A.
8. Several delegations reserved their position on the permitted status of the aeronautical mobile (OR) service in footnote 3574/274.
9. If the introduction of the fixed and mobile services on a secondary basis into the Table is not made, then several delegations would insist on maintaining footnote 3578/275A. Other delegations could not accept the down-grading to secondary status of the fixed and mobile services in the band 136 - 137 MHz.

A N N E X 1

MHz
87 - 100

Region 1	Region 2	Region 3
		87 - 100
87.5 - 100		BROADCASTING
BROADCASTING	88 - 100	Fixed
3563/264 [3564/265]	BROADCASTING	Mobile
100 - 108	BROADCASTING	3566/267
	3566/267 [3564/265] [3570/271]	3571/272 [3569/270]

- MOD 3566/267 Alternative allocation: in New Zealand the bands 87 - 88 MHz and 100 - 108 MHz are allocated to the land mobile service on a primary basis.
- ADD 3566A Different category of service : in New Zealand the allocation of the band 100 - 108 MHz is to the broadcasting service on a secondary basis (see No. 3431/940).
- MOD 3563/264 Additional allocation: in the United Kingdom and Switzerland the band 87.5 - 88 MHz is also allocated to the land mobile service on a primary basis.
- MOD 3571/272 Additional allocation: in China, Korea (Republic of), the Philippines and Singapore the band 100 - 108 MHz is also allocated to the fixed and mobile services on a permitted basis.
- [MOD 3564/265 Additional allocation: in the United Kingdom the band 97.6 - 100 MHz is also allocated to the land mobile service on a permitted basis, and the band 100 - 102.1 MHz is also allocated to the land mobile service on a primary basis, both until 31 December 1989. The use of both sub-bands by the land mobile service is restricted to those assignments in operation on 1 January 1980.]

3569/270 In Austria, Belgium, Spain, Israel, Italy, Yugoslavia, Switzerland and, if necessary, in Denmark, the Netherlands and the F. R. of Germany, the band 100 - 104 MHz, is allocated on a permitted basis to the broadcasting service. The introduction of the broadcasting service in these countries is subject to special agreements between the interested and affected Administrations, to ensure that harmful interference is not caused to the services of the other countries operating in accordance with the Radio Regulations.

3570/271 In Denmark, Finland, Ireland, Iceland, Norway, the F.R. of Germany, Sweden and Turkey, the band 100 - 108 MHz is also allocated to the fixed service and the same allocation will also be made eventually in the Netherlands and the United Kingdom. In Italy and Yugoslavia, the band 104 - 108 MHz is also allocated to the fixed service. The effective radiated power of any station in the fixed service shall normally not exceed 25 watts. In case higher powers are used, the introduction of the fixed service is subject to special agreements between interested and affected Administrations.

SUP 3567/268, 3554/255, 3555/256, 3557/258

A N N E X 2

MHz
108 - 138

Region 1	Region 2	Region 3
108 - 117.975	AERONAUTICAL RADIONAVIGATION	
117.975 - 136	AERONAUTICAL MOBILE (R)	
	3495/201A 3572/273 3572A 3573/273A 3574/274	
136 - 137	AERONAUTICAL MOBILE (R)	
	Fixed	
	Mobile	
	3578A	
137 - 138	SPACE OPERATION (Space-to-Earth)	
	METEOROLOGICAL-SATELLITE (Space-to-Earth)	
	SPACE RESEARCH (Space-to-Earth)	
	Fixed	
	Mobile	
	3580/279A 3583/281C 3584/281E	

MOD 3495/201A The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

NOC 3572/273 In this band, the frequency 121.5 MHz is the aeronautical emergency frequency and where required the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz; mobile stations of the maritime mobile service may communicate on these frequencies for safety purposes with stations of the aeronautical mobile service.

- MOD 3573/273A In the band 117.975 - 136 MHz space radiocommunication techniques may be used for the aeronautical mobile (R) service, subject to agreement obtained under the procedure set forth in Article [].
- ADD 3572A The bands 121.450 - 121.55, and 242.95 - 243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position indicating radio-beacons transmitting at 121.5 and 243 MHz.
- MOD 3574/274 Additional allocation: in Angola, Bulgaria, Iran, Japan, Mozambique, Papua New Guinea, Poland, German Democratic Republic, Roumania, Czechoslovakia and the U.S.S.R. the band 132 - 136 MHz is also allocated to the aeronautical mobile (OR) service on a permitted basis.
- ADD 3578A Until 1 January 1990 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 (space-to-earth) service on a primary basis. The introduction of stations of the aeronautical mobile (R) service can only occur after that date and shall be effected in accordance with internationally agreed plans for that service. After 1 January 1990 the band 136 - 137 MHz will also be allocated to the above-mentioned space services on a secondary basis.
- Before 1 January 1990, administrations may authorize stations in the aeronautical mobile (R) service for national purposes, subject to agreement under the procedure set forth in Article [].
- MOD 3580/279A Additional allocation: in Australia, the band 137 - 144 MHz is also allocated to the broadcasting service, on a primary basis, until that service can be accommodated within regional broadcasting allocations.
- ADD 3580A Additional allocation: in China, the bands 137 - 138 and 144 - 146 MHz are also allocated to the aeronautical mobile service, on a primary basis.
- ADD 3580B Additional allocation: in Indonesia, the band 137 - 138 MHz is also allocated to the fixed service on a primary basis.
- MOD 3583/281C Additional allocation: in Saudi Arabia, Austria, Bahrein, Bulgaria, Egypt, United Arab Emirates, Finland, Hungary, Jordan, Kuwait, Lebanon, Syria, the German Democratic Republic, Roumania, Czechoslovakia, the U.S.S.R., Yemen A.R. and Yugoslavia the band 137 - 138 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis.

MOD 3584/281E Different category of service in Afghanistan, China, India, Indonesia, Iran and Thailand, the allocation of the band 137 - 138 MHz is to the fixed and mobile services on a primary basis.

SUP 3575/274A, 3576/274B, 3577/275, 3578/275A,
3581/281A, 3582/281AA

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/110-E

22 October 1979

Original: EnglishWORKING GROUP 5CDRAFT

SIXTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands 47 - 68 MHz (Region 1)
44 - 50 MHz (Region 3)
50 - 68 MHz (Regions 2 and 3)

1. Working Group 5C considered its fifth draft Report, contained in Document No. DT/85. The delegate of the U.S.S.R. proposed to suppress footnote 3541A on the grounds that the footnote, which involved 25 countries, would create difficulties in the application of the Radio Regulations. Moreover, he noted that the main reason for this footnote to be excluded was that the proposed allocation for the land mobile service in the band 47 - 68 MHz allocated in the Radio Regulations to the radio broadcasting service would cause harmful interference and would limit the operation of the radio broadcasting service. The delegate of Switzerland agreed with the principles outlined with regard to footnotes. However he could not agree to the deletion of any provision that was of benefit to the land mobile service. In his view, such a provision is now necessary to take account of certain developments.

In view of the extensive discussion that had already taken place both in the Working Group and in an ad hoc group set up to deal with this matter, the Working Group decided to defer decision on this Draft Report to a later meeting of Working Group 5C.

2. Working Group 5C considered all proposals to the bands 87.5 - 108 MHz. It was agreed by a majority to recommend the revised Table appearing in Annex 1 to this Report to Committee 5 for adoption.

The consideration of proposals in Region 1 concerning:

- the conditions governing the introduction of the BC service into the band 100 - 108 MHz (planning conference for Region 1 and Region 3?);
- the protection of existing mobile operations in this band (with or without a time limit);
- the necessary procedures for transition from the existing situation to a future, expected, one;
- the necessary protection of services operating in adjacent bands below 87.5 and above 108 MHz, and
- the revised version of proposed footnote 265

were entrusted to an ad hoc group under the chairmanship of Mr. Schwarz from Switzerland.



3. Some delegations, while agreeing to reallocate the band 100 - 10⁴ MHz to the broadcasting service, wished to see the mobile, except aeronautical mobile (R), service maintained in the band 10⁴ - 10 MHz on a primary/permitted or secondary basis, with or without the broadcasting service on a primary basis.
4. The delegations of the Federal Republic of Germany, Belgium, Spain, France, Italy, Israel, Norway and the Netherlands reserved their position on the maintained and modified footnotes 26⁴ and 265. Ireland reserved her position on footnote 265 only.
5. All proposals relating to the band 108 - 138 MHz were considered and it was agreed by a majority to recommend the revised Table appearing in Annex 2 to this Report to Committee 5 for adoption.
6. India reserved her position on the date in the proposed additional footnote 3581A.
7. Several delegations reserved their position on the permitted status of the aeronautical mobile (OR) service in footnote 3574/274.
8. If the introduction of the fixed and mobile services on a secondary basis into the Table is not made, then several delegations would insist on maintaining footnote 3578/275A. Other delegations could not accept the down-grading to secondary status of the fixed and mobile services in the band 136 - 137 MHz.

A N N E X 1

MHz
87 - 100

Region 1	Region 2	Region 3
		87 - 100
87.5 - 100		FIXED
BROADCASTING	88 - 100	MOBILE
3563/264 3564/265	BROADCASTING	BROADCASTING
		3553/254 3566/267
100 - 108	BROADCASTING	
	/3570A/ 3566/267 /3564/265/ 3571/272 /3569/270/ /3570/271/	

- MOD 3553/254 Alternative allocation: in Afghanistan, Australia and China the band 85 - 88 MHz is allocated to broadcasting service on a primary basis.
- MOD 3566/267 Alternative allocation: in New Zealand the bands 87 - 88 MHz and 100 - 108 MHz are allocated to the land mobile service on a primary basis, and to the broadcasting service on a secondary basis.
- MOD 3563/264 Additional allocation: in the United Kingdom and Switzerland the band 87.5 - 88 MHz is also allocated to the land mobile service on a primary basis.
- MOD 3571/272 Additional allocation: in China, Korea (Republic of), the Philippines and Singapore the band 100 - 108 MHz is also allocated to the fixed and mobile services on a permitted basis.
- [MOD 3564/265 Additional allocation: in the United Kingdom the band 97.6 - 100 MHz is also allocated to the land mobile service on a permitted basis, and the band 100 - 102.1 MHz is also allocated to the land mobile service on a primary basis, both until 31 December 1989. The use of both sub-bands by the land mobile service is restricted to those assignments in operation on 1 January 1980.]

3569/270 In Austria, Belgium, Spain, Israel, Italy, Yugoslavia, Switzerland and, if necessary, in Denmark, the Netherlands and the F. R. of Germany, the band 100 - 104 MHz, is allocated on a permitted basis to the broadcasting service. The introduction of the broadcasting service in these countries is subject to special agreements between the interested and affected Administrations, to ensure that harmful interference is not caused to the services of the other countries operating in accordance with the Radio Regulations.

3570/271 In Denmark, Finland, Greece, Ireland, Iceland, Norway, the F.R. of Germany, Sweden and Turkey, the band 100 - 108 MHz is also allocated to the fixed service and the same allocation will also be made eventually in the Netherlands and the United Kingdom. In Italy and Yugoslavia, the band 104 - 108 MHz is also allocated to the fixed service. The effective radiated power of any station in the fixed service shall normally not exceed 25 watts. In case higher powers are used, the introduction of the fixed service is subject to special agreements between interested and affected Administrations.

SUP 3567/268, 3554/255, 3555/256, 3557/258

A N N E X 2

MHz
108 - 138

Region 1	Region 2	Region 3
108 - 117.975	AERONAUTICAL RADIONAVIGATION	
117.975 - 136	AERONAUTICAL MOBILE (R)	
	3495/201A 3572/273 3572A 3573/273A 3574/274	
136 - 137	AERONAUTICAL MOBILE (R)	
	Fixed	
	Mobile	
	3578A	
137 - 138	SPACE OPERATION (Space-to-Earth)	
	METEOROLOGICAL-SATELLITE (Space-to-Earth)	
	SPACE RESEARCH (Space-to-Earth)	
	Fixed	
	Mobile	
	3580/279A 3583/281C 3584/281E	

MOD 3495/201A

The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

NOC 3572/273

In this band, the frequency 121.5 MHz is the aeronautical emergency frequency and where required the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz; mobile stations of the maritime mobile service may communicate on these frequencies for safety purposes with stations of the aeronautical mobile service.

- MOD 3573/273A In the band 117.975 - 136 MHz space radiocommunication techniques may be authorized for the aeronautical mobile (R) service, subject to agreement between the administrations concerned.
- ADD 3572A The bands 121.450 - 121.55, 156.7 - 156.8 and 242.95 - 243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position indicating radio-beacons transmitting at 121.5 [156.75] and 243 MHz.
- MOD 3574/274 Additional allocation: in Angola, Bulgaria, Iran, Japan, Mozambique, Papua New Guinea, Poland, German Democratic Republic, Roumania, Czechoslovakia and the U.S.S.R. the band 132 - 136 MHz is also allocated to the aeronautical mobile (OR) service on a permitted basis.
- ADD 3578A Until 1 January 1990 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 (space-to-earth) service on a primary basis. The introduction of stations of the aeronautical mobile (R) service can only occur after that date and shall be effected in accordance with internationally agreed plans for that service. After 1 January 1990 the band 136 - 137 MHz will also be allocated to the above-mentioned space services on a secondary basis.
- Before 1 January 1990, administrations may authorize stations in the aeronautical mobile (R) service for national purposes, subject to agreement under the procedure set forth in Article [].
- MOD 3580/279A Additional allocation: in Australia, the band 137 - 144 MHz is also allocated to the broadcasting service, on a primary basis.
- ADD 3580A Additional allocation: in China, the bands 137 - 138 and 144 - 146 MHz are also allocated to the aeronautical mobile service, on a primary basis.
- ADD 3580B Additional allocation: in Indonesia, the band 137 - 138 MHz is also allocated to the fixed service on a primary basis.
- MOD 3583/281C Additional allocation: in Saudi Arabia, Austria, Bahrein, Bulgaria, Egypt, United Arab Emirates, Finland, Hungary, Jordan, Kuwait, Lebanon, Syria, the German Democratic Republic, Roumania, Czechoslovakia, the U.S.S.R., Yemen A.R. and Yugoslavia the band 137 - 138 MHz is also allocated to the aeronautical service on a primary basis.

MOD 3584/281E Different service category: in Afghanistan, China, India, Indonesia, Iran and Thailand, the band 137 - 138 MHz is also allocated to the fixed and mobile services on a primary basis.

SUP 3575/274A, 3576/274B, 3577/275, 3578/275A,
3581/281A, 3582/281AA

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/111-E

23 October 1979

Original : French

English

Spanish

LIST OF DOCUMENTS
(251 - 300)*

No.	Origin	Title	Destination
251	C.3	Summary Record of the 2nd meeting of Committee 3 (Budgetary control)	C.3
252	HOL	Proposals	C.5
253	ISR	Proposals	C.5
254	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 8	C.8
255	IATA	Notes on user requirements for airborne weather radar in the 9 300 - 9 500 MHz band	C.5
256	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
257	BGD	Proposals	C.5
258	C.7	Summary Record of the 3rd meeting of Committee 7 (General administration)	C.7
259	AFG	Proposals	C.5
260	WG/5D	First report of Working Group 5D to Committee 5 (Frequency allocations)	C.5
261	WG/8/ ad hoc	Report of ad hoc Working Group of Committee 8	C.8
262	WG/5D	Second report of Working Group 5D to Committee 5 [not yet published]	C.5
263 + Corr.1	WG/5D	Third report of Working Group 5D to Committee 5	C.5
264	WG/2A	First report by Working Group 2A (Credentials)	C.2
265	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 7 - Definition of ISM	C.7

* For Documents Nos. 1 to 100, see Document No. 100 + Corr.1
 For Documents Nos. 101 to 150, see Document No. DT/15
 For Documents Nos. 151 to 200, see Document No. DT/39
 For Documents Nos. 201 to 250, see Document No. DT/70



No.	Origin	Title	Destination
266	WG/2/ ad hoc	Report of Working Group ad hoc 2	C.8
267	C.7	Note from the Vice-Chairman of Committee 7 to the Chairmen of Committees 4, 5, 6, 8 and 9	C.4,5,6, 8 and 9
268	WG/7A	First and final report of Working Group 7A to Committee 7	C.7
269	WG/4B	First report of Working Group 4B to Committee 4	C.4
270	WG/4C	Second report of Working Group 4C to Committee 4	C.4
271	C.5	Note by the Chairman of Committee 5 to the Chairmen and participants of the Working Groups of Committee 5 - Preparation and consideration of documents relating to the table of frequency allocations	C.5
272 (Rev.1)	C.6	Note by the Chairman of Committee 6 to the Chairman of Committee 4	C.4
273	AUT/FNL/ S/SUI	Draft Resolution relating to the use of radiotelegraph and radiotelephone links by Red Cross organizations	C.5,7
274	INS	Retention of footnote No. 3678/348 at least for Indonesia	C.5
275	C.7	Summary Record of the 4th meeting of Committee 7 (General administration)	C.7
276	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 4	C.4
277	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 8	C.8
278	WG/6A	First report of Working Group 6A to Committee 6	C.6
279	WG/6A	Note by the Chairman of Working Group 6A	C.6
280	WG/6A	Note by the Chairman of Working Group 6A	C.6
281	WG/6A	Note by the Chairman of Working Group 6A	C.6
282	C.5	Note by the Chairman of Committee 5 concerning certain definitions	C.5

No.	Origin	Title	Destination
283	C.5	Summary Record of the 4th meeting of Committee 5 (Frequency allocations)	C.5
284	WG/5A	Third report of Working Group 5A to Committee 5	C.5
285	C.7	Note from the Vice-Chairman of Committee 7 to the Chairmen of Committees 4 and 5 and Working Group 7B	C.4,5 and WG/7B
286	YEM	Proposals	C.5
287	WG/6B	Second report of Working Group 6B to Committee 6	C.6
288	AFG	Proposals for the work of the Conference	C.5,6,7
289	C.8	Summary Record of the 2nd meeting of Committee 8 (Restructure)	C.8
290	C.8	Summary Record of the 3rd meeting of Committee 8 (Restructure)	C.8
291	WG/5E4	Report from Sub-Working Group 5E4 to Working Group 5E formed to consider the allocation between 84 GHz and 105 GHz	WG/5E
292	WG/5E3	Report of Sub-Working Group 5E3 to Working Group 5E (Frequency allocations between 52 and 84 GHz)	WG/5E
293	WG/4C	Third report of Working Group 4C to Committee 4	C.4
294	WG/5E5	Report from Sub-Working Group 5E5 to Working Group 5E	WG/5E
295	WG/5A	Fourth report of Working Group 5A to Committee 5	C.5
296	C.5	Note by the Chairman of Committee 5	C.5
297	C.8	Note from the Chairman of Committee 8 to the Chairman of Committee 5	C.5
298	CIRM/ ICS	Information paper on the International Maritime Mobile Service	C.5
299	GUI	Protection for Appendix 18 - VHF Allotments	C.5
300	IUCAF	An explanatory document on the scientific objectives of radio astronomy	C.5

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/112-E

23 October 1979

Original : English

WORKING GROUP 5BB

DRAFT

SECOND REPORT OF WORKING GROUP 5BB TO COMMITTEE 5

1. Frequency bands 6 200 - 6 525 kHz, 8 195 - 8 815 kHz, 12 330 - 13 200 kHz, 16 460 - 17 360 kHz, 22 000 - 22 700 kHz (maritime mobile exclusive bands)
 - 1.1 All proposals relating to these bands were considered and the Working Group unanimously agreed to recommend to Committee 5 that no change be made in these bands and to footnote 3495/201A (as far as frequency 8 364 kHz is concerned) (see Annex 1).
 - 1.2 It was also agreed to retain footnote 3507/211 unchanged subject to the advice to be sought from Committee 4 concerning the power limit (see paragraph 4 of Document No. [DT/82_7]) to update footnote 3508/211A and to delete footnote 3510/213 (see Annex 1).
2. Frequency bands between 4 750 - 4 995 kHz
 - 2.1 All proposals concerning these bands were considered and the Working Group unanimously agreed to recommend the revised Table which appears in Annex 1.
 - 2.2 It was also agreed that the provisions of footnote 3496/202 would apply to the broadcasting service in these bands. It was also decided that the provisions of Article N27 to which reference is made in this footnote would be included in Article N7.
3. Frequency bands 4 700 - 4 750 kHz, 5 680 - 5 730 kHz, 6 685 - 6 755 kHz, 8 965 - 9 040 kHz, 11 175 - 12 275 kHz, 13 200 - 13 260 kHz, 15 010 - 15 100 kHz, 17 970 - 18 030 kHz (aeronautical mobile (OR) service exclusive bands)
 - 3.1 All proposals concerning these bands were considered and the Working Group provisionally agreed to recommend to Committee 5 that no change be made in these bands subject to further consideration of proposals submitted by the delegations of the Netherlands and of Sweden for some of these bands after consideration of other parts of the HF spectrum (see Annex 3).
 - 3.2 It was also agreed to retain footnotes 3495/201A and 3500/205A unchanged (as far as they concern frequency 5 680 kHz).

P. BARNES

Chairman of Working Group 5BB



A N N E X 1

MARITIME MOBILE SERVICE EXCLUSIVE BANDS

Region 1	Region 2	Region 3
6 200 - 6 525	MARITIME MOBILE	
	3507/211 3508/211A	

NOC 3507/211 On condition that harmful interference is not caused to the maritime mobile service, the frequencies between 6 200 and 6 525 kHz may be used exceptionally by fixed stations, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 watts. At the time of notification of these frequencies, the attention of the International Frequency Registration Board will be drawn to the above conditions.

MOD 3508/211A For the use of carrier frequency 6 215.5 kHz in the zone of Region 3 south of latitude 25° N, see No. 6648/1351F.

8 195 - 8 815	MARITIME MOBILE
	3495/201A

3495/201A Aer 2 The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

SUP 3510/213

12 330 - 13 200	MARITIME MOBILE
-----------------	-----------------

SUP 3510/213

16 460 - 17 360	MARITIME MOBILE
-----------------	-----------------

SUP 3510/213

22 000 - 22 720	MARITIME MOBILE
-----------------	-----------------

Note : The band 4 063 - 4 438 kHz will be dealt with in a separate report. The band 25 070 - 25 110 kHz was dealt with in Document No. 228 (Rev.1).

A N N E X 2

kHz
4 750 - 4 995

Region 1	Region 2	Region 3
4 750 - 4 850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 3496/202	4 750 - 4 850 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 3496/202	4 750 - 4 850 FIXED BROADCASTING 3496/202 Land mobile
4 850 - 4 995	FIXED LAND MOBILE BROADCASTING 3496/202	

NOC / 3496/202

For the conditions of use of this band by the broadcasting service see Nos. 3425/135, 3426/136 and 6215/423 to 6221/428.7

/ see paragraph 2.2 page 1 7

A N N E X 3

AERONAUTICAL MOBILE (OR) SERVICE EXCLUSIVE BANDS

... Hz

Region 1	Region 2	Region 3
4 700 - 4 750	AERONAUTICAL MOBILE (OR)	

5 680 - 5 790	AERONAUTICAL MOBILE (OR)
3495/201A 3500/205A	

NOC 3495/201A Aer 2 The frequencies $\underline{2\ 182\ \text{kHz}}$, $\underline{3\ 023\ \text{kHz}}$, $\underline{5\ 680\ \text{kHz}}$, $\underline{8\ 364\ \text{kHz}}$, $\underline{121.5\ \text{MHz}}$, $\underline{156.8\ \text{MHz}}$ and $\underline{243\ \text{MHz}}$ may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies $\underline{10\ 003\ \text{kHz}}$, $\underline{14\ 993\ \text{kHz}}$ and $\underline{19\ 993\ \text{kHz}}$, but in each of these cases emissions must be confined in a band of $\pm\ 3\ \text{kHz}$ about the frequency.

NOC 3500/205A Aer 2 The carrier (reference) frequencies $\underline{3\ 023\ \text{kHz}}$ and $\underline{5\ 680\ \text{kHz}}$ may also be used, in accordance with Nos. 6640/1326C and 6646/1353B respectively, by stations of the maritime mobile service engaged in coordinated search and rescue operations.

6 685 - 6 765	AERONAUTICAL MOBILE (OR)
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8 965 - 9 040	AERONAUTICAL MOBILE (OR)
---------------	--------------------------

11 175 - 11 275	AERONAUTICAL MOBILE (OR)
-----------------	--------------------------

13 200 - 13 260	AERONAUTICAL MOBILE (OR)
-----------------	--------------------------

15 010 - 15 100	AERONAUTICAL MOBILE (OR)
-----------------	--------------------------

17 970 - 18 030	AERONAUTICAL MOBILE (OR)
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WORKING GROUP 5D

DRAFT

TWELFTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5

(ALLOCATIONS)

Subject : Frequency bands between 23.6 and 24.25 GHz as well as between 31.5 and 33 GHz

1. Frequency band between 23.6 and 24.25 GHz

All proposals relating to these bands were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The Working Group decided unanimously to suppress footnote 3792/407 in all bands indicated in the footnote.

3. Frequency band between 31.5 and 33 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

4. In considering the proposals concerning the allocation of the band 31.8 - 32.3 GHz to space research service, the majority of the Working Group was of the view that the allocation should be on a secondary basis; however some Administrations expressed the view that the band should be allocated to the space research service (deep space), space-to-Earth direction on a primary basis.

5. In considering the sharing criteria between the intersatellite and radionavigation services (32 - 33 GHz) the Working Group agreed to include the footnote 3807A (CAN/60B/514). However it was agreed that appropriate power flux-density limits on the satellite transmissions (in Article N26) would be more suitable. Committee 4 would be requested to provide the appropriate values.

6. The Working Group decided unanimously to suppress footnote 3790/405C.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

GHz
23.6 - 24.25

Allocation to Services		
Region 1	Region 2	Region 3
23.6 - 24	<u>EARTH EXPLORATION (Passive)</u> RADIO ASTRONOMY <u>SPACE RESEARCH (Passive)</u> 3792/407 3803A / 3815/412J	
24 - 24.05	AMATEUR AMATEUR-SATELLITE 3803A / 3803/410C / 3815/412J	
24.05 - 24.25	RADIOLOCATION Amateur <u>Earth exploration-satellite (Active)</u> / 3815/412J / 3803/410C 3792/407 / 3531/233B, 3802A	

SUP 3792/407

ADD 3803A
(URS/63B/356)

Additional allocation : In Mongolia, German Democratic Republic and USSR, the band 23.6 - 24.05 GHz is also allocated to the fixed service and to the mobile except aeronautical mobile service, on a primary basis.

/ 3815/412J 3513A (AUS/59/41) / 23.6 - 24.25 GHz / Drafting Group 5D5 will provide the text in the band

/ 3803/410C / 24 - 24.25 GHz / Drafting Group will provide the text in the band

A N N E X 2

GHz
31.5 - 33

Region 1	Region 2	Region 3
31.5 - 31.8 <u>EARTH EXPLORATION-</u> <u>SATELLITE / (Passive) /</u> <u>RADIO ASTRONOMY</u> <u>SPACE RESEARCH</u> <u>/ (Passive) /</u> Fixed Mobile <u>except</u> <u>aeronautical mobile</u> 3806/412A <u>/ 3531/233B, 3802A /</u>	31.5 - 31.8 <u>EARTH EXPLORATION-</u> <u>SATELLITE / (Passive) /</u> <u>RADIO ASTRONOMY</u> <u>SPACE RESEARCH</u> <u>/ (Passive) /</u> Fixed Mobile <u>except</u> <u>aeronautical mobile</u> 3806/412A 3790/405C <u>/ 3531/233B, 3802A /</u>	31.5 - 31.8 <u>EARTH EXPLORATION-</u> <u>SATELLITE / (Passive) /</u> <u>RADIO ASTRONOMY</u> <u>SPACE RESEARCH</u> <u>/ (Passive) /</u> Fixed Mobile <u>except</u> <u>aeronautical mobile</u> <u>/ 3531/233B, 3802A /</u>
31.8 - 32	RADIONAVIGATION <u>/ Space research /</u> 3807/412B <u>/ 3807AA /</u>	
32 - 32.3	<u>INTERSATELLITE</u> RADIONAVIGATION <u>/ Space research /</u> <u>/ 3807A / 3807/412B / 3807AA /</u>	
32.3 - 33	<u>INTERSATELLITE</u> RADIONAVIGATION 3807/412B <u>/ 3807A / / 3730A / / 3807AA /</u>	

SUP 3790/405C

MOD 3806/412A

Additional allocation : In Bulgaria, Cuba, Egypt, Hungary, Mongolia, Poland, German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 31.3 - 31.8 GHz is also allocated to the fixed and mobile except aeronautical mobile services on a primary basis.

Drafting Group 5D5 will provide the text in the bands 24.11 - 24.16 GHz and 31.5 - 31.8 GHz.

In Bulgaria, Cuba, Hungary, Poland, German Democratic Republic, Czechoslovakia, Yugoslavia and the USSR, the space research service is a primary service in the band 31.8 - 32.8 GHz.

[In Japan the band 31.8 - 33.8 GHz may also be used for space-to-Earth transmission in the fixed-satellite service, subject to agreement between Administrations concerned and those having services, operating in accordance with the Table, which may be affected.]

7 In the planning of systems for the intersatellite and radionavigation services in the band 32 - 33 GHz Administrations shall take all measures to prevent harmful interference between these two services, which would otherwise result in restricting the operation of the radionavigation service. 7

32.8 - 33 GHz. 7 [Drafting Group 5D4 will provide the text in the band

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WORKING GROUP 7B

COMMITTEE 7

DRAFT

FIRST REPORT OF THE CHAIRMAN OF WORKING GROUP 7B TO COMMITTEE 7

1. The Working Group presents the texts of the definitions set out in Annex 1 for the approval of Committee 7. These were approved unanimously in the Working Group except that the United Kingdom reserved its position regarding the need for a definition of ISM (3023A).

2.1 Attention is drawn to the consequences of the modifications proposed to 3001/1. Advance notification has already been given in the terms of Document No. 267.

2.2 This matter is of particular importance to the other Committees concerned with Article N1/1 (i.e. Committees 4 and 5) and also to Committee 9.

3. As a consequence of its decision to delete the definition 3003/3 "General Network of Telecommunication Channels", it may be necessary to consider a consequent amendment to provision 8586. This should be referred to Committee 8. (See also Document No. 277).

4.1 By a majority, the Working Group agreed to the need to adopt a modified definition for the term "Telegraphy" (3007/10) as set out in Annex 2.

4.2 Since a definition of this term appears in Annex 2 of the International Telecommunication Convention (Malaga-Torremolinos), the competence of the present Conference to introduce such a modification and its effectiveness in so doing may be in question.

4.3 If the need for such a change, expressed by the Working Group, is agreed to by Committee 7, it seems appropriate to address a Resolution to the next Plenipotentiary Conference requesting it to consider and approve the revised text.

4.4 Such a Resolution should cover the points listed in Annex II.

4.5 The delegate of the United States of America reserved the right to take up this matter again.

A.L. WITHAM
Chairman of Working Group 7B



A N N E X 1

A P P E N D I X 4

REARRANGEMENT OF THE RADIO REGULATIONS

PART A

CHAPTER NI

Terminology

ARTICLE NI/1^o)

Terms and Definitions

Preamble

MOD 3001/1

For the purposes of these Regulations, the following terms shall have the meanings defined below. These terms and definitions do not, however, necessarily apply for other purposes. Definitions identical to those contained in the International Telecommunication Convention (Malaga-Torremolinos, 1973) are marked (CONV.).

Note - If terms used in the definitions below are printed in italics they are defined in this article.

Section I. General Terms

(MOD) 3002/2

Telecommunication : Any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, ~~visual~~ optical or other electromagnetic systems.
/ (CONV.) /

Note by the General Secretariat :

^o) See also the Analytical Table of the RR, under **Definitions**.

- ADD 3002A Public correspondence : Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission. /(CONV.)/
- SUP 3003/3
- MOD 3004/9 **Radiocommunication: Telecommunication by means of radio waves.** /(CONV.)/
- MOD 3005/7 **Radio Waves (or Hertzian Waves) : Electromagnetic waves of frequencies by convention lower than 3 000 GHz, propagated in space without artificial guide.**
- MOD 3006/8 **Radio: A general term applied to the use of radio waves.** /(CONV.)/
- ADD 3023A Industrial, Scientific and Medical (ISM)
Applications : Operation of equipment or appliances designed to generate and use locally radio-frequency energy for industrial, scientific, medical or similar purposes, excluding applications in the field of telecommunications.

A N N E X 2

MOD 3007/10

[[CONV.]]

however,

Telegraphy: A system of telecommunication which is concerned in any process providing transmission and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. ~~The foregoing definition appears in the Convention, but, for the purposes of these Regulations, telegraphy shall mean, [unless otherwise specified] "A system of telecommunication for the transmission of written matter by the use of a signal code"~~, in relation to radiocommunication services, "A system of telecommunication which allows the transmission and reproduction at a distance, in the form of a permanent graphic document, of any kind of information, or of documentary matter, such as written or printed matter or fixed images."

Points to be included in a Resolution to the next Plenipotentiary Conference

1. A definition of "Telegraphy" appears in the Convention.
2. This definition specifically admits of a different text for the purposes of the Radio Regulations.
3. It appears appropriate to revise the definition of "Telegraphy" as it applies to the Radio Regulations.
4. In Resolution 44, the Plenipotentiary Conference (Malaga-Torremolinos) has instructed the CCIR and CCITT to prepare a definition of "Telegraphy" which can be used in all organs of the Union, but this work is not yet completed.
5. The WARC requests the next Plenipotentiary Conference to consider and, if appropriate, approve the text / shown above / as adopted by this Conference for the purposes of the Radio Regulations.
- /6. The WARC invites the CCIR and CCITT to take into account, in their own deliberations, the text approved by this Conference, /

Note for information : The definition of "Telegraphy" appears in the Convention in the following form :

(AN-2, p.138)

Telegraphy: A system of telecommunications which is concerned in any process providing transmission and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. For the purposes of the Radio Regulations, however, unless otherwise specified therein, "telegraphy" shall mean "A system of telecommunications for the transmission of written matter by the use of a signal code".

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GROUPE DE TRAVAIL 4A
WORKING GROUP 4A
GRUPO DE TRABAJO 4A

Note du Président du Groupe de travail 4A
Note from the Chairman of Working Group 4A
Nota del Presidente del Grupo de trabajo 4A

ADD

Brouillage accepté:

Brouillage, supérieur à celui défini comme admissible, qui a fait l'objet d'un accord entre deux ou plusieurs administrations intéressées sans préjudice aux autres administrations.

ADD

Accepted Interference:

Interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more administrations without prejudice to other administrations.

ADD

Interferencia aceptada: Interferencia de nivel más elevado que el definido como admisible y que ha sido acordada entre dos o más administraciones y sin perjuicio para otras administraciones.

A.R. BASTIKAR

Président du Groupe de travail 4A

Chairman of Working Group 4A

Presidente del Grupo de trabajo 4A



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WORKING GROUP 5E

DRAFT

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5E TO THE CHAIRMAN OF WORKING GROUP 5D

1. Document No. DT/65(Rev.1) shows the Recommendations by Working Group 5E for allocations in the frequency band 37.5 - 51.4 GHz. Those extending below 40 GHz are related to the overall proposal in G/53B/608 and 609, and those in CAN/60B/517 and 518. In each case the overall proposal extended on both sides of the 40 GHz boundary and had to be reviewed as a whole, as we agreed on.
2. The Working Group 5E did not consider in detail all of the proposals in the frequency bands 37.5 - 40 GHz except from the point of view of general compatibility.
3. The Recommendations for the allocations down to 37.5 GHz are submitted for review by Working Group 5D, since those relating to bands below 40 GHz form an integral part of the overall Recommendation for the fixed-satellite service for the frequency band 37.5 - 51.4 GHz.
4. The document is being submitted to Committee 5, also, but noting that only the Recommendations for bands above 40 GHz would be considered to apply to Working Group 5E, and with the proviso that they are subject to re-examination depending on the response from Working Group 5D.

A.W. ADEY

Chairman of Working Group 5E



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COMMITTEE 5

DRAFT

SIXTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1. The Working Group 5A presents the texts, annexed hereto, for the approval of Committee 5.
2. In this respect, the attention of Committee 5 is invited to the following comments :
 - 2.1 The definitions of aeronautical fixed service (3038/24) and aeronautical fixed station (3039/25) shall be retained in the Radio Regulations only if there is an allocation to the service in question;
 - 2.2 The Administration of Yugoslavia reserved its position concerning the definition of broadcasting service (3040/28);
 - 2.3 The decision on the inclusion of text in square brackets in the definition of aeronautical station (3077/34) will depend on the decision regarding the footnote 3573/273A;
 - 2.4 The Administration of Japan reserved its position concerning the definition of aircraft station (3078/35) and aircraft earth station (3116A);
 - 2.5 The Administration of France intends to present fresh proposals concerning Article N1 and reserved its position on some definitions;
 - 2.6 The Editorial Committee should align the French and Spanish texts of RR 7376/429 with the English version (Recommendation No. Aer2 - 6); and
 - 2.7 The Administration of Switzerland reserved its position on the action proposed by the Working Group regarding RR 7379/432 and Recommendation No. Aer2 - 9.

V. QUINTAS

Chairman of Working Group 5A

Annex : 1



A N N E X

ADD

Radiocommunication Service : A service as defined in this Article involving the transmission and/or reception of radio waves for specific telecommunication purposes.

NOC 3036/22 Fixed Service: A service of radiocommunication between specified fixed points.

NOC 3037/23 Fixed Station: A station in the fixed service.

MOD 3038/24 Aeronautical Fixed Service : A radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.

NOC 3039/25 Aeronautical Fixed Station : A station in the aeronautical fixed service.

(MOD) 3040/28 Broadcasting Service: A radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission. (Conv.)

NOC 3041/29 Broadcasting Station: A station in the broadcasting service.

MOD 3044/78 Amateur Service: A radiocommunication service of self-training, intercommunication and technical investigations carried on by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

NOC 3045/79 Amateur Station: A station in the amateur service.

MOD 3046/80 Standard frequency and time signal service : A radiocommunication service for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals, or both, of stated high precision, intended for general reception.

MOD 3047/81 Standard Frequency and Time Signal Station: A station in the standard frequency and time signal service.

SUP 3048/82 Time Signal Service.

NOC 3050/47 Radiodetermination Station: A station in the radiodetermination service.

NOC 3052/50 Radionavigation Land Station: A station in the radionavigation service not intended to be used while in motion.

NOC 3053/51 Radionavigation Mobile Station: A station in the radionavigation service intended to be used while in motion or during halts at unspecified points.

- MOD 3054/52 Aeronautical Radionavigation Service : A radionavigation service intended for the benefit and also for the safe operation of aircraft.
- MOD 3055/53 Maritime Radionavigation Service : A radionavigation service intended for the benefit and also for the safe operation of ships.
- NOC 3057/56 Radiolocation Land Station : A station in the radiolocation service not intended to be used while in motion.
- NOC 3058/57 Radiolocation Mobile Station : A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.
- NOC 3059/58 Radar : A radiodetermination system based on the comparison of reference signals with radio signals reflected, or re-transmitted, from the position to be determined.
- NOC 3060/59 Primary Radar : A radiodetermination system based on the comparison of reference signals with radio signals reflected from the position to be determined.
- NOC 3061/60 Secondary Radar : A radiodetermination system based on the comparison of reference signals with radio signals re-transmitted from the position to be determined.
- MOD 3062/60A Radar beacon (racon) : A receiver-transmitter device associated with a fixed navigational mark which, when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.
- NOC 3063/61 Instrument Landing System (ILS) : A radionavigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.
- NOC 3064/62 Instrument Landing System Localizer : A system of horizontal guidance embodied in the instrument landing system which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.
- NOC 3065/63 Instrument Landing System Glide Path : A system of vertical guidance embodied in the instrument landing system which indicates the vertical deviation of the aircraft from its optimum path of descent.
- NOC 3066/64 Marker Beacon : A transmitter in the aeronautical radionavigation service which radiates vertically a distinctive pattern for providing position information to aircraft.
- MOD 3067/65 Radio Altimeter : A radionavigation equipment, on board an aircraft or spacecraft, which makes use of the reflection of radio waves from the ground used to determine the height of the aircraft or the spacecraft above the ground Earth's surface or another surface.

- NOC 3068/66 Radio Direction-Finding: Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.
- NOC 3069/67 Radio Direction-Finding Station: A radiodetermination station using radio direction-finding.
- NOC 3070/68 Radiobeacon Station: A station in the radionavigation service the emissions of which are intended to enable a mobile station to determine its bearing or direction in relation to the radiobeacon station.
- NOC 3071/68A Emergency Position-Indicating Radiobeacon Station: A station in the mobile service the emissions of which are intended to facilitate search and rescue operations.
- (MOD) 3072/30 Mobile Service: A service of radiocommunication between mobile and land stations, or between mobile stations (CONV.)
- NOC 3073/31 Land Station: A station in the mobile service not intended to be used while in motion.
- NOC 3074/32 Mobile Station: A station in the mobile service intended to be used while in motion or during halts at unspecified points.
- NOC 3075/41 Survival Craft Station: A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, life-raft or other survival equipment.
- MOD 3076/33 Aeronautical Mobile Service: A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate. Emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.
- MOD 3077/34 Aeronautical Station: A land station in the aeronautical mobile service. In certain instances an aeronautical station may be located, for example, on board ship or an Earth satellite or on a platform at sea.
- MOD 3078/35 Aircraft Station: A mobile station in the aeronautical mobile service located on board an aircraft, other than a survival craft station.
- NOC 3080/38 Coast Station: A land station in the maritime mobile service.
- MOD 3081/39 Ship Station: A mobile station in the maritime mobile service located on board a vessel, ~~other than a survival craft,~~ which is not permanently moored, other than a survival craft station.
- NOC 3113/84AQA Aeronautical Radionavigation-Satellite Service: A radionavigation-satellite service in which mobile earth stations are located on board aircraft.

- NOC 3116/84AGB **Aeronautical Mobile-Satellite Service:** A mobile-satellite service in which mobile earth stations are located on board aircraft. Survival craft stations and emergency position indicating radiobeacon stations may also participate in this service.
- ADD 3116A **Aircraft Earth Station :** A mobile Earth station in the aeronautical mobile-satellite service located on board an aircraft.
- NOC 3920/416 (2) However, in circumstances involving the safety of life, or the safety of a ship or aircraft, a land station may communicate with fixed stations or land stations of another category.
- NOC 3922/418 § 4. Any mobile station using an emission which satisfies the frequency tolerance applicable to the coast station with which it is communicating may transmit on the same frequency as the coast station on condition that the latter requests such transmission and that no harmful interference is caused to other stations.
- NOC 3923/419 § 5. In certain cases provided for in Articles N39/32 and [N56/35], aircraft stations are authorized to use frequencies in the bands allocated to the maritime mobile service for the purpose of communicating with stations of that service (see No. 7973/952).
- MOD 3924/419A **Aircraft Earth stations**
§ 6. ~~Earth stations on board aircraft~~ are authorized to use frequencies in the bands allocated to the maritime mobile-satellite service for the purpose of communicating, via the stations of that service, with the public telegraph and telephone networks.
- ARTICLE / N47 /
- Special Rules Relating to the Use of Frequencies
in the Aeronautical Mobile Service
- NOC 7376/429 § 1. Frequencies in any band allocated to the aeronautical mobile (R) service are reserved for communications between any aircraft and those aeronautical stations primarily concerned with the safety and regularity of flight along national or international civil air routes.
- NOC 7377/430 § 2. Frequencies in any band allocated to the aeronautical mobile (OR) service are reserved for communications between any aircraft and aeronautical stations other than those primarily concerned with flight along national or international civil air routes.
- MOD 7378/431 § 3. Frequencies in the bands allocated to the aeronautical mobile service between 2 850 and /22,000 / kHz (see Article N7/5) shall be assigned in conformity with the provisions of Appendices 26 and 27 Aer 2 and the other relevant provisions of these Regulations.
- NOC 7379/432 § 4. Administrations shall not permit public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service, unless permitted by special aeronautical regulations adopted by a Conference of the Union to which all interested Members and Associate Members of the Union are invited. Such regulations shall recognize the absolute priority of safety and control messages.

MOD 7380/1162 § 5. In order to reduce interference, mobile aircraft stations shall, within the means at their disposal, endeavour to select for calling the band with the most favourable propagational characteristics for effecting reliable communication. In the absence of more precise data, an mobile aircraft station shall, before making a call, listen for the signals of the station with which it desires to communicate. The strength and intelligibility of such signals are useful as a guide to propagational conditions and indicate which is the preferable band for calling.

NOC 7381/1207 § 6. Governments may, by agreement, decide the frequencies to be used for call and reply in the aeronautical mobile service.

SUP Rec. Aer2 - 6.

SUP Rec. Aer2 - 9.

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WORKING GROUP 5C

DRAFT

SEVENTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject : Frequency bands 138 - 150.05 MHz

1. All proposals to these bands were considered and it was agreed by a majority to recommend the revised Table appearing in the Annex to this document to Committee 5 for adoption.
2. The delegations of the United States, the USSR, France, the United Kingdom and Australia reserved their right to revert to the modified footnote 285B because in their view the extensive use of this band by terrestrial services could constitute a hazard to safety of life (see Recommendation Spa 8). The delegation of Roumania reserved its right on the exclusion of aeronautical mobile services.
3. The delegation of the United States reserved its position as to the proposed additonal footnote 3598A.

K. OLMS
Chairman of Working Group 5C

Annex : 1



A N N E X

MHz
138 - 144

Region 1	Region 2	Region 3
138 - 143.6 AERONAUTICAL MOBILE (OR) 3577/275 3585A 3586/282A 3587/283	138 - 143.6 FIXED MOBILE /RADIOLOCATION/ Space research (Space-to-Earth)	138 - 143.6 FIXED MOBILE Space research (Space-to-Earth) 3580/279A 3599/284
143.6 - 143.65 AERONAUTICAL MOBILE (OR) SPACE RESEARCH (Space-to-Earth) 3577/275 3585A 3587/283	143.6 - 143.65 FIXED MOBILE SPACE RESEARCH (Space-to-Earth) /RADIOLOCATION/	143.6 - 143.65 FIXED MOBILE SPACE RESEARCH (Space-to-Earth) 3580/279A 3589/284
143.65 - 144 AERONAUTICAL MOBILE (OR) 3577/275 3585A 3586/282A 3587/283	143.65 - 144 FIXED MOBILE /RADIOLOCATION/ Space research (Space-to-Earth)	143.65 - 144 FIXED MOBILE Space research (Space-to-Earth) 3580/279A 3589/284

MOD 3577/275 Alternative allocation : In Angola, Botswana, Burundi, the Congo, Ethiopia, Gabon, Gambia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Swaziland, Zambia and Zimbabwe the band 138 - 144 MHz is allocated to the fixed and mobile services on a primary basis.

MOD 3580/279A Alternative allocation : In Australia, the band 137 - 144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within the regional broadcasting allocations.

ADD 3585A Additional allocation : In the Federal Republic of Germany, Austria, Saudi Arabia, Finland, Greece, Iraq, Ireland, Jordan, Kuwait, Malta, Morocco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Tunisia, Turkey and Yugoslavia, the band 138 - 144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis.

MOD 3586/282A Additional allocation : In the Federal Republic of Germany, Austria, Belgium, France, Greece, Israel, Italy, Liechtenstein, Luxembourg, the Netherlands, the United Kingdom, Sweden 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.

MOD 3587/283 Additional allocation : In Denmark, Finland, Jordan, Malta, Norway, the Netherlands, Switzerland, Tunisia, Turkey, Yemen Arab Republic and Yugoslavia, the band 138 - 144 MHz is also allocated to the fixed service on a primary basis.

MOD 3589/284 Additional allocation : In China the band 138 - 144 MHz is also allocated to the radiolocation service on a primary basis.

SUP 3479/278
3585/281G
3588/283A

MHz
144 - 150.05

Region 1	Region 2	Region 3
144 - 146	AMATEUR AMATEUR-SATELLITE 3584A 3589A	
146 - 149.9 FIXED MOBILE except aeronautical mobile (R) 3591/285A	146 - 148 AMATEUR 3598A	146 - 148 AMATEUR FIXED MOBILE 3598A
	148 - 149.9 FIXED MOBILE 3591/285A	
	149.9 - 150.05 RADIONAVIGATION-SATELLITE 3592/285B 3593/285C	

- ADD 3584A Additional allocation : in China the band 144 - 146 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.
- ADD 3589A Additional allocation : in Indonesia and Singapore, the band 144 - 146 MHz is also allocated to the fixed service and mobile, except aeronautical mobile, service on a / secondary / basis.
- ADD 3597A Alternative allocation : in Cuba and India the band 144 - 146 MHz is allocated to the fixed and mobile services on a primary basis.
- MOD 3591/285A Subject to agreement obtained under the procedure set forth in Article / / the band 148 - 149.9 MHz may be used for space operation (Earth-to-space). The bandwidth of an individual transmission shall not exceed ± 25 kHz.
- ADD 3598A Alternative allocation : in Afghanistan, Cuba, Bangladesh, Guyana, India, Iran and Pakistan the band 146 - 148 MHz is allocated to the fixed and mobile services on a primary basis.

MOD 3592/285B Additional allocation : in Algeria, Argentina, Bangladesh, Bulgaria, Colombia, Costa Rica, Egypt, El Salvador, Gabon, Greece, Guatemala, Guinea, Hungary, Iran, Iraq, Jordan, Kenya, Kuwait, Morocco, Pakistan, the Netherlands, Poland, Qatar, Syria, the Democratic People's Republic of Korea, Roumania, Thailand, Tunisia and Yugoslavia the band 149.9 - 150.05 MHz is also allocated to the fixed and mobile (except aeronautical mobile) services on a primary basis (see Recommendation No. Spa 8).

NOC 3593/285C

SUP 3590/285
3597/289
3598/290

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WORKING GROUP 5E

DRAFT

THIRD REPORT OF WORKING GROUP 5E TO COMMITTEE 5

(ALLOCATIONS)

Subject : Frequency bands between 84 GHz and 105 GHz .

1. All of the proposals for this band were examined and the Working Group 5E decided unanimously to recommend to Committee 5 the table of allocations and the related footnotes shown in the Annex.
2. Consideration of the Canadian proposals for the earth exploration (passive) service for the bands 86 - 92 GHz and 100 - 102 GHz was deferred pending a decision in Working Group 5A on a definition for this service.

Dr. A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
84 - 95

Allocation to Services		
Region 1	Region 2	Region 3
84 - 86	FIXED MOBILE BROADCASTING-SATELLITE / BROADCASTING / 3815F	
86 - 92	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) 3815/412J	
92 - 95	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION 3815G	

MOD 3815/412J All emissions in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, 86 - 92 GHz, / 130 - 140 GHz, 182 - 185 GHz and 230 - 240 GHz / are prohibited. The use of passive sensors by other services is also authorized.

ADD 3815F In the band 84 - 86 GHz, the broadcasting service, the fixed service, and the mobile service shall not cause harmful interference to the broadcasting satellite stations operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting satellite service.

ADD 3815G The band 93.07 - 93.27 GHz is also used by the radio astronomy service for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in the band to protect radio astronomy observations from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

GHz
95 - 100

Region 1	Region 2	Region 3
95 - 100	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation 3815E 3815H	

ADD 3815E In the bands (43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, [142 - 150 GHz]) satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

ADD 3815H The band 97.88 - 98.08 GHz is also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in the band to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

GHz
100 - 105

100 - 102	EARTH EXPLORATION-SATELLITE (Passive) FIXED MOBILE SPACE RESEARCH (Passive) 3679A
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GHz
100 - 105 (cont.)

Region 1	Region 2	Region 3
102 - 105	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE 3679A	

ADD 3679A In the bands [1 400 - 1 727 MHz,] 101 - 120 GHz, [and 197 - 220 GHz], passive research is being conducted by some countries in a programme for the search for space signals of artificial origin.

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(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

THIRTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 1 427 - 1 429 MHz, 1 525 - 1 535 MHz, 1 660 - 1 700 MHz

1. Frequency band between 1 427 and 1 429 MHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Frequency band between 1 525 and 1 535 MHz

All proposals relating to this band were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

3. The delegation of USSR reserved the right to come back to footnote 3683/350C.

4. Frequency bands between 1 670 and 1 700 MHz

All proposals relating to these bands were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

5. The Working Group decided to form ad hoc group 5D6 under the chairmanship of Mr. C. Dorian (USA, Box No. 870), with terms of reference : in the band 1 535 - 1 660 MHz to study the need for, and if required to reach the :

a) agreement on 1 MHz, both up-link and down-link, for use as a common frequency band between the aeronautical and maritime mobile-satellite services to be used for common purposes - i.e. distress, search and rescue, emergency, safety, etc.

b) agreement of central band of frequencies for :

- 1) aeronautical radionavigation
- 2) aeronautical mobile
- 3) aeronautical mobile satellite
- 4) aeronautical radionavigation satellite
- 5) radionavigation satellite

c) agreement on bandwidth for :

- 1) aeronautical mobile satellite
- 2) maritime mobile satellite

(It will be necessary to determine if additional bandwidth may be obtained below 1 535 or above 1 660 MHz in order to accommodate the requirements of these two services.)



- d) decision on what to do about the radio astronomy proposals in this band.
 - e) search for means for providing sufficient bandwidth for all the services involved without changing, if possible, the separation/translation frequency for the maritime mobile-satellite service.
6. After detailed discussions on the subject of satellite sound broadcasting in the band 1 429 - 1 525 MHz, the Working Group decided to :
- form a joint ad hoc group with 5C to consider the possibility of recommending a suitable band in the range 0.5 - 2.0 GHz for satellite sound broadcasting taking into account all technical considerations. For this purpose the delegations of United States of America and USSR have promised to put in a document on technical feasibility and economic considerations;
 - draw the attention of Committees 4 and 6 to consider the technical, coordination and regulatory aspects of the sound broadcasting satellite service with respect to other services.
7. The Working Group decided to suppress footnotes 3681/350A, 3682/350B, 3684/350D, 3649/324A.

Dr. B.S. RAO
Chairman of Working Group 5D

A N N E X 1

MHz
1 427 - 1 429

Allocation to Services		
Region 1	Region 2	Region 3
1 427 - 1 429	SPACE OPERATION (Telecommand) (<u>Earth-to-space</u>)	
	FIXED	
	MOBILE except aeronautical mobile	
3679A		

ADD 3679A In the bands 1 400 - 1 727 MHz, [101 - 120 GHz, and
(USA/45/90) 197 - 220 GHz], passive research is being conducted by some countries in a
programme for the search for space signals of artificial origin.

A N N E X 2

MHz
1 525 - 1 535

Allocation to Services		
Region 1	Region 2	Region 3
1 525 - 1 535	1 525 - 1 535	1 525 - 1 535
SPACE OPERATION (Telemetry) 3681/350A	SPACE OPERATION (Telemetry) 3681/350A	SPACE OPERATION (Telemetry) 3681/350A
(Space-to-Earth)	(Space-to-Earth)	(Space-to-Earth)
FIXED 3682/350B	Earth Exploration- Satellite	FIXED 3682/350B
Earth Exploration- Satellite	Fixed	Earth Exploration- Satellite
Mobile except aeronautical mobile / 3683/350C /	Mobile 3684/350D	Mobile
3679A	3679A 3680A	3679A 3680A

SUP 3681/350A

SUP 3682/350B

MOD 3683/350C

/ Different category of service : In Algeria, Saudi Arabia, Bahrain, Bulgaria, Egypt, United Arab Emirates, France, Hungary, Iran, Iraq, Jordan, Kuwait, Lebanon, Mongolia, Morocco, Oman, Poland, Qatar, German Democratic Republic, Roumania, Czechoslovakia, USSR, PDR of Yemen and Yugoslavia, the allocation of the band 1 525 - 1 535 MHz to the mobile, except aeronautical mobile service is on a primary basis. (See No. 3432/141.) /

SUP 3684/350D

ADD 3679A In the bands 1 400 - 1 727 MHz, / 101 - 120 GHz, and
(USA/45/90) 197 - 220 GHz /, passive research is being conducted by some countries in a programme for the search for space signals of artificial origin.

ADD 3680A In Region 2 and in Papua New Guinea where the mobile service is authorized in the bands / 1 435 - 1 525 MHz / and 1 525 - 1 535 MHz the primary use of this allocation is by the aeronautical mobile service for telemetry purposes.

A N N E X 3

MHz
1 670 - 1 700

Allocation to Services		
Region 1	Region 2	Region 3
1 670 - 1 690	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (Space-to-Earth) 3649/324A MOBILE except aeronautical mobile / 3697/354 7 3679A	
1 690 - 1 700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Space-to-Earth) Fixed Mobile except aeronautical mobile 3679A 3650/324B 3698/354A	1 690 - 1 700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Space-to-Earth)	3650/324B 3698/354A 3700/354C 3679A

ADD 3679A In the bands 1 400 - 1 727 MHz, / 101 - 120 GHz, and
(USA/45/90) 197 - 220 GHz, passive research is being conducted by some countries in a
programme for the search for space signals of artificial origin.

3698/354A In Algeria, Saudi Arabia, Austria, Bulgaria, Cuba, Egypt,
Ethiopia, Hungary, India, Iran, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon,
Malaysia, Mongolia, Uganda, Pakistan, Poland, German Democratic Republic,
Roumania, Singapore, Syria, Tanzania, Chad, Thailand, Czechoslovakia, USSR,
Yemen AR, the PDR of Yemen and Yugoslavia, the bands / 1 660 - 1 670 MHz and /
1 690 - 1 700 MHz are also allocated to the fixed service and the mobile, except
aeronautical mobile service.

/ 3697/354 7 / Drafting Group 5D5 will provide the text of the
footnote in the band 1 670 - 1 690 MHz. 7

SUP 3649/324A

MOD 3700/354C

Additional allocation : In Australia and Indonesia, the band 1 690 - 1 700 MHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a secondary basis.

3650/324B

Spa2

Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands / 460 - 470 MHz and / 1 690 - 1 700 MHz for space-to-Earth transmissions on condition that no harmful interference is caused to stations operating in accordance with the Table.

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WORKING GROUP 4A

DRAFT

FOURTH REPORT OF WORKING GROUP 4A TO COMMITTEE 4

Working Group 4A has examined the proposals submitted by Administrations for several terms in Section VI of Article N1.

For the following terms, texts have been drafted as shown in the Annex :

Protection Ratio = ADD

Frequency Tolerance = 3137

Characteristic Frequency = 3135

Reference Frequency = 3136

Effective Radiated Power = 3147

Effective Monopole-Radiated Power = ADD

Equivalent Isotropically Radiated Power = 3148

Direct Polarization = ADD

Indirect Polarization = ADD

Antenna Directivity Diagram = 3153

Equivalent Satellite Link Noise Temperature = 3154

On the other hand, the following additional terms did not receive sufficient support for inclusion in Article N1 :

Field Intensity	(Reference) Carrier Frequency
Usable Field Strength	Antenna
Guard Band	Beamwidth
Carrier	Beam Area
Carrier Wave	Nominal Orbital Position
Carrier Frequency	Modulation
	Earth Satellite (but see No. 3125)

Annex : 1

A.R. BASTIKAR
Chairman of Working Group 4A



A N N E X

ADD Rapport de protection (R.F.) : Valeur minimale du rapport signal utile/signal indésirable à l'entrée d'un récepteur, déterminé dans des conditions spécifiées, permettant d'obtenir une qualité de réception donnée à la sortie du récepteur.

ADD Protection Ratio : The minimum value of the wanted-to-unwanted signal ratio at the receiver input determined under specified conditions such that a specified reception quality is achieved at the receiver output.

ADD Relación de protección : Valor mínimo de la relación entre la señal deseada y la no deseada a la entrada del receptor, determinada bajo condiciones especificadas, tal que se obtenga una calidad de recepción dadas a la salida del receptor.

NOC 3137/88 ***Tolérance de fréquence:*** Ecart maximum admissible entre la fréquence assignée et la fréquence située au centre de la bande occupée par une émission, ou entre la fréquence de référence et la fréquence caractéristique d'une émission. La tolérance de fréquence est exprimée en millionièmes ou en hertz.

MOD 3137/88
CUB/74/17 Frequency Tolerance : The maximum permissible departure by the centre frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. The frequency tolerance is expressed in parts in 10^6 or in cycles-per-second hertz.

MOD 3137/88
CUB/74/17 Tolerancia de frecuencia : Desviación máxima admisible entre la frecuencia asignada y la situada en el centro de la banda de frecuencias ocupada por una emisión, o entre la frecuencia de referencia y la frecuencia característica. La tolerancia de frecuencia se expresa en millonésimas o en ciclos hertz por-segundo.

MOD 3135/86
F/57A/615

Fréquence caractéristique¹ : Fréquence aisément identifiable et mesurable dans une émission donnée.

ADD 3135.1
F/57A/619

¹Une fréquence porteuse peut, par exemple, être désignée comme fréquence caractéristique.

MOD 3135/86
F/57A/615

Characteristic Frequency¹ : A frequency which can be easily identified and measured in a given emission.

ADD 3135.1
F/57A/619

¹A carrier frequency may, for example, be designated as the characteristic frequency.

MOD 3135/86
F/57A/615

Frecuencia característica¹ : Frecuencia que puede identificarse y medirse fácilmente en una emisión determinada.

ADD 3135.1
F/57A/619

¹La frecuencia portadora puede designarse, por ejemplo, como la frecuencia característica.

NOC 3136/87

Fréquence de référence : Fréquence ayant une position fixe et bien déterminée par rapport à la fréquence assignée. Le décalage de cette fréquence par rapport à la fréquence assignée est, en grandeur et en signe, le même que celui de la fréquence caractéristique par rapport au centre de la bande de fréquences occupée par l'émission.

NOC 3136/87

Reference Frequency : A frequency having a fixed and specified position with respect to the assigned frequency. The displacement of this frequency with respect to the assigned frequency has the same absolute value and sign that the displacement of the characteristic frequency has with respect to the centre of the frequency band occupied by the emission.

NOC 3136/87

Frecuencia de referencia : Frecuencia que ocupa una posición fija y bien determinada con relación a la frecuencia asignada. La desviación de esta frecuencia en relación con la frecuencia asignada es, en magnitud y signo, la misma que la de la frecuencia característica con relación al centro de la banda de frecuencias ocupada por la emisión.

MOD 3147/98
HOL/89/271

Puissance apparente rayonnée (p.a.r.) (dans une direction donnée) : Produit de la puissance fournie à l'antenne multipliée par le gain relatif de l'antenne par son gain par rapport à un doublet demi-onde dans une cette direction donnée.

MOD 3147/98
HOL/89/271

Effective Radiated Power (e.r.p.) (in a given direction) : The product of the power supplied to the antenna multiplied by the relative gain of the antenna and its gain relative to a half-wave dipole in a given that direction.

MOD 3147/98
HOL/89/271

Potencia radiada aparente (p.r.a.) (en una dirección dada) : El producto de la potencia suministrada a la antena multiplicada por la ganancia relativa de la antena por su ganancia con relación a un dipolo de media onda en una esa dirección dada.

ADD 3147A
HOL/89/272

Puissance apparente rayonnée sur antenne verticale courte (p.a.r.v.) (dans une direction donnée) : Produit de la puissance fournie à l'antenne par son gain par rapport à une antenne verticale courte dans cette direction.

ADD 3147A
HOL/89/272

Effective Monopole - Radiated Power (e.m.r.p.) (in a given direction) : The product of the power supplied to the antenna and its gain relative to a short verticle monopole in that direction.

ADD 3147A
HOL/89/272

Potencia radiada aparente referida a una antena vertical corta (p.r.a.v.) (en una dirección dada) : El producto de la potencia suministrada a la antena por su ganancia con relación a un monopolio vertical corto en esa dirección.

MOD 3148

Puissance isotrope rayonnée équivalente
(abréviation : p.i.r.e.) : Produit de la puissance fournie à l'antenne par son gain dans une direction donnée par rapport à une antenne isotrope (gain isotrope).

MOD 3148

Equivalent isotropically radiated power
(abbreviation e.i.r.p.) : The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna,

MOD 3148

Potencia isótopa radiada equivalente
abreviatura p.i.r.e.) : Producto de la potencia suministrada a la antena por la ganancia de la antena en una dirección dada con relación a una antena isótopa.

ADD 3153C
PNG/39A/62M

Polarisation directe (sens direct ou dextrogyre (sens des aiguilles d'une montre)) : Onde (électromagnétique) polarisée elliptiquement, ou circulairement, dont, pour un observateur regardant dans le sens de la propagation, le vecteur champ électrique tourne en fonction du temps, dans un plan fixe quelconque normal à la direction de propagation, dans le sens dextrorsum, c'est-à-dire dans le sens des aiguilles d'une montre.

Note : Dans le cas d'ondes planes polarisées circulairement dextrorsum, les extrémités des vecteurs attachés aux différents points d'une droite quelconque normale aux plans constituant les surfaces d'onde forment, à un instant donné quelconque, une hélice sinistrorsum,

ADD 3153C
PNG/39A/62M

Direct Polarization (Right-hand or Clockwise Polarization) : An elliptically or circularly-polarized wave, in which the electric field intensity vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in (i.e. not against) the direction of propagation, rotates with time in a right-hand or clockwise direction.

Note : For circularly-polarized plane waves the ends of the electric vectors drawn from any points along a straight line normal to the plane of the wave front, form, at any instant, a left-hand helix.

ADD 3153C
PNG/39A/62M

Polarización directa (polarización dextrógira o en el sentido de las agujas del reloj) : Onda polarizada elíptica o circularmente en la que, para un observador que mira en el sentido de la propagación, el vector campo eléctrico gira en función del tiempo, en un plano fijo cualquiera normal a la dirección de propagación, en el sentido dextrógiro, es decir, en el mismo sentido que las agujas de un reloj.

Nota : En el caso de ondas planas polarizadas circularmente, dextrósum, los extremos de los vectores unidos a los diferentes puntos de una recta cualquiera normal a los planos que constituyen las superficies de ondas forman, en un instante dado cualquiera, una hélice levógira.

ADD 3153D
PNG/39A/62N

Polarisation indirecte (sens indirect ou lévogyre (sens inverse des aiguilles d'une montre)) : Onde (électromagnétique) polarisée elliptiquement, ou circulairement, dont, pour un observateur regardant dans le sens de la propagation, le vecteur champ électrique tourne en fonction du temps, dans un plan fixe quelconque normal à la direction de propagation, dans le sens sinistrorsum, c'est-à-dire dans le sens contraire à celui des aiguilles d'une montre.

Note : Dans le cas d'ondes planes polarisées circulairement, sinistrorsum, les extrémités des vecteurs attachés aux différents points d'une droite quelconque normale aux plans constituant les surfaces d'ondes forment, à un instant donné quelconque, une hélice dextrorsum.

ADD 3153D
PNG/39A/62N

Indirect Polarization (Left-hand or Anti-clockwise Polarization) : An elliptically or circularly-polarized wave, in which the electric field-intensity vector, observed in the fixed plane, normal to the direction of propagation whilst looking in (i.e. not against) the direction of propagation, rotates with time in a left-hand or anti-clockwise direction.

Note : For circularly-polarized plane waves, the ends of the electric vectors drawn from any points along a straight line normal to the plane of the wave front, form, at any instant, a right-hand helix.

ADD 3153D
PNG/39A/62N

Polarización indirecta (polarización levógira o en el sentido contrario al de las agujas del reloj) : Onda polarizada elíptica o circularmente en la que, para un observador que mira en el sentido de la propagación, el vector campo eléctrico gira en función del tiempo, en un plano fijo cualquiera normal a la dirección de propagación en el sentido levógiro, es decir, en sentido contrario al de las agujas de un reloj.

Nota : En el caso de ondas planas polarizadas circularmente, sinistrorsum, los extremos de los vectores unidos a los diferentes puntos de una recta cualquiera normal a los planos que constituyen las superficies de onda forman, en un instante dado cualquiera, una hélice dextrógira.

- NOC 3153/103 Diagramme de directivité d'une antenne : Courbe représentant, en coordonnées polaires ou en coordonnées cartésiennes, une quantité proportionnelle au gain d'une antenne dans les diverses directions d'un plan ou d'un cône.
- NOC 3153/103 Antenna Directivity Diagram : A curve representing, in polar or cartesian coordinates, a quantity proportional to the gain of an antenna in the various directions in a particular plane or cone.
- NOC 3153/103 Diagrama de directividad de una antena : Curva que representa, en coordenadas polares o cartesianas, una cantidad proporcional a la ganancia de una antena en las diversas direcciones de un plano o de un cono determinados.
- MOD 3154/103A
J/62A/25 Température de bruit équivalente d'une liaison par satellite : température de bruit / à l'entrée la sortie de l'antenne de réception / de la station terrienne / du-récepteur / correspondant à la puissance de bruit radioélectrique qui produit le bruit total observé à la sortie de la liaison par satellite, compte non tenu du bruit dû aux brouillages causés par des liaisons par satellite utilisant d'autres satellites et par des systèmes de Terre.
- MOD 3154/103A
J/62A/25 Equivalent Satellite Link Noise Temperature : The noise temperature at the / input output of the receiving antenna / of the earth station / receiver / corresponding to the radio-frequency noise power which produces the total observed noise at the output of the satellite link excluding noise due to interference coming from satellite links using other satellites and terrestrial systems.
- MOD 3154/103A
J/62A/25 Temperatura de ruido equivalente de un enlace por satélite : Temperatura de ruido en la / entrada-del-receptor salida de la antena receptora / de la estación terrena que corresponde a la potencia de ruido de radiofrecuencia que produce el ruido total observado en la salida del enlace por satélite, con exclusión del ruido debido a las interferencias provocadas por los enlaces por satélite que utilizan otros satélites y por los sistemas terrenales.
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WORKING GROUP 5C

REPORT OF AD HOC GROUP 5C

1. In accordance with its terms of reference and the instructions of Working Group 5C the Ad Hoc group re-examined Document DT/122 and presents the revised texts contained in Annexes 1, 2 and 3 to this document.
2. Annex 1 contains the text of a draft Resolution concerning the convening of a planning conference for the sound broadcasting service in the band 87.5 - 108 MHz in Region 1. The Ad Hoc group was not able to resolve all the issues raised in this draft and certain parts of the text therefore remain in square brackets.
3. Annex 2 gives the texts of four footnotes. The first, 270A, concerns the continued use of the band 100 - 104 MHz for fixed and mobile (except aeronautical (R)) services. Some delegations wished specifically to limit the use of this band to existing systems and the necessary text appears in square brackets. Some administrations would wish to see named countries in this footnote rather than have it applying to the whole of Region 1.

Footnotes 271A and 271AB concern the continued use of the band 104 - 108 MHz by fixed and mobile services. Both of these footnotes are contained in square brackets since several administrations expressed reservations regarding the restrictions that the use of these provisions could impose on the broadcasting service. These reservations were directed particularly at the primary status of the additional allocations, at the absence of any time limit in 271AB, and at the additional constraints that would be imposed on broadcasting if further country names were added to these footnotes.

Footnote 271B, to apply to the band 100 - 108 MHz, concerns the introduction of broadcasting stations into this band. Opinions were divided regarding the retention of the last sentence of 271B.

4. Annex 3 gives the text of a draft Resolution concerning the compatibility between sound broadcasting and aeronautical radionavigation near 108 MHz. The Ad Hoc group did not have sufficient time to give detailed consideration to this draft. Some administrations thought that there would not be time for C.C.I.R. studies prior to the sound broadcasting planning conference referred to in draft Resolution B. Others had reservations regarding the restrictions that could be imposed on the broadcasting service, and felt that the existing provisions of the Regulations were adequate. With the above comments in mind the Ad Hoc group agreed to submit the draft in square brackets to Working Group 5C for further consideration.

M. GODDARD
Acting Chairman of Ad Hoc Group 5C

Annexes: 3



ANNEX 1

DRAFT RESOLUTION B

Concerning the convening of a planning conference
for sound broadcasting in the band 87.5 - 108 MHz in Region 1

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) the extension of the allocation to the broadcasting service in Region 1 from 87.5 - 100 MHz to 87.5 - 108 MHz;
- b) that the band 100 - 108 MHz is at present allocated to the mobile except aeronautical mobile (R) service and in some countries also to the fixed service;
- c) that for those countries in Region 1 at present using the band 87.5 - 100 MHz for frequency modulated sound broadcasting there is a need to establish a new sound broadcasting plan for the whole of the band 87.5 - 108 MHz;
- d) that this new plan should in no way affect existing or planned assignments to television stations in the band 87.5 - 100 MHz made in accordance with the Regional Agreement, Stockholm, 1961;
- e) the requirement to introduce sound broadcasting stations in the band 100 - 108 MHz in accordance with this plan at the earliest possible date;
- f) the desirability of modifying the relevant parts of existing agreements dealing with sound broadcasting in the band 87.5 - 104 MHz to take into account the latest technical standards;

resolves

- 1. that a regional conference shall be convened [as soon as possible] [before 1983] to draw up an agreement and associated plan for sound broadcasting in the band 87.5 - 108 MHz [in Region 1] [for the countries concerned];
- 2. that this conference shall take place in two sessions :
 - the first session will establish the technical bases for the preparation of the plan, including the establishment of mutual criteria for sharing between sound broadcasting and other services, including television broadcasting, operating within the band 87.5 - 108 MHz;
 - the second session, preferably to be separated from the first session by a period of more than six months, will draw up the agreement and associated plan;

requests the CCIR as a matter of urgency to study the technical bases for consideration in planning, and for the determination of the protection criteria between sound broadcasting stations and television broadcasting stations and between sound broadcasting stations and stations in the fixed and mobile except aeronautical mobile (R) services;

invites the Administrative Council to fix the dates and agenda for this conference.

ANNEX 2

/270A

In Region 1 existing systems in the fixed and mobile except aeronautical mobile (R) services may continue to use the band 100 - 104 MHz on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution B or 1 January 1985 whichever is the earlier date.

/271A

Additional allocation: in Bulgaria, France, Hungary, Israel, Italy, Kenya, Mongolia, Poland, Syria, the German Democratic Republic, the United Kingdom, Somalia, Sweden, Czechoslovakia, Turkey, the U.S.S.R. and Yugoslavia, the band 104 - 108 MHz is also allocated to the mobile except aeronautical mobile (R) service on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution B and, thereafter, on a secondary basis.

/271B

Broadcasting stations in the band 100 - 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 - 108 MHz to be drawn up by a regional broadcasting conference (see Resolution B).
Prior to the date of entry into force of this agreement, broadcasting stations may be introduced by agreement between Administrations concerned and affected, on the understanding that such an operation shall not prejudice the establishment of the plan.7

A N N E X 3

RESOLUTION NO ...

Relating to the compatibility between FM sound broadcasting
in the frequency band 100 - 108 MHz and aeronautical radionavigation
in the band 108 - 117.975 MHz

The Administrative Radio Conference, Geneva, 1979,

considering

- a) the increasing use of VHF broadcasting, with relatively high powers, in the band 100 - 108 MHz;
- b) that the band 108 - 117.975 MHz is used on a world-wide basis for internationally agreed aeronautical radionavigation systems;
- c) that the portion of the band 108 - 111.975 MHz is used for Instrument Landing Systems (ILS) which is used by aircraft for automatic landing purposes;
- d) that the portion of the band 111.975 - 117.975 MHz is used for the VHF Omnidirectional Radio Range (VOR) system;
- e) that interference problems between the broadcasting and aeronautical services have been found to exist in parts of Region 2;

realizing

- a) that intermodulation products from combinations of broadcasting transmissions can fall in the aeronautical radionavigation band 108 - 117.975 MHz;
- b) that the intermodulation products can be formed in the radionavigation receiver;
- c) that high power broadcasting transmissions could result in blocking of the radionavigation receivers;

requests the CCIR

- a) to study the problem of interference between the two services;
- b) to establish suitable criteria for the protection of both services;

invites the International Civil Aviation Organization and other appropriate international organizations to study the problem and communicate the results of these studies to the CCIR;

resolves that Administrations, in introducing the sound broadcasting service in the band 100 - 108 MHz, should take note of the potential interference problems that could exist and apply appropriate protective measures.

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/122(Rev.1)-E

31 October 1979

Original: English

WORKING GROUP 5C

REPORT OF AD HOC GROUP 5C

1. In accordance with its terms of reference and the instructions of Working Group 5C the Ad Hoc group re-examined Document DT/122 and presents the revised texts contained in Annexes 1, 2 and 3 to this document.

2. Annex 1 contains the text of a draft Resolution concerning the convening of a planning conference for the sound broadcasting service in the band 87.5 - 108 MHz in Region 1. The Ad Hoc group was not able to resolve all the issues raised in this draft and certain parts of the text therefore remain in square brackets.

3. Annex 2 gives the texts of four footnotes. The first, 270A, concerns the continued use of the band 100 - 104 MHz for fixed and mobile (except aeronautical (R)) services. Some delegations wished specifically to limit the use of this band to existing systems and the necessary text appears in square brackets. Some administrations would wish to see named countries in this footnote rather than have it applying to the whole of Region 1.

Footnotes 271A and 271AB concern the continued use of the band 104 - 108 MHz by fixed and mobile services. Both of these footnotes are contained in square brackets since several administrations expressed reservations regarding the restrictions that the use of these provisions could impose on the broadcasting service. These reservations were directed particularly at the primary status of the additional allocations, at the absence of any time limit in 271AB, and at the additional constraints that would be imposed on broadcasting if further country names were added to these footnotes.

Footnote 271B, to apply to the band 100 - 108 MHz, concerns the introduction of broadcasting stations into this band. Opinions were divided regarding the retention of the last sentence of 271B.

4. Annex 3 gives the text of a draft Resolution concerning the compatibility between sound broadcasting and aeronautical radionavigation near 108 MHz. The Ad Hoc group did not have sufficient time to give detailed consideration to this draft. Some administrations thought that there would not be time for C.C.I.R. studies prior to the sound broadcasting planning conference referred to in draft Resolution B. Others had reservations regarding the restrictions that could be imposed on the broadcasting service, and felt that the existing provisions of the Regulations were adequate. With the above comments in mind the Ad Hoc group agreed to submit the draft in square brackets to Working Group 5C for further consideration.

M. GODDARD
Acting Chairman of Ad Hoc Group 5C

Annexes: 3



ANNEX 1

DRAFT RESOLUTION B

Concerning the convening of a planning conference
for sound broadcasting in the band 87.5 - 108 MHz in Region 1

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) the extension of the allocation to the broadcasting service in Region 1 from 87.5 - 100 MHz to 87.5 - 108 MHz;
- b) that the band between 100 - 108 MHz is at present used by fixed and mobile except aeronautical mobile (R) services in several countries which will continue to require protection /see Nos. 271A and 271AB/;
- c) that for those countries in Region 1 using the band 87.5 - 100 MHz for frequency modulated sound broadcasting there is a need to establish a new sound broadcasting plan for the whole of the band 87.5 - 108 MHz;
- d) that this plan should in no way affect existing or planned assignments to television stations in the band 87.5 - 100 MHz made in accordance with the Regional Agreement, Stockholm, 1961;
- e) the requirement to introduce broadcasting stations in the band 100 - 108 MHz in accordance with this plan at the earliest possible date;
- f) the desirability of modifying the relevant parts of the existing agreement dealing with sound broadcasting in the band 87.5 - 104 MHz to take into account the latest technical standards;

resolves

- 1. that a regional conference shall be convened as soon as possible /before 1983/ to draw up an agreement and associated plan for sound broadcasting in the band 87.5 - 108 MHz /in Region 1/ /for the countries concerned/;
- 2. that this conference shall take place in two sessions :
 - the first session will establish the technical bases for the preparation of the plan, including the establishment of mutual criteria for sharing between sound broadcasting and other services, including television broadcasting, operating in the band 87.5 - 108 MHz;
 - the second session, to follow the first session preferably by at least six months, will draw up the agreement and associated plan;

requests the CCIR as a matter of urgency to study the technical bases for consideration in planning, and for the determination of the protection criteria between sound broadcasting stations and television broadcasting stations and between sound broadcasting stations and stations in the fixed and mobile except aeronautical mobile (R) services;

invites the Administrative Council to fix the dates and agenda for this conference.

ANNEX 2

/270A

In Region 1 existing systems in the fixed and mobile except aeronautical mobile (R) services may continue to use the band 100 - 104 MHz on a primary basis until the date of entry into force of the regional broadcasting agreement referred to in Resolution B or 1 January 1985 whichever is the earlier date.

[/271A

Additional allocation : in France, Sweden, and, the band 104 - 108 MHz is also allocated to the fixed and mobile except aeronautical mobile (R) services on a primary basis until 1 January 1995 (see Resolution B).]

[/271AB

Additional allocation : in the German Democratic Republic, the United Kingdom, the USSR and, the band 104 - 108 MHz is also allocated to the mobile except aeronautical mobile (R) service on a primary basis (see Resolution B).]

/271B

Broadcasting stations in the band 100 - 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 - 108 MHz to be drawn up by a regional broadcasting conference (see Resolution B). Prior to the date of entry into force of this agreement broadcasting stations may be introduced by agreement between Administrations concerned and affected.

A N N E X 3

RESOLUTION NO ...

Relating to the compatibility between FM sound broadcasting
in the frequency range 100 - 108 MHz and aeronautical radionavigation
in the band 108 - 117.975 MHz

The Administrative Radio Conference, Geneva, 1979,

considering

- a) the increasing use of VHF broadcasting, with relatively high powers, in the band 100 - 108 MHz;
- b) that the band 108 - 117.975 MHz is used on a world-wide basis for internationally agreed aeronautical radionavigation systems;
- c) that the portion of the band 108 - 111.975 MHz is used for Instrument Landing Systems (ILS) which is used by aircraft for automatic landing purposes;
- d) that the portion of the band 111.975 - 117.975 MHz is used for the VHF Omnidirectional Radio Range (VOR) system;
- e) that interference problems between the broadcast and aeronautical services have been found to exist in parts of Region 2;

realizing

- a) that intermodulation products from combinations of broadcasting transmissions can fall in the aeronautical radionavigation band 108 - 117.975 MHz;
- b) that the intermodulation products can be formed in the radionavigation receiver;
- c) that high power broadcast transmissions could result in overloading of the radionavigation receivers;

requests the CCIR

- a) to study the problem of interference between the two services;
- b) to establish suitable criteria for the protection of both services;

invites the International Civil Aviation Organization and other appropriate international organizations to study the problem and communicate the results of these studies to the CCIR;

resolves that Administrations, in introducing broadcast services, should take note of the potential interference problems that could exist and apply appropriate protective measures.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/122-E

25 October 1979

Original : English

WORKING GROUP 5C

DRAFT

REPORT OF AD HOC GROUP 5C

The ad hoc Group 5C considered the problems in relation to the extension of the allocation to the broadcasting service in Region 1 from 87.5 - 100 MHz to 87.5 - 108 MHz according to its terms of reference (see Document No. DT/110).

E. SCHWARZ

Chairman of ad hoc Group 5C

Annexes : 4



A N N E X 1

DRAFT RESOLUTION B

Concerning the convening of a planning conference for the
broadcasting service in the band 87.5 - 108 MHz in Region 1

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) the extension of the allocation to the broadcasting service in Region 1 from 87.5 - 100 MHz to 87.5 - 108 MHz;
- b) that the band between 100 - 108 MHz is at present used by fixed and mobile services in several countries which will continue to require protection (see No. 270A, 271A);
- c) the need to establish a new broadcasting plan for the whole of the band 87.5 - 108 MHz;
- d) the desirability of providing a plan for the whole of Region 1;
- e) the requirement to introduce broadcasting stations in the band 100 - 108 MHz in accordance with [such a] plan at the earliest possible date;
- f) the desirability of modifying the existing relevant required agreements to take into account the latest technical standards;

resolves

- 1. that a regional conference shall be convened before [1983] to draw up an agreement and associated plan for the broadcasting service in the band 87.5 - 108 MHz in Region 1;
- 2. that this conference shall take place in two sessions :
 - the first session will establish the technical bases for the preparation of the plan including the establishment of criteria for the protection of mobile and fixed services in the band 100 - 108 MHz operating in accordance with the provisions of No. 270A, 271A, [and also protection for broadcasting service];
 - the second session will draw up the agreement and associated plan;

requests

the CCIR as a matter of urgency to study the technical bases for considerations in planning, and for the determination of the protection criterias between broadcasting stations and stations, operating in the fixed and mobile except aeronautical mobile (R) services;

invites

the Administrative Council to fix the dates and agenda for such a conference.

A N N E X 2

/270A Additional allocation : In Region 1 the band 100 - 104 MHz is also allocated to the fixed and mobile except aeronautical mobile (R) services on a / primary basis /. These services may continue to use the band 100 - 104 MHz until the date of entry into force of the regional broadcasting agreement referred to in Resolution / B / or / 1 January 1985 / whichever is the earlier date.

/271A Additional allocation : In / countries / the band 104 - 108 MHz is also allocated to the fixed and mobile except aeronautical mobile (R) services on a / primary basis / until / 1 January 1995 / (see Resolution / B /).

[/271B Broadcasting stations in the band 100 - 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 - 108 MHz to be drawn up by a regional broadcasting conference (see Resolution / B /).]

Prior to the date of entry into force of this agreement broadcasting stations may be introduced by agreement between Administrations concerned and effected.]

A N N E X 3

RESOLUTION NO

Relating to the compatibility between Band II FM sound broadcasting
in the frequency range 100 - 108 MHz and aeronautical radionavigation
in the band 108 - 117.975 MHz

(see Recommendation No.)

The Administrative Radio Conference, Geneva, 1979,

considering

- a) the increasing use of VHF broadcasting, with relatively high powers, in the band 100 - 108 MHz;
- b) that the band 108 - 117.975 MHz is used on a world-wide basis for aeronautical radionavigation systems;
- c) that the portion of the band 108 - 111.975 MHz is used for Instrument Landing Systems (ILS) which is used by aircraft for automatic landing purposes;
- d) that the portion of the band 111.975 - 117.975 MHz is used for the VHF Omnidirectional Radio Range (VOR) system;
- e) that interference problems between the broadcast and aeronautical services have been found to exist in parts of Region 2;

realizing

- a) that intermodulation products from combinations of Band II transmissions could fall in the aeronautical radionavigation band 108 - 117.975 MHz;
- b) that the intermodulation products can be formed in the radionavigation receiver;
- c) that high power broadcast transmissions could result in overloading of the radionavigation receivers;

resolves

- 1. that Administrations, in the planning of broadcast services, should take note of the potential interference problems that could exist and apply appropriate protective measures.

A N N E X 4

MOD 3564/265

Additional allocation : In the United Kingdom the band 97.6 - 100 MHz is also allocated to the land mobile service on a permitted basis and the band 100 - 102.1 MHz is also allocated to the land mobile service on a primary basis, both until 31 December 1989. The use of both sub-bands by the land mobile service is restricted to those assignments in operation on 1 January 1980.

CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

(Genève, 1979)

Document N° DT/123(Rev.1)-F/E/S

27 octobre 1979

Original : français
anglais
espagnol

COMMISSION 5COMMITTEE 5COMISIÓN 5NOTE DU PRESIDENT DE LA COMMISSION 5NOTE FROM THE CHAIRMAN OF COMMITTEE 5NOTA DEL PRESIDENTE DE LA COMISIÓN 5

Programme des réunions de la Commission 5
29.10 - 3.11.1979

(Séances de commission ou groupe de travail)

Schedule of meetings of Committee 5
29.10 - 3.11.1979

(Committee meetings or Working Groups of Committees)

Programa de las sesiones de las reuniones de la Comisión 5
29.10 - 3.11.1979

(Reuniones de comisión o de grupos de trabajo)

		Matin a.m. Mañana	Salle Room Sala	Après-midi p.m. Tardes	Salle Room Sala
Lundi Monday Lunes	29.10	5E 5BA 5C 5D	A/Varembé I II III/IV	5BA 5D 5/ad hoc-4	I III/IV A/Varembé
Mardi Tuesday Martes	30.10	5	I	5A-3 5C 5D	IV I II
Mercredi Wednesday Miercoles	31.10	5BB 5E		5A 5BB 5D	
Jeudi Thursday Jueves	1.11	5A 5BA 5C 5D		5A 5BB 5E	
Vendredi Friday Viernes	2.11	5BA 5C 5D		5A 5BB 5D	
Samedi Saturday Sábado	3.11	-		-	



CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

(Genève, 1979)

Document NO DT/123-F/E/S

26 octobre 1979

Original : français

anglais

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Jeudi Thursday Jueves	1.11	5A 5BA 5C 5D		5A 5BB 5E	
Vendredi Friday Viernes	2.11	5BA 5C 5D		5A 5BB 5D	
Samedi Saturday Sábado	3.11	-		-	



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. DT/124-E
13 November 1979
Original : English

WORKING GROUP 5D

RECOMMENDATION No. BB

Relating to Use of the Bands 1 400 - 1 727 MHz,
101 - 120 and 197 - 220 GHz for Search for Extraterrestrial
Intelligence

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that it is of special importance to humankind to determine the existence of extraterrestrial civilizations;
- b) that the probability to detect a radiation of extraterrestrial civilization is at maximum in the bands 1 400 - 1 727 MHz, 101 - 120 GHz and 197 - 220 GHz because these bands contain the spectral lines of basic physical interest and are related to the universal phenomena;
- c) that in the bands, mentioned in considering b), there is a probability to detect radiation of extraterrestrial civilizations with a maximum signal-to-noise ratio;
- d) that recognition has been given to the search for extraterrestrial civilizations in the bands 1 400 - 1 727 MHz, 101 - 120 GHz and 197 - 220 GHz within the Table of Frequency Allocations;
- e) that the attempt to recognize signals from extraterrestrial civilizations requires the reception of extremely low-level radiations and such reception needs therefore to be protected from radiations of man-made origin, to the maximum degree practicable;
- f) that the ability of reception of radiations of extraterrestrial civilization to share frequency bands with active radio services is limited;

recommends

that Administrations when preparing for the next competent Administrative Radio Conference, should consider the desirability of making provisions so as to provide a controlled environment suitable for reception of extraterrestrial radiations in the 1 400 - 1 727 MHz, 101 - 120 and 197 - 220 GHz bands;

invites

organizations concerned with the search for extraterrestrial civilizations to take into account the following :

- 1. the relevant provisions of the Radio Regulations;
- 2. the need to maintain close coordination with their national Administrations on matters of frequency usage;
- 3. the need to select, for observations, the location of receiving facilities that are as remote as possible from sources of radio interference;
- 4. the appropriate Reports of the CCIR.



WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/124-E

26 October 1979

Original : English

WORKING GROUP 5D

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5D

Subject : Assignment of Resolutions and Recommendations to Working Group 5D

1. Resolution No. Sat-8

Relating to the preparation for an administrative radio conference for the detailed planning of the space services in the frequency band 11.7 - 12.2 GHz in Region 2

2. Draft Resolution No. C (CAN/60B/560 (Corr.1))

Relating to the interim use of the 11.7 - 12.5 GHz band by space services in Region 2

3. Draft Resolution No. D (CAN/60B/561 (Corr.1))

Relating to the interim use of the frequency bands 14 - 14.5 GHz and 17.2 - 17.7 GHz in the fixed-satellite service in Region 2

4. Draft Resolution No. A (URS/63A/114)

Concerning the drawing up of agreements and of the associated plans for up-links to broadcasting satellites operating in the band 12 GHz under the plan adopted by the World Broadcasting-Satellite Administrative Radio Conference (Geneva, 1977) for Regions 1 and 3 and under the future plan for Region 2

5. Recommendation No. Sat-8

Relating to the convening of a regional administrative radio conference for the detailed planning of the space services in the frequency band 11.7 - 12.2 GHz in Region 2

6. Recommendation No. 12

Relating to the use of the band 9 300 - 9 500 MHz

7. Recommendation No. Spa2 - 2

Relating to the preferred frequency bands for Tropospheric Scatter Systems



8. Recommendation No. Mar2 - 14
Relating to the frequency requirements for shipborne transponders
9. Recommendation No. Sat-1
Relating to up-links for the broadcasting-satellite service
10. Proposal for the allocation of bands to BSS Up-links (CME/104/5)
11. Draft Recommendation No. AA (USA/49/788)
Relating to the use of the band 1 330 - 1 400 MHz by the radio astronomy service
12. Draft Recommendation No. BB (USA/49/789)
Relating to the use of the band 1 400 - 1 727 MHz by the space research service
13. Proposal for a new allocation to the sound broadcasting-satellite service (CME/104/6)
14. Draft Recommendation No. A (D/17/441)
Concerning the use by satellite systems with small earth stations of the frequency bands 19.7 - 21.2 GHz and 29.5 - 31 GHz exclusively assigned to the fixed-satellite service
15. Proposal for the allocation of a frequency band to the inter-satellite service (CME/104/4)

Dr. B.S. RAO
Chairman of Working Group 5D

A N N E X

1.

RESOLUTION No. Sat - 8

**Relating to the preparation for an administrative
radio conference for the
detailed planning of the space services in the frequency
band 11.7-12.2 GHz in Region 2**

The World Broadcasting-Satellite Administrative Radio Conference,
Geneva, 1977.

considering

- a) that a regional administrative radio conference is to be held not later than 1982 for the detailed planning of the space services in the frequency band 11.7-12.2 GHz in Region 2;
- b) that the technical criteria and procedures adopted at this Conference, the 1979 World Administrative Radio Conference and the latest CCIR Recommendations will be used in the interim period;
- c) that a considerable amount of technical information will be required to ensure the success of this regional conference;

invites the CCIR

to carry out such additional studies as are necessary to ensure timely provision of the technical information likely to be required as a basis for the work of the regional conference.

2.
CAN/60B/560
(Corr.1)

RESOLUTION No. C

Relating to the Interim Use of the 11.7 - 12.5 GHz Band
by Space Services in Region 2

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the World Broadcasting-Satellite Administrative Radio Conference, 1977, concluded that a Region 2 Administrative Radio Conference be held for the purpose of carrying out detailed planning for the broadcasting-satellite and fixed-satellite services, in accordance with terms specified in Article 12 of that 1977 World Conference;
- b) that the frequency band 11.7 - 12.2 GHz in Region 2 which was considered at that 1977 World Conference has now been expanded to 11.7 - 12.5 GHz;
- c) that a number of possible ways of sharing the 11.7 - 12.5 GHz band and the geostationary orbit between the fixed-satellite service and the broadcasting-satellite service are being considered in preparation for that Region 2 Conference;
- d) that any use of the expanded frequency band 12.2 - 12.5 GHz and the geostationary orbit by operational satellite systems prior to that Region 2 Conference may tend to constrain the deliberations of that Conference,

resolves

- 1. that the 12.2 - 12.5 GHz band be used in Region 2 only on an experimental basis until the use of the band is considered at the Region 2 Conference;
 - 2. that Article 12 of the Final Acts of the 1977 World Broadcasting-Satellite Conference continue to apply in use of the 11.7 - 12.2 GHz band by space services in Region 2, until use of the band is considered at the Region 2 Conference.
-

3.
CAN/60B/561
(Corr.1)

RESOLUTION No. D

Relating to the Interim Use of the Frequency Bands
14 - 14.5 GHz and 17.2 - 17.7 GHz in the
Fixed-Satellite Service in Region 2

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the frequency band 11.7 - 12.5 GHz is allocated on a primary basis to both the fixed-satellite service and the broadcasting-satellite service in Region 2;
- b) that the sharing of this frequency band between the two services is one of the matters to be considered at the 1983 Regional Conference;
- c) that the Earth-to-space feeder links to the broadcasting satellites use frequency bands which are allocated to the fixed-satellite (Earth-to-space) service;
- d) that the frequency bandwidth required for these feeder links is at least equal in magnitude to that of the downlink allocation;
- e) that the frequency band used for the feeder links not be too close in frequency to the downlink, so that filtering of signals is feasible, nor be too far in frequency from the downlink, so that satellite design problems can be avoided;
- f) that the frequency bands 14 - 14.5 GHz and 17.2 - 17.7 GHz are allocated to the fixed-satellite (Earth-to-space) service in Region 2,

and taking into account

- a) that there are advantages to planning the uplinks as well as the downlinks of a 12 GHz broadcasting-satellite system;
- b) that use of these frequency bands and the geostationary orbit by operational fixed-satellite systems prior to the Conference may tend to constrain the deliberations of that Conference,

resolves

- 1. that, until the 1983 Regional Conference the 17.2 - 17.7 GHz band, and the 14 - 14.5 GHz band, be used only experimentally by satellite systems serving Region 2;
 - 2. that, in exception to the above, the 14 - 14.5 GHz band may be used operationally in accordance with Article N13/9A by fixed-satellite systems outside of the orbital arc 75°W to 100°W longitude (for service to Canada, the USA and Mexico, the relevant portion shall be only between 75°W and 95°W longitude), and of the orbital arc 140°W to 170°W longitude.
-

4.
URS/63A/114 ADD

RESOLUTION No. A

Concerning the drawing up of agreements and of the associated plans for uplinks to broadcasting-satellites operating in the band 12 GHz under the Plan adopted by the World Broadcasting-Satellite Administrative Radio Conference (Geneva, 1977) for Regions 1 and 3 and under the future plan for Region 2

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the geostationary orbit and the frequency bands allocated to the fixed-satellite service should be utilized as efficiently as possible;
- b) that the World Broadcasting-Satellite Administrative Radio Conference, 1977, prepared and adopted a Plan for the assignment of frequency channels and orbital positions in the band 11.7 - 12.5 GHz for Region 1 and 11.7 - 12.2 GHz for Region 3;
- c) that the World Broadcasting-Satellite Administrative Radio Conference, 1977, adopted a Recommendation on the convening, by 1982, of a Regional Administrative Conference for the preparation of a plan for the assignment of frequency channels and orbital positions for Region 2 in the frequency band 11.7 - 12.2 GHz;
- d) that the uplink to broadcasting satellites concerns the fixed-satellite service and the use of the frequency bands on this uplink should be governed by Article N11/9A of the Radio Regulations;
- e) that the presence of a large number of broadcasting satellites operating in geostationary orbit positions determined by the above plans will cause considerable difficulties in the coordination of the use of frequency bands on the uplink for the transmission of programmes with systems of the fixed-satellite service,

resolves

1. that the uplinks to broadcasting satellites operating in the bands 11.7 - 12.5 GHz in Region 1 and 11.7 - 12.2 GHz in Regions 2 and 3 shall be organized and operated in the bands 12.5 - 13.25 GHz for Region 1 and 12.75 - 13.25 GHz for Regions 2 and 3 in accordance with agreements and the associated plans adopted at World or Regional Administrative Conferences in which all Administrations concerned and any Administrations whose services may be affected may participate;
2. that the Administrative Council shall be invited to study the question of convening a World and/or Regional Administrative Conferences as appropriate in order to determine the appropriate date and place of meeting and also the agenda for such conferences;
3. that pending the entry into force of such agreements and relevant plans the Administrations and the IFRB shall apply the procedure prescribed in Article N11/9A for uplinks for the transmission of programmes;
4. that the CCIR should study the most appropriate technical characteristics for uplinks for the transmission of programmes and the method of planning the assignment of frequency channels.

5.

RECOMMENDATION No. Sat - 8

Relating to the convening of a regional administrative radio conference for the detailed planning of the space services in the frequency band 11.7-12.2 GHz in Region 2

The World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977,

noting

- a) that the detailed requirements of all administrations in Region 2 for the broadcasting-satellite service in the frequency band 11.7-12.2 GHz are not yet known;
- b) that, in view of the large demands expected for the other services with which this band is shared, there is a need to ensure that this frequency band and the geostationary orbit are used as efficiently as possible;
- c) that a future regional administrative radio conference for the detailed planning of space services in the frequency band 11.7-12.2 GHz would be able to take advantage of experiments now being carried out, of further technological advances, and of additional studies by the CCIR;

considering

the provisions adopted by this Conference to govern the implementation of space services in the frequency band 11.7-12.2 GHz pending the establishment of a detailed plan for Region 2;

recommends

1. that a regional administrative radio conference be held not later than 1982 for the purpose of carrying out detailed planning for the broadcasting-satellite and fixed-satellite services in Region 2, in accordance with 2., 3., 4., 5. and 6. below;
2. that the said regional administrative radio conference draw up a detailed plan for the orbit/spectrum resource available for the broadcasting-satellite services in the 11.7-12.2 GHz band. The plan shall provide for the detailed assignment of the orbital positions and frequency channels available, ensuring that the broadcasting-satellite service requirements submitted by the various administrations are met in an equitable manner satisfactory to all the countries concerned. It should be laid down as a matter of principle that each administration in the Region should be guaranteed a minimum number of channels (4) for the operation of the broadcasting-satellite service. Above this minimum, the special characteristics of the countries (size, time zones, language differences, etc.) shall be taken into account;

3. that planning be based on individual reception, but each administration may use the reception system which best meets its requirements, namely, individual or community reception, or both. Account shall also be taken of the decisions of the 1977 and 1979 World Administrative Radio Conferences and of the latest CCIR Recommendations in the case of parameters covered by its studies and research;
4. that, when planning the broadcasting-satellite service, it be borne in mind that systems should be designed with a view to reducing to a minimum technical differences and incompatibilities with the systems of other Regions;
5. that the conference also take into account the need to make equitable provision for the requirements of the fixed-satellite service to which this frequency band is also allocated in Region 2;
6. that in drafting the above-mentioned detailed plan, account also be taken of the terrestrial radio services sharing the same band;

invites the Administrative Council

to make preparations for convening the said regional administrative radio conference using the provisions of this Recommendation as a basis for the agenda and the terms of reference of the conference.

6.

RECOMMENDATION No. 12

Relating to the Use of the Band 9 300-9 500 MHz

The Administrative Radio Conference, Geneva, 1959.

noting

- a) that there are in existence two main classes of airborne weather radar, using the bands 5 350-5 460 MHz and 9 300-9 500 MHz respectively;
- b) that there is in existence a very considerable number of shipborne radars, the majority in the band 9 300-9 500 MHz;
- c) that there are also ground-based radars of the maritime and aeronautical radionavigation services and of the meteorological service in the band 9 300-9 500 MHz;
- d) that in the band 5 350-5 460 MHz airborne radars have the exclusive use of the sole primary allocation which is to the aeronautical radionavigation service;
- e) that in the bands 2 900-3 100 MHz and 5 470-5 650 MHz shipborne radars have the use of the sole primary allocation to the radionavigation service and the maritime radionavigation service respectively, which they share only with land-based radars;
- f) that it has proved necessary to allocate the band 9 300-9 500 MHz on an equality basis to both the aeronautical and the maritime radionavigation services;

considering

- a) that it is of the utmost importance to ensure that harmful interference is not caused to radionavigation services providing a safety of life function;
- b) that the operating conditions of a safety of life service should be uniform throughout the world;
- c) that an uncoordinated increase in the use of the band 9 300-9 500 MHz can only lead to an increase in the probability of harmful interference between the aeronautical and maritime radionavigation services;

recommends

1. that administrations, the International Civil Aviation Organization and the Inter-Governmental Maritime Consultative Organization study this matter at the earliest opportunity; and especially
2. that they determine whether, and to what extent, interference which is recognized to be technically possible between the two services becomes harmful in operational circumstances;
3. that they investigate, in the event that it is established that there may be harmful interference between the two services, the possibility of reducing such interference by technical, operational and procedural means, including the principle that new equipments should always be of the highest technical standard;

invites

administrations, the International Civil Aviation Organization and the Inter-Governmental Maritime Consultative Organization to communicate to the Union the results of their studies together with their views and proposals resulting therefrom.

F/57A/745 NOC

Recommendation No. 12.

GRC/132/486 SUP

Rec 12 : Relating to the Use of the Band 9 300 - 9 500 MHz.

Reasons : The purpose of this Recommendation is covered by Radio Regulation 3729/367A, Radio Regulation 3730/367B and Radio Regulation 3776/399.

IND/93/265 ADD

in "noting"

g) that in the band 9 300 to 9 320 MHz for the maritime radionavigation service, the use of shipborne radars is no longer permitted with a view to facilitating development of fixed-frequency radar beacons in this band;

h) that in the band 9 320 to 9 500 MHz in the maritime radionavigation service, the use of fixed-frequency radar beacons on land or at sea is not permitted.

Reasons : Updating.

7.

RECOMMENDATION No. Spa2 - 2

**Relating to the preferred Frequency
Bands for Tropospheric Scatter Systems**

The World Administrative Radio Conference for Space Telecommunications (Geneva, 1971),

considering

the technical and operational difficulties pointed out by the C.C.I.R., particularly in the Report of the Special Joint Meeting (Geneva, 1971) in bands shared by tropospheric scatter systems and space systems;

recognizing, however,

that administrations will wish to continue to use tropospheric scatter systems in order to satisfy certain telecommunication requirements;

noting

that the proliferation of such systems in all frequency bands, particularly those shared with space systems, will only serve to aggravate an already difficult situation;

requests

that the C.C.I.R. urgently study the radio-frequency requirements for tropospheric scatter systems and recommend the preferred radio frequencies for such systems;

invites the Administrative Council

to arrange that a future World Administrative Radio Conference consider which frequency bands of the fixed service shall be preferably used by new tropospheric scatter systems, taking into account the allocations to the space radiocommunication services.

GRC/132/486 SUP Rec Spa2 - 2 : Relating to the preferred Frequency Bands for Tropospheric Scatter Systems.

Reasons : The SPM/CCIR meeting (Geneva, 1978) recommended the preferred radio frequencies for such systems.

8.

RECOMMENDATION No. Mar2 - 14**Relating to the Frequency Requirements for
Shipborne Transponders¹**

The World Maritime Administrative Radio Conference, Geneva, 1974,

considering

- a) that merchant ships of the world are increasing in size and speed;
- b) that every year a significant number of collisions occur involving merchant vessels with resultant loss of life and property and that collisions have a high potential for endangering the natural environment;
- c) that there is a need to correlate radar targets with vessels making VHF radiotelephone transmissions;
- d) that studies and experiments have shown that shipborne transponders can enhance and supplement radar target images as compared with normal radar images;
- e) that current studies and experimentation relating to shipborne transponders indicate that development of equipment can be expected in the near future which will offer adequate radar image enhancement and target identification and, possibly, data transfer capabilities;
- f) that such shipborne transponders may require protection from interference;
- g) that the selection of the frequency bands and other parameters for these transponders should be coordinated with other users of the radio frequency spectrum whose operations might be affected;

requests the C.C.I.R.

to recommend, after consultation with appropriate international organizations, the most suitable order of frequencies and bandwidth required for this purpose, and the technical parameters to be met by such devices taking into account electromagnetic compatibility with other services having allocations in the same frequency band;

invites

administrations and the Inter-Governmental Maritime Consultative Organization to continue to evaluate the operational benefits which could result from the widespread use of transponders on ships and to consider whether there would be advantage in adopting an internationally approved system for future implementation;

¹ A receiver-transmitter which emits a signal automatically when it receives the proper interrogation.

recommends

that, pending further technical and operational developments and evaluation, administrations be prepared at the next competent World Administrative Radio Conference to make the necessary provisions for the use of such devices.

9.

RECOMMENDATION No. Sat - 1

Relating to up-links for the broadcasting-satellite service

The World Broadcasting-Satellite Administrative Radio Conference,
Geneva, 1977,

considering

- a) that, according to the definition given in No. 84AG of the Radio Regulations, the fixed-satellite service includes Earth-to-space links for the broadcasting-satellite service;
- b) that there is an imbalance between the width of the bands allocated to Earth-to-space links and those allocated to space-to-Earth links in the fixed-satellite and broadcasting-satellite services between 10 and 15 GHz;
- c) that, in consequence, the Earth-to-space capacity may be insufficient to meet future demands for space-to-Earth links for the broadcasting-satellite and fixed-satellite services;
- d) that, due to interference considerations, space stations in both services may be subject to severe up-link constraints;
- e) that Recommendation No. Sat - 5 invites the CCIR to continue the studies on up-links for the broadcasting-satellite service;

invite administrations

to estimate their future technical requirements for such links for the purpose of the studies mentioned in e) above, and to forward them to the appropriate CCIR Study Groups and to the Special Joint Meeting of CCIR Study Groups to be held in preparation for the 1979 World Administrative Radio Conference.

10.
CME/104/5

Proposal for the Allocation of Bands to BSS Up-links

Present position

No frequency is at present allocated to BSS up-links in the Table of Frequency Allocations.

Proposal

1. In the Table of Frequency Allocations, a bandwidth of 1 200 MHz at a frequency close to 14 GHz should be allocated to up-links in the broadcasting-satellite service.

2. Use of the band allocated should be in conformity with an internationally approved plan of allocations for all Regions. For the preparation of this plan, an administrative conference should be convened as soon as possible after the end of WARC-79.

Reasons : 1) With regard to the bandwidth at present allocated to the satellite service, the width for the up-link is consistently much smaller than that for the down-link. It may therefore be expected that the bands for the up-links will be completely saturated long before the Allocation Plan prepared at the WARC-BS-12 GHz (Geneva, 1977) has become fully operative.

2) If the Plan prepared at the WARC-BS-12 GHz (Geneva, 1977) is to be carried out, adequate allocations also for up-links are essential.

3) The bandwidth required for up-links is greater than that for down-links, particularly because :

- a) it would be impractical to place the earth station in the transmission centre;
- b) in most cases more than one earth station will be required for each programme service;
- c) in practice, many countries will wish to use mobile earth stations for the up-link.

4) The CCIR Special Preparatory Meeting (SPM) (Geneva, 1978) found that a bandwidth 1 to $1\frac{1}{2}$ times that of the down-link is required for the up-link (Doc. XP/1107-E).

5) Complex arrangements to reduce requirements to less than $1\frac{1}{2}$ times the allocation for the down-link are regarded as impracticable.

6) For practical reasons, the band for the up-link must also be adequately separated from that of the down-link. It is further essential that the band should not be in too high a frequency range, because attenuation, particularly in the Tropical Zone, would be too great.

7) In view of the foregoing, it is estimated that the most suitable band would be around 14 GHz.

11.

USA/49/788 ADD

RECOMMENDATION No. AA

Relating to the Use of the Band 1330-1400 MHz

by the Radio Astronomy Service

The World Administrative Radio Conference, Geneva, 1979

considering that

- a) the observations of the radio emissions from neutral hydrogen atoms within the band 1330-1400 MHz are of prime importance in the understanding of the structure of distant galaxies, and subsequently of the evolution of the universe;
- b) recognition has been given to the radio astronomy service in the band 1330-1400 MHz within the Table of Frequency Allocations;
- c) the radio astronomy service is devoted to the reception of extremely low-level electromagnetic radiations of extra-terrestrial origin, and needs therefore to be protected from radiations of man-made origin, to the maximum degree practicable;
- d) the ability of the radio astronomy service to share frequency bands with other radio services is limited;

recommends that

- 1. administrations, when preparing for the next competent Administrative Radio Conference, should consider the question of making provisions in the 1330-1400 MHz band that will provide the radio astronomy service increased protection from services that radiate;
 - 2. administrations when drawing up frequency assignment plans should bear in mind radio astronomy observations being carried out in the band 1330-1400 MHz.
-

12.
USA/49/789 ADD

RECOMMENDATION No. BB

Relating to the Use of the Band 1400-1727 MHz
by the Space Research Service

The World Administrative Radio Conference, Geneva, 1979

considering that

- a) it is of special importance to humankind to determine the existence of extraterrestrial civilizations;
- b) the ability to detect a signal transmitted by an extraterrestrial civilization is at a maximum in the band 1400-1727 MHz because the galactic noise background at that frequency range is low;
- c) the band 1400-1727 MHz is likely to be chosen for transmission of signals by an intelligent civilization because it contains the spectral emission lines of the neutral hydrogen atom and the hydroxyl molecule, which are lines of basic physical interest;
- d) recognition has been given to the search for extraterrestrial civilizations by the space research service in the band 1400-1727 MHz within the Table of Frequency Allocations;
- e) the attempt to recognize signals from extraterrestrial civilizations requires the reception of extremely low-level radiations and such reception needs therefore to be protected from radiations of man-made origin, to the maximum degree practicable;
- f) the ability of the space research service to share frequency bands with other radio services is limited when it is operating a passive sensing station;

recommends that

administrations when preparing for the next competent Administrative Radio Conference, should consider the desirability of making provisions so as to provide a controlled ambient suitable for reception of extraterrestrial radiations in the 1400-1727 MHz band.

invites

organizations concerned with the search for extraterrestrial civilizations to the following:

1. the relevant provisions of the Radio Regulations;
 2. the need to maintain close coordination with their national administrations on matters of frequency usage;
 3. the need to select, for observations, sites that are as remote as possible from sources of radio interference.
-

13.

CME/104/6

Proposal for a New Allocation to the
Sound-Broadcasting-Satellite Service

Present position

No frequency band is allocated specifically to the sound-broadcasting-satellite service in the Table of Frequency Allocations.

Proposal

1. In the Table of Frequency Allocations, the band 1 429 - 1 525 MHz should be allocated to the sound-broadcasting-satellite service for sharing with the terrestrial services to which it is currently allocated. The broadcasting-satellite service should have primary status.

2. The use of the band allocated should be in conformity with a plan for all Regions which would be internationally accepted and would be prepared on the basis of a well-defined sharing rule with the terrestrial services.

Reasons : 1) In many developing countries, the frequencies at present allocated to the broadcasting service do not allow the creation of a national sound-broadcasting service on an economical basis ensuring reception of adequate quality for all listeners in the national territory.

2) A sound-broadcasting-satellite system is potentially capable of providing such a service.

3) At the frequencies currently allocated to the broadcasting-satellite service, signals can be received only with the aid of fixed and costly receiving installations.

4) A sound-broadcasting-satellite system operating around 1 GHz would allow signals to be received with cheap mobile receivers.

5) The CCIR Special Preparatory Meeting (SPM) (Geneva, 1978) found that the establishment of a sound-broadcasting service based on stationary satellites at a frequency situated between 0.5 and 2 GHz is technically feasible (Doc. XP/1106-E).

6) Several technico-economic studies have shown that a sound-broadcasting-satellite service operating at a frequency close to 1 GHz would be economically viable and less costly than a terrestrial broadcasting service providing the same coverage with the same quality. Such a system might therefore be set up at much less cost than a corresponding terrestrial broadcasting system.

7) In view of linguistic, social and cultural differences in most developing countries, a sound-broadcasting-satellite system must be capable of providing more than one programme service. Allocation of the band 1 429 - 1 525 MHz would make it possible for each country to organize 6 to 8 simultaneous programme services.

8) In view of all the various factors involved, including cost and propagation conditions, the band 1 429 - 1 525 MHz would be the best choice in the 0.5 - 2 GHz range.

9) CCIR studies have shown that in the proposed band sharing between the sound-broadcasting-satellite service and the terrestrial services may be regarded as possible (Docs. 4-9/1106, 10-11/1106, Kyoto, 1978).

14.
D/17/441 ADD

DRAFT RECOMMENDATION A

Use by satellite systems with small earth stations of the frequency bands 19.7 - 21.2 GHz and 29.5 - 31 GHz exclusively assigned to the fixed-satellite service.

The World Administrative Radio Conference (Geneva 1979),

considering that

- (a) satellite systems with small earth stations, especially in the case of broad transmission bandwidths, can be used reasonably only if the radiated powers of the earth and space stations are chosen higher than those commonly used in the operation of systems with large earth stations;
- (b) these higher powers exclude the simultaneous use by the fixed service of frequency ranges in regions where systems with small earth stations are operated;
- (c) in frequency ranges below 19.7 GHz it is very difficult to vacate frequency ranges for the exclusive use by systems with small earth stations;
- (d) transmission tests with the aim of opening the 20/30 GHz ranges for use by satellite systems have been performed successfully;
- (e) the frequency bands 19.7 - 21.2 GHz and 29.5 - 31 GHz have already been assigned exclusively to the fixed-satellite service;

recommends

that Administrations intending to introduce satellite systems with small earth stations plan to operate the same on a long-term basis in the frequency bands 19.7 - 21.2 GHz and 29.5 - 31 GHz.

15.

CME/104/4

Proposal for the Allocation of a Frequency Band
to the Inter-satellite Service

Present position

According to the Table of Frequency Allocations, the following bands are at present allocated to the inter-satellite service :

- i) 54.25 - 58.20 GHz
- ii) 59.00 - 64.00 GHz
- iii) 105.00 - 130.00 GHz
- iv) 170.00 - 182.00 GHz

Proposal

1. In the Table of Frequency Allocations, a bandwidth of 1 GHz at a frequency between 15 and 30 GHz should be allocated to the inter-satellite service.

2. The band should be used exclusively to connect space stations of the broadcasting-satellite service.

3. The use of the band allocated should be in conformity with an internationally accepted plan for all Regions.

Reasons : 1) The lowest band now allocated to the inter-satellite service is 54.25 - 58.20 GHz. At the present stage of technology, frequencies above 30 GHz cannot be used for the radiocommunication service.

2) An allocation suitable for immediate use is essential, since the final declaration of WARC-ES-12 GHz-1977 has entered into force and many administrations have taken steps to place broadcasting satellites in orbit.

3) The need to allocate another band at a lower frequency was duly stated by the CCIR Special Preparatory Meeting (SPM), Geneva, 1978 (Doc. XP-1067-E).

4) CCIR studies have shown that frequencies between 15 and 35 GHz are optimal for links of the short-hop type (Doc. 4/1008, Kyoto, 1978).

5) Where inter-satellite links are associated with broadcasting satellites, it is essential to provide multiple emissions on each side of the satellite position. The allocation of a bandwidth of 1 GHz would meet that need.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/125-E

26 October 1979

Original : English

COMMITTEE 5

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 5 TO
THE CHAIRMAN OF COMMITTEE 4

After having considered the proposals concerning footnote 3507/211, Working Group 5BB asked me to seek the advice of Committee 4 on the adequacy of the power limitation to 50 W (mean power) which is currently specified in this footnote concerning the stations of the fixed service operating in the band 6 200 - 6 525 kHz allocated to the maritime mobile service. It should be noted in this connection that a similar limitation is prescribed in RR 3504/209 which applies to the band 4 063 - 4 438 kHz.

Committee 4 is kindly requested to consider this question as a matter of urgency.

M. HARBI
Chairman of Committee 5



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/126-E

26 October 1979

Original : English

WORKING GROUP 4C

DRAFT

SIXTH REPORT FROM WORKING GROUP 4C TO COMMITTEE 4

Subject : MOD Appendix 3

1. Working Group 4C, having considered all proposals concerning Appendix 3, submits Appendix 3 as revised for consideration in Committee 4 (see Annex).
2. The tolerances in the new middle column of the Table are identical to those at present in the right-hand column. The same applies to the corresponding notes, notwithstanding editorial amendments without changing the substance (e.g. updating, new appropriate class of emission).
3. Since certain decisions on frequency band limits or frequency bands have not yet been taken in Committee 5, frequencies, where relevant, have been enclosed in square brackets.
4. The numbering of notes referring to the Table is based on the following :
 - Notes referring to the new middle column only have been designated A to J in the order in which they first appear;
 - Notes referring to both columns have been designated a to z, also in the order in which they first appear.
5. This report and its Annex have been approved unanimously. 7

E. GEORGE
Chairman of Working Group 4C

Annex : 1



A N N E X

MOD

APPENDIX 3

Mar Mar 2

Aer 2

MOD

Table of Transmitter Frequency Tolerances

(See Article N4)

MOD

1. Frequency tolerance is defined in Article N1 and is expressed in parts in $10^6 \frac{f}{v}$, unless otherwise indicated/~~or in some cases~~
~~in hertz (Hz)~~

MOD

2. The power shown for the various categories of stations is the peak envelope power for single-sideband transmitters and the mean power for all other transmitters, unless otherwise indicated. ~~The~~ The term "power of a radio transmitter" is defined in Article N1.3

ADD

3. For technical and operational reasons, certain ~~of~~ categories of stations ~~may~~ may need more stringent tolerances than those shown in the Table.

MOD

<p>Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations</p>	<p>Tolerances applicable until 1st January, 1990: to transmitters in use and to those to be installed before 2nd January, 1985</p>	<p>Tolerances applicable to new transmitters installed after 1st January, 1985 and to all transmitters after 1st January, 1990</p>
<p>Band: 9 to 535 kHz</p>		
<p>1. Fixed Stations:</p>		
<p>— 10 to 50 kHz</p>	<p>1 000</p>	<p>100</p>
<p>— 50 to 535 kHz</p>	<p>200</p>	<p>50</p>
<p>2. Land Stations:</p>		
<p>a) Coast Stations:</p>		<p>100 a)</p>
<p>— power 200 W or less</p>	<p>500 A)</p>	
<p>— power above 200 W</p>	<p>200 A)</p>	
<p>b) Aeronautical Stations</p>	<p>100</p>	<p>100</p>

3. Mobile Stations : a) Ship Stations b) Ship's Emergency Transmitters c) Survival Craft Stations d) Aircraft Stations 4. Radiodetermination Stations 5. Broadcasting Stations	1 000 B) 5 000 5 000 500 100 10 Hz	200 b) 500 c) 500 100 100 10 Hz
Band: 535 to [1 605] kHz Broadcasting Stations	10 Hz d)	10 Hz d)
Band: [1 605] to 4 000 kHz 1. Fixed Stations : — power 200 W or less — power above 200 W 2. Land Stations — power 200 W or less — power above 200 W 3. Mobile Stations a) Ship Stations b) Survival Craft Stations c) Emergency Position-Indicating Radiobeacons d) Aircraft Stations e) Land Mobile Stations 4. Radiodetermination Stations : — power 200 W or less — power above 200 W 5. Broadcasting Stations	100 50 100 A) C) g) 50 A) C) g) 200 B) D) 300 300 100 g) 200 100 50 20	100 e) f) 50 e) f) 100 a) e) g) 50 a) e) g) 40 Hz h) 100 100 100 g) 50 i) 20 j) 10 j) 10 Hz k)

Band: 4 to 29.7 MHz		
1. Fixed Stations:		
—power 500 W or less	50	
—power above 500 W	15	
a) Single sideband and independent sideband emissions		
— power 500 W or less		50 Hz
— power above 500 W		20 Hz
b) Class F1B emissions		10 Hz
c) Other classes of emission		
— power 500 W or less		20
— power above 500 W		10
2. Land Stations:		
a) Coast Stations:		20 Hz a) 1)
— power 500 W or less	50 A) C)	
— power above 500 W and less than or equal to 5 kW	30 A) C)	
— power above 5 kW	15 A) C)	
b) Aeronautical Stations:		
—power 500 W or less	100 g)	100 g)
—power above 500 W	50 g)	50 g)
c) Base Stations:		20 e)
—power 500 W or less	100	
—power above 500 W	50	
3. Mobile Stations:		
a) Ship Stations:		
1) Class A1A emissions	50 E) F)	10
2) Emissions other than Class A1A	50 B) D)	50 Hz b) m)
b) Survival Craft Stations	200	50
c) Aircraft Stations	100 g)	100 g)
d) Land Mobile Stations	200	40 n)
4. Broadcasting Stations	15	10 Hz k) o)
5. Space Stations		20
6. Earth Stations		20

<p>Band : 29.7 to 100 MHz</p> <p>1. <i>Fixed Stations :</i></p> <ul style="list-style-type: none"> —power 200 W or less —power above 200 W — power 50 W or less — power above 50 W <p>2. <i>Land Stations :</i></p> <ul style="list-style-type: none"> —power 15 W or less —power above 15 W <p>3. <i>Mobile Stations :</i></p> <ul style="list-style-type: none"> —power 5 W or less —power above 5 W <p>4. <i>Radiodetermination Stations</i></p> <p>5. <i>Broadcasting Stations (other than television) :</i></p> <ul style="list-style-type: none"> —power 50 W or less —power above 50 W <p>6. <i>Broadcasting Stations (television sound and vision) :</i></p> <ul style="list-style-type: none"> —power 50 W or less —power above 50 W <p>7. <i>Space Stations</i></p> <p>8. <i>Earth Stations</i></p>	<p>50</p> <p>30</p> <p>50</p> <p>20</p> <p>100</p> <p>50</p> <p>200</p> <p>50</p> <p>20</p> <p>100</p> <p>1 000 Hz</p>	<p>30</p> <p>20</p> <p>20</p> <p>20 p)</p> <p>50</p> <p>2 000 Hz q)</p> <p>500 Hz r) s)</p> <p>20</p> <p>20</p>
<p>Band : 100 to 470 MHz</p> <p>1. <i>Fixed Stations :</i></p> <ul style="list-style-type: none"> —power 50 W or less —power above 50 W <p>2. <i>Land Stations:</i></p> <ul style="list-style-type: none"> a) <i>Coast Stations</i> b) <i>Aeronautical Stations</i> c) <i>Base Stations :</i> <ul style="list-style-type: none"> —power 5 W or less —power above 5 W <ul style="list-style-type: none"> — in the band [1)] — in the band [2)] — in the band [3)] 	<p>50</p> <p>20</p> <p>20 G)</p> <p>50</p> <p>50</p> <p>20</p>	<p>20 t)</p> <p>10</p> <p>10</p> <p>20 u)</p> <p>15 v)</p> <p>7 v)</p> <p>5 v)</p>

Editorial notes : 1) specific band around [160 MHz] }
 2) specific band around [300 MHz] } to be inserted later
 3) specific band around [450 MHz] }

<p>3. <i>Mobile Stations:</i></p> <p>a) Ship Stations and Survival Craft Stations:</p> <p>— in the band [156-174] MHz</p> <p>— outside the band [156-174] MHz</p> <p>b) Aircraft Stations</p> <p>c) Land Mobile Stations:</p> <p>— power 5 W or less</p> <p>— power above 5 W</p> <p>— in the band [1]</p> <p>— in the band [2]</p> <p>— in the band [3]</p>	<p>20 G)</p> <p>50 H) w)</p> <p>50</p> <p>50</p> <p>20</p>	<p>10</p> <p>50 u)</p> <p>30 u)</p> <p>15 v)</p> <p>7 v) x)</p> <p>5 v) x)</p>
<p>4. <i>Radiodetermination Stations</i></p> <p>5. <i>Broadcasting Stations (other than television)</i></p> <p>6. <i>Broadcasting Stations (television sound and vision):</i></p> <p>— power 100 W or less</p> <p>— power above 100 W</p> <p>7. <i>Space Stations</i></p> <p>8. <i>Earth Stations</i></p>	<p>50 H) y)</p> <p>20</p> <p>100</p> <p>1 000 Hz</p>	<p>50 y)</p> <p>2 000 Hz q)</p> <p>500 Hz r) s)</p> <p>20</p> <p>20</p>
<p>Band: 470 to 2 450 MHz</p> <p>1. <i>Fixed Stations:</i></p> <p>— power 100 W or less</p> <p>— power above 100 W</p> <p>2. <i>Land Stations</i></p> <p>3. <i>Mobile Stations</i></p> <p>4. <i>Radiodetermination Stations</i></p> <p>5. <i>Broadcasting Stations (other than television)</i></p> <p>6. <i>Broadcasting Stations (television, sound and vision) in the band [470-960] MHz</i></p> <p>— power 100 W or less</p> <p>— power above 100 W</p> <p>7. <i>Space Stations</i></p> <p>8. <i>Earth Stations</i></p>	<p>300 I)</p> <p>100 J)</p> <p>300</p> <p>300</p> <p>500 y)</p> <p>100</p> <p>100</p> <p>100</p> <p>1 000 Hz</p>	<p>100</p> <p>50</p> <p>20 z)</p> <p>20 z)</p> <p>500 y)</p> <p>100</p> <p>500 Hz r) s)</p> <p>20</p> <p>20</p>

Editorial notes : 1) specific band around [160 MHz] }
2) specific band around [300 MHz] } to be inserted later
3) specific band around [450 MHz]

<p>Band : 2 450 to 10 500 MHz</p> <p>1. Fixed Stations : —power 100 W or less —power above 100 W</p> <p>2. Land Stations</p> <p>3. Mobile Stations</p> <p>4. Radiodetermination Stations</p> <p>5. Space Stations</p> <p>6. Earth Stations</p>	<p>300 I) 100 J)</p> <p>300</p> <p>300</p> <p>2 000 y)</p>	<p>200 50</p> <p>100</p> <p>100</p> <p>1 250 y)</p> <p>50</p> <p>50</p>
<p>Band : 10.5 to 40 GHz</p> <p>1. Fixed Stations</p> <p>2. Radiodetermination Stations</p> <p>3. Broadcasting Stations</p> <p>4. Space Stations</p> <p>5. Earth Stations</p>	<p>500</p> <p>7 500 y)</p>	<p>300</p> <p>5 000 y)</p> <p>100</p> <p>100</p> <p>100</p>

Transmitter

MOD

Notes referring to Table of Frequency Tolerances

SUP

Existing notes a) to r)

ADD

(= NOC ex. l)

A) For coast station transmitters used for direct-printing telegraphy and for data transmission the tolerance is 15 Hz. This tolerance is applicable to equipment installed after 1 January 1976 and to all equipment after 1 January 1985. For equipment installed before 2 January 1976 the tolerance is 40 Hz.

ADD

(= NOC ex. k)

B) For ship station transmitters used for direct-printing telegraphy or for data transmissions, the tolerance is 40 Hz. This tolerance is applicable to equipment installed after 1 January 1976 and to all equipment after 1 January 1985. For equipment installed before 2 January 1976 the tolerance is 100 Hz (with a maximum deviation of 40 Hz for short periods of the order of 15 minutes).

ADD

(= NOC ex. h)

C) For coast station single sideband radiotelephone transmitters the tolerance is 20 Hz.

ADD

(= MOD ex. i)

D) For ship station single sideband radiotelephone transmitters the tolerance is:

1) in the band 1 605–4 000 kHz:

100 Hz for transmitters in use or to be installed before ² 1 January 1982;

50 Hz for transmitters installed after 1 January 1982, but before

1 January 1985;

/ until 1 January 1990 / or / those /

2) in the band 4 000–23 000 kHz:

100 Hz for transmitters in use ² to be installed before 1 January 1978;

50 Hz for transmitters installed after 1 January 1978.

(See also Appendix 17A).

In A1A

ADD

(= MOD ex. p)

E) ~~Applicable from 1 June 1977. However, in the~~ In A1A Morse working frequency bands a frequency tolerance of 200 parts in 10⁶ may be applicable to existing transmitters ~~after 1 June 1977~~ provided that the emissions are contained within the band in question.

A1A

ADD
(= MOD ex. q)

F) In the ~~the~~ Morse calling frequency bands frequency tolerances of 40 parts in 10^6 in the bands between 4 and 23 MHz and of 30 parts in 10^6 in the 25 MHz band are recommended as far as possible.

ADD
(= (MOD) ex. n)

G) For coast and ship station transmitters in the band 156-174 MHz put into service after 1 January 1973 a tolerance of 10 parts in 10^6 shall apply. This tolerance is applicable to all transmitters, including survival craft stations, after 1 January 1983.

ADD
(= NOC ex. d)

H) This tolerance is not applicable to survival craft stations operating on the frequency 243 MHz.

ADD
(= NOC ex. f)

I) For transmitters using time division multiplex the tolerance of 300 may be increased to 500.

ADD
(= NOC ex. g)

J) This tolerance applies only to such emissions for which the necessary bandwidth does not exceed 3 000 kHz; for larger bandwidth emissions a tolerance of 300 applies.

ADD
(= SPM l)

a) For coast station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is 15 Hz.

ADD
(= SPM k)

b) For ship station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is 40 Hz.

ADD
(= SPM one)

c) If the emergency transmitter is used as the reserve transmitter for the main transmitter, the tolerance for ship station transmitters applies.

countries

ADD
(= MOD ex. b)

- d) ~~In the area covered by the North American Regional Broadcasting Agreement (NARBA)~~
the tolerance of 20 Hz may continue to be applied.

ADD
(= SPM 2)

- e) For single sideband radiotelephone transmitters the tolerance is 20 Hz,

ADD
(= SPM 3)

- f) For radiotelegraphy transmitters with frequency shift keying the tolerance is 10 Hz.

ADD
(= (MOD) ex. r)

- g) For single-sideband transmitters operating in the frequency bands 1 605 4 000 kHz and 4-29.7 MHz which are allocated exclusively to the aeronautical mobile (R) service, the tolerance on the carrier (reference) frequency is:

- | | |
|---|--------|
| 1. for all aeronautical stations | 10 Hz |
| 2. for all aircraft stations operating on international services | 20 Hz |
| 3. for aircraft stations operating exclusively on national services | 50 Hz* |

* *Note.* - In order to achieve maximum intelligibility it is suggested that administrations encourage the reduction of this tolerance to 20 Hz.

ADD
(= (MOD) SPM 4)

- h) For A1A emissions the tolerance is 50 parts in 10^6 .

ADD
(= SPM 5)

- i) For transmitters used for single sideband radiotelephony or for frequency shift keying radiotelegraphy the tolerance is 40 Hz.

ADD
(= MOD SPM 6)

- j) For radiobeacon transmitters in the band 1 605 7 - 1800 kHz the tolerance is 50 parts in 10^6 .

ADD
(= (MOD) SPM 17)

- k) ^{A3E} For/ transmitters with ^{carrier} ~~an output~~ power of 10 kW or less the tolerance is 20 parts in 10^6 and 15 parts in 10^6 in the band 1 605 7 - 4 000 kHz and 4 - 29.7 MHz respectively.

ADD
(= (MOD) SPM 20)

- l) For A1A emissions the tolerance is 10 parts in 10^6 .

carrier

ADD
(= (MOD) SPM 7)

- m) For ship station transmitters in the band $\frac{1}{\text{---}}$ * $\frac{1}{\text{---}}$ kHz, on board small craft, with a ~~peak~~ power not exceeding 5 watts operating in/near coastal waters and utilizing ~~A3E~~ or ~~F3E~~ emissions the frequency tolerance is 40 parts in 10^6 .

* Editorial note : specific band around 27 120 kHz to be inserted later.

ADD
(= (MOD) SPM 8)

- n) The tolerance is 50 Hz for single sideband radiotelephone transmitters, except for those transmitters operating in the band $\left[\begin{array}{c} * \\ \text{---} \end{array} \right]$ kHz, and not exceeding a peak envelope power of 15 watts, for which the basic tolerance of 40 parts in 10^6 applies.

* Editorial note : specific band around 27 120 kHz to be inserted later.

ADD
(= SPM 15)

- o) It is suggested that Administrations avoid carrier frequency differences of a few Hertz, which cause degradations similar to periodic fading. This can be avoided if the frequency tolerance were 0.1 Hz, a tolerance which would also be suitable for single sideband emissions.

ADD
(= (MOD) SPM 9)

- p) For non-vehicular mounted portable equipment with a mean transmitter power not exceeding 5 watts the tolerance is 40 parts in 10^6 .

a mean power of

ADD
(= (MOD) SPM 18)

- q) For transmitters of 50 watts or less operating at frequencies below ~~108~~ 108 MHz a tolerance of 3000 Hz applies.

ADD
(= MOD SPM 16)

- r) In the case of television stations of :
 (vision peak envelope power)
 - 50 watts or less in the band 29.7 to 100 MHz
 (vision peak envelope power)
 - 100 watts or less in the band 100 to 960 MHz

and which receive their input from other television stations or which serve small isolated communities, it may not, for operational reasons, be possible to maintain this tolerance. For such stations, the tolerance is 2000 Hz.

(vision peak envelope power)

For stations of 1 watt/or less this tolerance may be relaxed further to :

- 5 kHz in the band 100 to 470 MHz
- 10 kHz in the band 470 to 900 MHz.

- ADD
(= (MOD) SPM 19) s) For transmitters for system M(NTSC) the tolerance is 1000 Hz. However, for low power transmitters using this system note r) applies.
- ADD
(= (MOD) SPM 10) t) For multi-hop radio-relay systems employing direct frequency conversion the tolerance is 30 parts in 10^6 .
- ADD
(= (MOD) SPM 11) u) For a channel spacing of 50 kHz the tolerance is 50 parts in 10^6 .
- ADD
(= MOD SPM 12) v) These tolerances apply to channel spacings equal to or greater than 20 kHz.
- ADD
(= NOC ex. o) w) For transmitters used by on-board communication stations a tolerance of 5 parts in 10^6 shall apply.
- ADD x) For non-vehicular mounted portable equipment with a transmitter mean power not exceeding 5 watts the tolerance is 15 parts in 10^6 .
- ADD
(= NOC ex. e) y) Where specific frequencies are not assigned to radar stations, the bandwidth occupied by the emissions of such stations shall be maintained wholly within the band allocated to the service and the indicated tolerance does not apply.
- ADD z) In applying this tolerance Administrations should be guided by the latest relevant CCIR Recommendations.
-

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 4C

DRAFT

SEVENTH REPORT OF WORKING GROUP 4C TO COMMITTEE 4

Subject : MOD Appendix 17A

1. In revising Appendix 3 some modifications have been made concerning the frequency tolerances for single sideband ship station transmitters. The Annex contains the consequential amendments to Appendix 17A.

[2. This report and its Annex has been approved unanimously.]

E. GEORGE
Chairman of Working Group 4C

Annex : 1



A N N E X

MOD

APPENDIX 17A

MAR MAR 2

(MOD)

Technical characteristics of single sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 605 and 4 000 KHz and between 4 000 and 23 000 KHz

NOC

1.

NOC

2.

NOC

3.

MOD

4. The carrier frequencies shall be maintained within the following tolerances :

a) coast stations : ± 20 Hz

b) ship stations :

Bands between 1 605 and 4 000 kHz :

- tolerance applicable to transmitters in use or to be installed before 2 January 1982 : ± 100 Hz; the short-term limits (of the order of 15 minutes) shall be ± 40 Hz;
- tolerance applicable to transmitters installed after 1 January 1982 but before 2 January 1985 : ± 50 Hz;
- tolerance applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1990 : ± 40 Hz;

Bands between 4 000 and 23 000 KHz :

- tolerance applicable to transmitters in use or ~~to be~~ installed before 2 January 1978 : ± 100 Hz; the short-term limits (of the order of 15 minutes) shall be ± 40 Hz;
- tolerance applicable to transmitters installed after 1 January 1978 and to all transmitters after 1 January 1990 : ± 50 Hz,

NOC

5.

NOC

6.

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WORKING GROUP 4C

DRAFT

EIGHTH REPORT FROM WORKING GROUP 4C TO COMMITTEE 4

Subject : MOD Article N3

1. Working Group 4C, having considered all proposals concerning Article N3, submits Article N3 as revised for consideration in Committee 4 (see Annex).
2. It was decided that the details on the additional characteristics (fourth and fifth symbol) shall not be included in Article N3 but form part of the revised Appendix 5.
3. The question was raised which symbols monitoring stations should use when characteristics cannot be unambiguously identified (e.g. phase modulation as opposed to frequency modulation). There was general agreement that this matter was irrelevant to Article N3, but that a note to Committee 6 should be drafted drawing their attention to this matter when revising Appendices 6, 7 and 8.
4. The question of updating the present entries in the Master International Frequency Register in the light of the revision of Article N3 will be the subject of another note from Committee 4 to Committee 6.
5. This report has been approved unanimously.

E. GEORGE
Chairman of Working Group 4C

Annex : 1



A N N E X

MOD

ARTICLE N3

NOC

Designation of Emissions

SUP 3209 to 3216 inclusive together with associated section headings.

ADD 3209 § 1. (1) Emissions shall be designated according to their necessary bandwidth and their classification.

(2) Examples of emissions designated in accordance with this Article are given in Appendix 5, Part B. Further examples may appear in the latest Recommendations of the CCIR. These examples may also be published in the Preface to the International Frequency List.

ADD Section I. Necessary Bandwidth

ADD 3210 § 2. The necessary bandwidth, as defined in No. 3140 and obtained in accordance with Appendix 5, Part B, shall be expressed by three numerals and one letter. The letter occupies the position of the decimal point and represents the unit of bandwidth. The first character shall be neither zero nor K, M or G.

Necessary bandwidths¹ :

between .001 and 999 Hz shall be expressed in Hz (letter H),

between 1.00 and 999 kHz shall be expressed in kHz (letter K),

between 1.00 and 999 MHz shall be expressed in MHz (letter M),

between 1.00 and 999 GHz shall be expressed in GHz (letter G),

ADD 3210.1

¹ Examples :

0.002 Hz = H002	6 kHz = 6K00	1.25 MHz = 1M25
0.1 Hz = H100	12.5 kHz = 12K5	2 MHz = 2M00
25.3 Hz = 25H3	180.4 kHz = 180K	10 MHz = 10M0
400 Hz = 400H	180.5 kHz = 181K	202 MHz = 202M
2.4 kHz = 2K40	180.7 kHz = 181K	5.65 GHz = 5G65

ADD Section II. Classification

ADD 3211 § 3. The class of emission is a set of characteristics conforming to No. 3212.

ADD 3212 § 4. Emissions shall be classified and symbolized according to their basic characteristics as given in No. 3213 and, if an Administration wishes to supply them, any additional characteristics as provided for in Appendix 5, Part I A.

ADD 3213 § 5. The basic characteristics and the order in which they are symbolized (see Nos. 3214, 3215, 3216) are :

- (1) Type of modulation of the main carrier.
- (2) Nature of signal(s) modulating the main carrier.
- (3) Type of information to be transmitted.

Modulation used only for short periods and for incidental purposes (such as, in many cases, for identification or calling) may be ignored provided that the necessary bandwidth as indicated is not thereby increased.

ADD 3214 § 6. (1) **First symbol - Type of modulation of the main carrier**

(1 .1)	Emission of an unmodulated carrier	N
(1 .2)	Emission in which the main carrier is amplitude-modulated (including cases where sub-carriers are angle-modulated).	.
(1 .2.1)	Double-sideband	A
(1 .2.2)	Single-sideband, full carrier	H
(1 .2.3)	Single-sideband, reduced or variable level carrier	R
(1 .2.4)	Single-sideband, suppressed carrier	J
(1 .2.5)	Independent sideband	B
(1 .2.6)	Vestigial sideband	C
(1 .3)	Emission in which the main carrier is angle-modulated.	
(1 .3.1)	Frequency modulation	F
(1 .3.2)	Phase modulation	G
(1 .4)	Emission in which the main carrier is amplitude- and angle-modulated either simultaneously or in a pre-established sequence	D
(1 .5)	Emission of pulses ¹	
(1 .5.1)	Unmodulated sequence of pulses	P
(1 .5.2)	A sequence of pulses	
(1 .5.2.1)	modulated in amplitude	K
(1 .5.2.2)	modulated in width/duration	L
(1 .5.2.3)	modulated in position/phase	M
(1 .5.2.4)	in which the carrier is angle-modulated during the period of the pulse	Q
(1 .5.2.5)	which is a combination of the foregoing or is produced by other means	V

ADD 3214.1

¹ Emissions, where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g. pulse code modulation), should be designated under SS(1.2) or (1.3).

(1.6) Cases not covered above, in which an emission consists of the main carrier modulated, either simultaneously or in a pre-established sequence, in a combination of two or more of the following modes: amplitude, angle, pulse W

(1.7) Cases not otherwise covered X

ADD 3215

(2.) Second symbol - Nature of signal(s) modulating the main carrier

(2.1) No modulating signal 0

(2.2) A single channel containing quantized or digital information without the use of a modulating sub-carrier² 1

(2.3) A single channel containing quantized or digital information with the use of a modulating sub-carrier² 2

(2.4) A single channel containing analogue information 3

(2.5) Two or more channels containing quantized or digital information 7

(2.6) Two or more channels containing analogue information 8

(2.7) Composite system with one or more channels containing quantized or digital information, together with one or more channels containing analogue information 9

(2.8) Cases not otherwise covered X

ADD 3215.1 ²This excludes time division multiplex.

ADD 3216

(3.) Third symbol - Type of information to be transmitted³

(3.1) No information transmitted N

(3.2) Telegraphy - for aural reception A

(3.3) Telegraphy - for automatic reception B

ADD 3216.1 ³In this context the word "information" does not include information of a constant, unvarying nature such as provided by standard frequency emissions, continuous wave and pulse radars, etc.

(3.4)	Facsimile	C
(3.5)	Data transmission, telemetry, telecommand	D
(3.6)	Telephony (including sound broadcasting)	E
(3.7)	Television (video)	F
(3.8)	Combination of the above	W
(3.9)	Cases not otherwise covered	X

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WORKING GROUP 4A

DRAFT

FIFTH REPORT OF WORKING GROUP 4A TO COMMITTEE 4

Working Group 4A has examined the proposals submitted by the Administrations to the Conference for Article N2 :

Nomenclature of the Frequency and Wavelength Bands
Used in Radiocommunication

(provisions MOD 3183/11.2 and ADD 3183 A).

Working Group 4A submits to Committee 4 the text as shown in the Annex.

A.R. BASTIKAR
Chairman of Working Group 4A

Annex : 1



A N N E X

ARTICLE N2

Nomenclature of the Frequency and Wavelength Bands
Used in Radiocommunication

MOD 3183/112

As the unit of frequency is the Hertz (Hz), the radio spectrum shall be subdivided into twelve frequency bands, which shall be designated by progressive whole numbers in accordance with the following Table. Frequencies shall be expressed :

- in kilohertz (kHz) up to and including 3 000 kHz;
- in megahertz (MHz) up to and including 3 000 MHz;
- in gigahertz (GHz) up to and including 3 000 GHz;
- in terahertz (THz) up to and including 3 000 THz.

However, where adherence to these provisions would in serious difficulties, for example in connection with the notification and registration of frequencies, the lists of frequencies and related matters reasonable departures may be made.

Band Number	Symbols	Frequency range (lower limit exclusive, upper limit inclusive)	Corresponding metric subdivision	Abbreviations
4	VLF	3 to 30 kHz	myriametric waves	0.Mam
5	LF	30 to 300 kHz	kilometric waves	0.km
6	MF	300 to 3 000 kHz	hectometric waves	0.hm
7	HF	3 to 30 MHz	decametric waves	0.dam
8	VHF	30 to 300 MHz	metric waves	0.m
9	UHF	300 to 3 000 MHz	decimetric waves	0.dm
10	SHF	3 to 30 GHz	centimetric waves	0.cm
11	EHF	30 to 300 GHz	millimetric waves	0.mm
12		300 to 3 000 GHz	decimillimetric waves	
13		3 to 30 THz	centimillimetric waves	
14		30 to 300 THz	micrometric waves	-
15		300 to 3 000 THz	decimicrometric waves	-

Note 1 : "Band number N" (N = band number) extends from 0.3×10^N Hz to 3×10^N Hz.

Note 2 : Prefix : k = kilo (10^3), M = mega (10^6), G = giga (10^9), T = tera (10^{12})

ADD 3183A

In communications between Administrations and the ITU no names, symbols or abbreviations should be used for the various frequency bands other than those specified in 3183/112.

CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

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SOUS-GROUPE DE TRAVAIL 6A2SUB-WORKING GROUP 6A2SUB-GRUPO DE TRABAJO 6A2

Liste de Résolutions et Recommandations ainsi que des propositions et documents concernés, à examiner par le Sous-Groupe de travail 6A2

List of Resolutions and Recommendations together with proposals and documents concerned to be considered by Sub-Working Group 6A2

Lista de Resoluciones y Recomendaciones junto con las proposiciones y documentos concernientes que deben ser examinadas por el sub-grupo de trabajo 6A2

Res. No.	Propositions / Documents Proposals / Documents Proposiciones / Documentos	Res. No.	Propositions / Documents Proposals / Documents Proposiciones / Documentos
5	USA/48/615 ADD USA/48/615A SUP F/57A/701 SUP	Spa2 - 6	69(Add.1) 158
15	69(Add.1)	Mar2 - 7	69(Add.1)
Mar 5	69(Add.1)	Mar2 - 8	69(Add.1)
Mar 19	IND/93/258 SUP 69(Add.1) 357	Mar2 - 13	ZAI/8/63 SUP F/57A/726 SUP NOR/72/249 SUP IND/93/261 MOD GRC/132/485 SUP 69(Add.1)
Spa2 - 1	-	Mar2 - 14	69(Add.1)
Spa2 - 3	GRC/132/485 SUP 69(Add.1)		



Res. No.	Propositions / Documents Proposals / Documents Proposiciones / Documentos	Res. No.	Propositions / Documents Proposals / Documents Proposiciones / Documentos
Sat 1	F/57A/731 SUP 69(Add.1)	Aer2 - 4	F/57A/739 <u>NOC</u> 69(Add.1)
Sat. 2	F/57A/732 SUP 69(Add.1)	Aer2 - 5	F/57A/740 <u>NOC</u> 69(Add.1)
Sat 3	F/57A/733 SUP 69(Add.1)	21	F/57A/750 SUP
Sat 5	69(Add.1)	Spa2 - 1	-
Sat 6	69(Add.1)	Aer2 - 3	F/57A/770 <u>NOC</u> 69(Add.1)
Sat 9	69(Add.1)	Aer2 - 4	F/57A/771 <u>NOC</u> 69(Add.1)
Aer2 - 2	F/57A/737 <u>NOC</u> 69(Add.1)		
Aer2 - 3	F/57A/738 <u>NOC</u> 69(Add.1)		

J.A. LEWIS
Chairman of Sub-Working Group 6A2

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5BA

DRAFT

SECOND REPORT OF WORKING GROUP 5BA TO COMMITTEE 5

1. Frequency band 405 - 415 kHz

Working Group 5BA, having examined all the proposals relating to the above frequency band unanimously decided to recommend to Committee 5 the adoption of the revised Table and the modification of Footnote RR 3475/182 which appear in Annex 1. It also decided to recommend the deletion of footnotes RR 3476/183 and 3477/184.

2. Reduction of the 500 kHz guardband

2.1 Having considered all the proposals on this subject, the Working Group unanimously decided to recommend that Committee 5 should decide in principle to reduce the 500 kHz guardband to 495 - 505 kHz.

2.2 However, it agreed to recommend that the decision on the date of entry into force of the new guardband should be taken by the next competent World Administrative Conference. A draft Resolution adopted to this effect appears in Annex 2.

2.3 Allocations in the bands 490 - 495 kHz and 505 - 510 kHz will be discussed in a subsequent report.

L. COOK
Chairman of Working Group 5BA

Annexes : 2



A N N E X 1kHz
405 - 415

Region 1	Region 2	Region 3
405 - 415	405 - 415	
RADIONAVIGATION	RADIONAVIGATION	
	Aeronautical mobile	
3475/182	3475/182	

MOD 3475/182

The frequency 410 kHz is designated for radio direction-finding in the /maritime/ radionavigation service and the other radionavigation services to which the band 405 - 415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5 - 413.5 kHz.

SUP 3476/183

SUP 3477/184

A N N E X 2

DRAFT RESOLUTION

Relating to the date of entry into force of the
10 kHz guardband for the frequency 500 kHz in
the mobile service (distress and calling)

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the radio-frequency spectrum should be used in the most efficient possible way,
- b) that the present Conference has adopted a 10 kHz guardband for the frequency 500 kHz, which is the international distress and calling frequency in radiotelegraphy in the mobile service;

recognizing

- a) that an adequate amortization period should be allowed for the radio equipment currently in service;
- b) that technical progress has led to the production of more stable and reliable equipment;

resolves that the next competent Conference shall decide on the date of entry into force of this new arrangement;

invites the Intergovernmental Maritime Consultative Organization (IMCO) to examine this subject as part of its study of the maritime distress and safety system and to submit a Recommendation relating to the date of entry into force of the new guardband to the above-mentioned Conference;

requests the Secretary-General to forward the present Resolution to IMCO.

INTERNATIONAL TELECOMMUNICATION UNION

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

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COMMITTEE 5

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 5

TO THE CHAIRMAN OF COMMITTEE 4

During the considerations of proposals concerning the allocations for Region 1 in the bands between 160 - 215 kHz, Working Group 5BA agreed to ask me to consult Committee 4 on the various aspects of a possible footnote concerning broadcasting stations in Region 1 in order to protect the services operating in Regions 2 and 3 in accordance with the Table.

Committee 4 is kindly requested to consider this question as a matter of urgency.

M. HARBI
Chairman of Committee 5



INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/133(Rev.1)-E

6 November 1979

Original : English

COMMITTEE 4

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

The Annex hereto is a list of the Resolutions and Recommendations adopted by previous Administrative Conferences, as well as of those proposed to the present Conference, as far as they are appropriate to the work of Committee 4.

N. MORISHIMA

Chairman of Committee 4

Annex : 1



A N N E XCOMMITTEE 4 : RESOLUTIONS

No.	Destination	Proposed action			
Res. 7	Administrations, CCIR	SUP	F/57A/703	DT/9	p. 3
Mar 7	Administrations	NOC	F/57A/713	DT/9	p. 7
Spa2 - 4	Administrations	NOC	F/57A/		p. 55
Mar2 - 20	CCIR, IMCO	NOC	F/57A/		p. 58
Mar2 - 21	CCIR, IMCO, next Conference	SUP NOC	GRC/132/485 F/57A/		p. 58
Sat 7	Administrations	NOC	F/57A/		p. 59
LMF 8*)	Administrations, CCIR	NOC	F/57A/		p. 59
S/15/378	Administrations, CCIR CCITT			DT/1A DT/9	p. 283 p. 44
D/84/443	CCIR			DT/1A DT/9	p. 290 p. 47
IND/93/227	CCIR			DT/3(Add.1)	p. 5
AUS/102/276A	Administrations			DT/3(Add.1)	p. 4
AUS/102/276B	Administrations			DT/3(Add.1)	p. 4
CME/120/6	CCIR				

*) Final Acts of the Regional Administrative LF/MF Broadcasting Conference
(Regions 1 and 3) (see Appendix).

COMMITTEE 4 : RECOMMENDATIONS

Rec. 1	CCIR	NOC	F/57A/	p. 61
Rec. 2	CCIR, Administrations	NOC	F/57A/	p. 61
Rec. 3	CCIR	NOC	F/57A/	p. 61
(Rec. 4)	CCIR	NOC	F/57A/ already considered by Working Group 4C	p. 61
Rec. 6	CCIR	NOC	F/57A/	p. 61
Rec. 7	CCIR, UNESCO	SUP SUP NOC	IND/93/263 DT/9(Add.1) GRC/132/486 F/57A/	
Rec. 8	CCIR	SUP SUP SUP SUP	F/57A/744 DT/9 NOR/72/251 IND/93/264 GRC/132/486	p. 24
Rec. 9	Administrations	SUP ADD NOC	S/15/379 DT/9 S/15/380 F/57A/	p. 24
Rec. 13	Administrations	SUP SUP SUP SUP SUP	F/57A/746 DT/9 URS/63A/115 NOR/72/252 IND/93/266 GRC/132/486	p. 25
Rec. 15	Administrations	SUP	F/57A/747 DT/9	p. 25
Spa 4	CCIR	NOC MOD	F/57A/ IND/93/276 DT/9(Add.1)	p. 63
Spa 5	CCIR	SUP SUP SUP SUP	F/57A/754 DT/9 IND/93/273 DT/9(Add.1) GRC/132/486 URS/63A/116	p. 29
Aer 2	Administrations	NOC	F/57A/	p. 65

No.	Destination	Proposed action			
Mar 3	Administrations, CCIR, IMCO	SUP NOC	GRC/132/486 F/57A/	DT/9	p. 25 p. 65
Spa2 - 8	CCIR, Administrations	SUP SUP ADD SUP NOC	URS/63A/118 USA/49/791A USA/49/791 GRC/132/486 F/57A/	DT/9	p. 32 p. 64
Spa2 - 9	CCIR, Administrations	NOC	F/57A/		p. 64
Spa2 - 10	CCIR, Administrations	NOC SUP ADD	F/57A/757 USA/47/455A USA/47/455	DT/9	p. 33
Spa2 - 11	Administrations	MOD NOC	URS/63A/119 F/57A/	DT/9	p. 36 p. 64
Spa2 - 12	CCIR, IFRB	NOC	F/57A/		p. 64
Spa2 - 15	CCIR	MOD MOD SUP/ MOD? NOC	URS/63A/121 IND/93/282 GRC/132/486 F/57A/	DT/9	p. 38 p. 64
Mar2 - 13	CCIR, Administrations	NOC	F/57A/		p. 66
Sat 2	Administrations	NOC	F/57A/		p. 67
Sat 3	CCIR	NOC	F/57A/		p. 67
Sat 4	CCIR	NOC	F/57A/		p. 67
Sat 5	CCIR	NOC	F/57A/		p. 67
Sat 6	CCIR	SUP	F/57A/767	DT/9	p. 42
Sat 7	CCIR	NOC	F/57A/		p. 67
Aer2 - 1	Administrations, IFRB	NOC	F/57A/768	DT/9	p. 42
LMF 3*)	Administrations	NOC	F/57A/		p. 66
LMF 5*)	Administrations	SUP	F/57A/765	DT/9	p. 42

*) Final Acts of the Regional Administrative LF/MF Broadcasting Conference
(Regions 1 and 3) (see Appendix).

No.	Destination	Proposed action
S/15/380	Administrations	DT/9 p. 48 See Recommendation No. 9 above.
USA/47/455	CCIR, Administrations	DT/1A p. 297 DT/3 p. 216 DT/9 p. 49 See Recommendation No. Spa2 - 10 above.
USA/49/791	CCIR, Administrations	DT/1A p. 297 DT/3 p. 219 DT/9 p. 49 See Recommendation No. Spa2 - 8 above.
CAN/60A/203	CCIR	DT/3 p. 219
CAN/60A/204	CCIR	DT/1A p. 297
CAN/60A/205	CCIR	
IND/93/228	CCIR, UNESCO	DT/3(Add.1) p. 5
E/114/10	CCIR	
FJI/489	Administrations	

Appendix

(to Annex 1 to DT/133)

Extracts from the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3).

RESOLUTION No. 8

Relating to the Use of Bandwidth Saving Modulation Systems

The Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975.

considering

- a) that the application of bandwidth saving modulation systems will lead to more efficient use of the LF and MF bands;
- b) that the transition to such systems would pose difficulties with regard to transmitters and receivers, and frequency planning;

invites the C.C.I.R.

to expedite its studies of bandwidth saving modulation methods with particular reference to the technical and operational aspects of single-sideband and independent sideband modulation, taking into account the problems of compatibility with existing receivers:

resolves

1. that broadcasting stations may provisionally use bandwidth saving modulation methods on condition that interference in the same or adjacent channels concerned does not exceed the interference resulting from the application of double sideband modulation with full carrier (A3);
2. that any administration which envisages using these methods of emission shall seek the agreement of all affected administrations by following the procedure specified in Article 4 of the Agreement.

RECOMMENDATION No 3

Relating to Methods of Predicting Sky-Wave Propagation

The Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975.

considering

that the methods of predicting sky-wave propagation used in drawing up the Plan may be improved in the future:

recommends to administrations

that in their bilateral negotiations on modifications to the Plan, they use the methods most recently adopted by the C.C.I.R. for predicting sky-wave propagation or any other methods on which they may agree.

RECOMMENDATION No. 5

Relating to the Publication of a Handbook of Radiation Diagrams of Directional Antennae that can be used in the Broadcasting Service

The Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975.

considering

- a) that the calculation criteria adopted by the Conference, the essentials of which are contained in Annex 2 to the Agreement, require a knowledge of the antenna gain in the direction of propagation;
- b) that it is useful to have up-to-date information on the characteristics of LF and MF broadcasting antennae;
- c) that a handbook of radiation diagrams of directional antennae that can be used in the LF/MF broadcasting service is being prepared by the C.C.I.R. specialized secretariat in accordance with C.C.I.R. Recommendation 414 and Resolution 59;
- d) that it would be useful for measured values of antenna radiation diagrams to be available for comparison with the calculated radiation diagrams;

recommends

that administrations communicate to the director of the C.C.I.R. all the results they may have of relevant measurements.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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COMMITTEE 4

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

The Annex hereto is a list of the Resolutions and Recommendations adopted by previous Administrative Conferences, as well as of those proposed to the present Conference, as far as they are appropriate to the work of Committee 4.

N. MORISHIMA

Chairman of Committee 4

Annex : 1



A N N E XCOMMITTEE 4 : RESOLUTIONS

Working Group	No.	Destination	Proposed action			
B	Res. 7	Administrations, CCIR	SUP	F/57A/703	DT/9	p. 3
C	Mar 7	Administrations				
B	Spa2 - 4	Administrations	NOC	F/57A/		p. 55
C	Mar2 - 20	CCIR, IMCO	NOC	F/57A/		p. 58
C	Mar2 - 21	CCIR, IMCO, next Conference	SUP NOC	GRC/132/485 F/57A/		p. 58
B	Sat 7	Administrations	NOC	F/57A/		p. 59
C	LMF 8*	Administrations, CCIR	NOC	F/57A/		p. 59
C	S/15/378	Administrations, CCIR CCITT			DT/1A DT/9	p. 283 p. 44
C	HOL/25/133	CCIR, Administrations, Administrative Council, Secretary-General			DT/9 DT/11	p. 44 p. 3
A	USA/47/454A (Corr.1)	CCIR			DT/9 DT/11	p. 45 p. 3
A	NOR/72/257	Administrations, IFRB			DT/1A DT/9	p. 289 p. 46
A	POL/77/24	CCIR, Administrations			DT/9 DT/11	p. 46 p. 4
C	D/84/443	CCIR			DT/1A DT/9	p. 290 p. 47
A	D/84/444	CCIR, Administrations			DT/1A DT/9	p. 291 p. 47
B	IND/93/227	CCIR			DT/3(Add.1)	p. 5
C	AUS/102/276A	Administrations			DT/3(Add.1)	p. 4

* Final Acts of the Regional Administrative LF/MF Broadcasting Conference
(Regions 1 and 3) (see Appendix).

Working Group	No.	Destination	Proposed action
C	AUS/102/276B	Administrations	DT/3(Add.1) p. 4
C	CME/120/6	CCIR	
A	ARG/149/206	Secretary-General, IFRB	
C	Rec. 1	CCIR	NOC F/57A/ p. 61
C	Rec. 2	CCIR, Administrations	NOC F/57A/ p. 61
C	Rec. 3	CCIR	NOC F/57A/ p. 61
(C)	(Rec. 4)	CCIR	NOC F/57A/ already considered by Working Group 4C p. 61
C	Rec. 6	CCIR	NOC F/57A/ p. 61
C	Rec. 7	CCIR, UNESCO	SUP IND/93/263 DT/9(Add.1) SUP GRC/132/486 NOC F/57A/
C	Rec. 8	CCIR	SUP F/57A/744 DT/9 p. 24 SUP NOR/72/251 SUP IND/93/264 SUP GRC/132/486
A	Rec. 9	Administrations	SUP } S/15/379 DT/9 p. 24 ADD } S/15/380 NOC F/57A/
C	Rec. 13	Administrations	SUP F/57A/746 DT/9 p. 25 SUP URS/63A/115 SUP NOR/72/252 SUP IND/93/266 SUP GRC/132/486
C	Rec. 15	Administrations	SUP F/57A/ DT/9 p. 25
B	Spa 4	CCIR	NOC F/57A/ p. 63 MOD IND/93/276 DT/9(Add.1)
B	Spa 5	CCIR	SUP F/57A/754 DT/9(Add.1) p. 29 SUP IND/93/273 SUP GRC/132/486 SUP URS/63A/116
B	Aer 2	Administrations	NOC F/57A/ p. 65

Working Group	No.	Destination	Proposed action			
B	Mar 3	Administrations, CCIR, IMCO	SUP NOC	GRC/132/486 F/57A/	DT/9	p. 25
B	Spa2 - 8	CCIR, Administrations	SUP SUP ADD SUP NOC	URS/63A/118 USA/49/791A USA/49/791 GRC/132/486 F/57A/	DT/9	p. 32 p. 64
B	Spa2 - 9	CCIR, Administrations	NOC	F/57A/		p. 64
B	Spa2 - 10	CCIR, Administrations	NOC SUP ADD	F/57A/757 USA/47/455A USA/47/455	DT/9	p. 33
B	Spa2 - 11	Administrations	MOD NOC	URS/63A/119 F/57A/	DT/9	p. 36 p. 64
B	Spa2 - 12	CCIR, IFRB	NOC	F/57A/		p. 64
B	Spa2 - 15	CCIR	MOD MOD SUP/ MOD? NOC	URS/63A/121 IND/93/282 GRC/132/486 F/57A/	DT/9	p. 38 p. 64
C	Mar2 - 13	CCIR, Administrations	NOC	F/57A/		p. 66
B	Sat 2	Administrations	NOC	F/57A/		p. 67
B	Sat 3	CCIR	NOC	F/57A/		p. 67
B	Sat 4	CCIR	NOC	F/57A/		p. 67
B	Sat 5	CCIR	NOC	F/57A/		p. 67
B	Sat 6	CCIR	SUP	F/57A/767	DT/9	p. 42
B	Sat 7	CCIR	NOC	F/57A/		p. 67
C	Aer2 - 1	Administrations, IFRB	NOC	F/57A/768	DT/9	p. 42
C	LMF 3*	Administrations	NOC	F/57A/		p. 66
C	LMF 5*	Administrations	SUP	F/57A/765	DT/9	p. 42

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Working Group	No.	Destination	Proposed action
A	S/15/380	Administrations	DT/9 p. 48 See Recommendation No. 9 above.
A	S/15/381	CCIR, IFRB	DT/9 p. 48 DT/11 p. 5
B	USA/47/455	CCIR, Administrations	DT/1A p. 297 DT/3 p. 216 DT/9 p. 49 See Recommendation No. Spa2 - 10 above.
B	USA/49/791	CCIR, Administrations	DT/1A p. 297 DT/3 p. 219 DT/9 p. 49 See Recommendation No. Spa2 - 8 above.
C	CAN/60A/203	CCIR	DT/3 p. 219
C	CAN/60A/204	CCIR	DT/1A p. 297
B	CAN/60A/205	CCIR	
C	IND/93/228	CCIR, UNESCO	DT/3(Add.1) p. 5
C	E/114/10	CCIR	
A	CCIR Rec. 535		

Appendix

(to Annex 1 to DT/133)

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- d) that it would be useful for measured values of antenna radiation diagrams to be available for comparison with the calculated radiation diagrams;

recommends

that administrations communicate to the director of the C.C.I.R. all the results they may have of relevant measurements.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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26 October 1979

Original : English

WORKING GROUP 4C

DRAFT

NOTE BY THE CHAIRMAN OF WORKING GROUP 4C

Working Group 4C has agreed on the following draft note, which it requests Committee 4 to transmit to the Chairman of Committee 6 :

"DRAFT NOTE TO THE CHAIRMAN OF COMMITTEE 6

Committee 4 has approved a revision of Article N3 "Designation of Emissions" (Document No.). In this connection the question was raised which symbols monitoring stations should use when certain characteristics cannot be unambiguously identified, e.g. phase modulation as opposed to frequency modulation (see RR 3214, sub-section (1.3)) or number of channels in a digital signal (see RR 3215, sub-sections (2.2), (2.3), (2.5)). Committee 6 might wish to consider this question when revising Appendices 6, 7 and 8. For the first example given above, Committee 4 suggests that the symbol F be used. If further advice from Committee 4 is needed this matter should be handled with urgency. /"

E. GEORGE
Chairman of Working Group 4C



INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No DT/135 has not been published
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**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/136-E

25 October 1979

Original: English

WORKING GROUP 5C

DRAFT

EIGHTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands 150.05 - 174 MHz

1. Working Group 5C considered all proposals to the bands 150.05 - 174 MHz. It was agreed by a majority to recommend the revised Table appearing in the Annex to this Report to Committee 5 for adoption.
2. Divergent views were expressed on the exclusion of aeronautical mobile or aeronautical mobile (R) from the bands 150.05 - 153 MHz in Region 1, and it was not possible to obtain a majority decision.
3. New Zealand reserved its position on the proposed addition of footnote 3594A.
4. Austria, the Federal Republic of Germany and Finland reserved their position on the proposed addition of footnote 3531C.

K. OLMS
Chairman of Working Group 5C

Annex



ANNEX

150.05 - 174

REGION 1	REGION 2	REGION 3
150.05 - 153 FIXED MOBILE except aeronautical mobile RADIOASTRONOMY	150.05 - 156.7625	
3531/233B 3531C		FIXED
153 - 154 FIXED MOBILE except aeronautical mobile (R) Meteorological aids 3531C		MOBILE
154 - 156.7625 FIXED MOBILE except aeronautical mobile (R)		3531A 3531B
3595/287 3531C	3595/287 3531A	3531B 3591A
156.7625 - 156.8375 MARITIME MOBILE (distress and calling)		
3495/201A 3595/287		
156.8375 - 174 FIXED MOBILE except aeronautical mobile	156.8375 - 174	FIXED MOBILE
3595/287, 3596/288, 3596A	3595/287 3594A 3596B	3596C

SUP 3530/230

MOD 3531/233B

In making assignments to stations of other services to which the bands 150.05 - 153 MHz are allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

- ADD 3531A Additional allocation: in Australia the band 150.05 - 153 MHz is also allocated to the radio astronomy service on a secondary basis.
- ADD 3531B Alternative allocation: in Australia, the band 150.05 - 153 MHz is allocated to the fixed and mobile, except aeronautical mobile, service on a primary basis.
- ADD 3531C Additional allocation: in Jordan, Sweden and Switzerland the band 150.05 - 156 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis.
- SUP 3590/285
- ADD 3591A Additional allocation: in India, the band 150.05 - 153 MHz is also allocated to the radio astronomy service on a primary basis.
- NOC 3495/201A The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.
- The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.
- SUP 3594/286A
- MOD 3595/287 The frequency 156.8 MHz is the international distress, safety and calling frequency for maritime mobile VHF radio-telephone service. The conditions for the use of this frequency are contained in Article N35/35.
- In the bands 156 - 156.7625 MHz, 156.8375 - 157.45 MHz, 160.6 - 160.975 MHz and 161.475 - 162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by that administration (see Article N57/35).
- Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.
- However, the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements.
- MOD 3596/288 Alternative allocation: in France and Monaco the band 162 - 174 MHz is allocated to the broadcasting service on a primary basis until 1 January 1985
- ADD 3596A Alternative allocation: in Morocco the band 162 - 174 MHz is allocated to the broadcasting service on a primary basis.

ADD 3594A Additional allocation: in China, the band 163 - 167 MHz is also allocated to the space operation (space-to-earth) service on a primary basis subject to agreement obtained under the procedure set forth in Article [N ...]

ADD 3596.B Additional allocation: in Afghanistan and China the band 167 - 174 MHz is also allocated to the broadcasting service on a primary basis.

ADD 3596C Additional allocation: in Japan the band 170 - 174 MHz is also allocated to the broadcasting service on a primary basis.

SUP

3598/290

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

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31 October 1979
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WORKING GROUP 5A

DRAFT

SEVENTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

Concerns the French text only.



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/137-E

26 October 1979

Original : English

WORKING GROUP 5A

DRAFT

SEVENTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1. At its sixth meeting, the Committee 5 examined the third report of the Working Group 5A, contained in Document No. 284, and decided that the Working Group should re-examine the text of No. 3434/142 (page 7 of Document No. 284). This re-examination was considered necessary in view of the fact that sometimes a footnote to the Table of Frequency Allocation indicates an "additional allocation" on a world-wide basis. The example given in Committee 5, in this respect, was of the band 38.25 - 44 MHz and the footnote No. 3532/235.

The Working Group has re-examined the matter and has decided to maintain the present text of RR 3434/142, presented in its third report (Document No. 284, page 7). Instead the Working Group decided to recommend that "additional allocations" on world-wide or regional bases be shown in Table of Frequency Allocations instead of in the footnotes. Annex 1 shows, as an example, the manner in which the Table for 38.25 - 44 MHz may be constituted (Document No. 235 refers).

2. After the examination of proposal I/135/26 concerning the inclusion of the new term "non-professional personal service", the Working Group decided to seek the advice of the Sub-Sub-Working Group 5B and 5C on the necessity of such a term. The Administration of the Federal Republic of Germany has reserved the right to raise this matter in Committee 5.

3. Further text of definitions for inclusion in Article N1, unanimously adopted by Working Group 5A, are enclosed as Annex 2 for approval of Committee 5.

V. QUINTAS
Chairman of Working Group 5A

Annexes : 2



A N N E X 1

MHz
38.25 - 44

Allocation to Services		
Region 1	Region 2	Region 3
38.25 - 39.986	FIXED	
	MOBILE	
39.986 - 40.02	FIXED	
	MOBILE	
	Space research	
40.02 - 40.98	FIXED	
	MOBILE	
	[3533/236]	
40.98 - 41	FIXED	
	MOBILE	
	Space research	
41 - 41.015	FIXED	
	MOBILE	
	Space research	
	3536/238 3538/240 3538A	
41.015 - 44	FIXED	
	MOBILE	
	3536/238 3538/240 3538A	

A N N E X 2

- NOC **3082 39A** ***On-Board Communication Station:*** A low-powered mobile station in the maritime mobile service intended for use for internal communications on board a ship, or between a ship and its lifeboats and life-rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.
- NOC **3083 40** ***Ship's Emergency Transmitter:*** A ship's transmitter to be used exclusively on a distress frequency for distress, urgency or safety purposes.
- NOC **3084 37** ***Port Operations Service:*** A maritime mobile service in or near a port, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded from this service.
- NOC **3085 38A** ***Port Station:*** A coast station in the port operations service.
- NOC **3086 37A** ***Ship Movement Service:*** A maritime mobile safety service, other than a port operations service, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the movement of ships. Messages which are of a public correspondence nature shall be excluded from this service.
- MOD **3088 43** ***Base Station:*** A land station in the land mobile service.
- NOC **3089 44** ***Land Mobile Station:*** A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent.
-

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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WORKING GROUP 5E

DRAFT

FOURTH REPORT FROM WORKING GROUP 5E TO COMMITTEE 5

(ALLOCATIONS)

Subject : Band of frequencies between 105 and 149 GHz

1. The Working Group examined all of the proposals for this band of frequencies and decided unanimously to recommend to Committee 5 the Table of Allocations shown in the Annex.
2. The Working Group recommended that Committee 5 refer to Committee 4 for study of the question of the necessity to include "except aeronautical mobile" in the mobile service in the band 116 - 126 GHz, 126 - 134 GHz shared with the inter-satellite service (Reference Document No. DT/109(Rev.1)).
3. The Working Group agreed with the Recommendation of the ad hoc Working Group 5/3 (Document No. DT/105(Rev.2)) regarding the designation of ISM in the band 122 - 123 GHz. It was noted that the document had not yet been approved by Committee 5.

A.W. ADEY

Chairman of Working Group 5E

Annex : 1



A N N E X105^{GHz} - 126

Region 1	Region 2	Region 3
105 - 116	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) 3679A 3815/412J	
116 - 126	EARTH EXPLORATION-SATELLITE (Passive) FIXED INTER-SATELLITE MOBILE / except aeronautical mobile / SPACE RESEARCH (Passive) 3679A / 3816A / 3816B	

SUP 3816/412K

ADD 3679A

In the bands / 1 400 - 1 727 MHz, / 101 - 120 GHz / and 197 - 220 GHz /, passive research is being conducted by some countries in a programme for the search for space signals of extra-terrestrial intelligence.

MOD 3815/412J

All emissions in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, 86 - 92 GHz, 105 - 116 GHz / and 230 - 240 GHz / are prohibited. The use of passive sensors by other services is also authorized.

/ ADD 3816A

The frequency / 122.5 GHz / may be used for industrial, scientific and medical applications. Radiation shall be within the limits / 122 GHz / and / 123 GHz / and shall not cause harmful interference to radio services operating inside or outside this band in accordance with the provisions of these Regulations. /

ADD 3816B

The band 119.98 - 120.02 GHz is also allocated to the amateur service on a secondary basis.

GHz
126 - 134

126 - 134	FIXED
	INTER-SATELLITE
	MOBILE / except aeronautical mobile /
	RADIOLOCATION / 3815C / / 3816C /

SUP 3815/412J

/-ADD 3815C

The use of airborne radars in the bands 59 - 64 GHz and 126 - 134 GHz is prohibited. 7

ADD 3816D

The band 140.69 - 140.98 GHz is also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in the band to protect radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (See No. 3280/116).

GHz
134 - 149

Region 1	Region 2	Region 3
134 - 142	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation 3815E 3816D 3816E	
142 - 144	AMATEUR AMATEUR-SATELLITE	
144 - 149	RADIOLOCATION Amateur Amateur-satellite 3816D	

ADD 3815E

In the bands (43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, 134 - 142 GHz) satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

ADD 3816D

The bands 140.69 - 140.98 GHz, 144.68 - 144.98 GHz, 145.45 - 145.75 GHz and 146.82 - 147.12 GHz are also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (See No. 3280/116).

ADD 3816E

All emissions from airborne stations and from spacecraft in the space-to-Earth direction are not permitted in the band 140.69 - 140.98 GHz.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/139-E

26 October 1979

Original : English

WORKING GROUP 5E

DRAFT

FIFTH REPORT OF WORKING GROUP 5E TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency band between 149 - 217 GHz

1. All proposals relating to this band were considered and the Working Party decided unanimously to recommend the adoption of the Table shown in the Annex.
2. In a review by Working Group 5E of proposals for allocations in the bands 168 - 182 GHz and 185 - 190 GHz, sharing in each band between the intersatellite and the mobile service was proposed. The question of the necessity to include "except aeronautical mobile" in the mobile service for protection of the intersatellite service was raised. It was decided to request the Chairman of Committee 5 to refer the question to Committee 5 for further study (see Document No. DT/109(Rev.1)).
3. Consideration of the proposal for the Earth exploration (passive) service in the band 182 - 185 GHz, was deferred until the definition for this service is decided on in Working Group 5A. An early decision on this point would aid Working Group 5E in finalizing its work.

A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
149 - 170

Region 1	Region 2	Region 3
149 - 164	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE 3816F	
164 - 168	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive)	
168 - 170	FIXED MOBILE [INTER-SATELLITE]*)	

ADD 3816F

The band 150 - 151 GHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in the band to protect radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (See No. 3280/116).

*) This service will be maintained in the Table only if Committee 4 indicates that the sharing with aeronautical mobile is possible (See paragraph 4 of the attached report).

GHz
170 - 182

Region 1	Region 2	Region 3
170 - 174.5	FIXED INTER-SATELLITE MOBILE [except aeronautical mobile] 3816G	
174.5 - 176.5	EARTH EXPLORATION-SATELLITE (Passive) FIXED INTER-SATELLITE MOBILE [except aeronautical mobile] SPACE RESEARCH (Passive) 3816G	
176.5 - 182	FIXED INTER-SATELLITE MOBILE [except aeronautical mobile] 3816G	

ADD 3816G

The bands 174.42 - 175.02 GHz, 177 - 177.4 GHz, 178.2 - 178.6 GHz, 181 - 181.46 GHz and 186.2 - 186.6 GHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (See No. 3280/116).

GHz
182 - 202

Region 1	Region 2	Region 3
182 - 185	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY \ SPACE RESEARCH (Passive) 3816H 3816I	
185 - 190	FIXED INTER-SATELLITE MOBILE [except aeronautical mobile] 3816G	
190 - 200	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 3679A 3815E	
200 - 202	EARTH EXPLORATION-SATELLITE (Passive) FIXED MOBILE SPACE RESEARCH (Passive) 3679A	

ADD 3816H In the United Kingdom the band 182 - 185 GHz is also allocated to the fixed and mobile services on a primary basis.

ADD 3816I All emissions in the band 182 - 185 GHz are prohibited except for those under the provisions of No. 3816H. The use of passive sensors by other services is also authorized.

ADD 3679A In the bands [1 400 - 1 727 MHz,] 101 - 120 GHz, and 197 - 217 [220] GHz, passive research is being conducted by some countries in a programme for the search for space signals of extra-terrestrial intelligence.

ADD 3815E In the bands 43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, 134 - 142 GHz and 190 - 200 GHz satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

GHz
202 - 217

Region 1	Region 2	Region 3
202 - 217	FIXED FIXED-SATELLITE (Earth-to-Space) MOBILE 3679A	

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/140-E

29 October 1979

Original : English

COMMITTEE 7

DRAFT

SECOND REPORT OF THE CHAIRMAN OF WORKING GROUP 7B
TO COMMITTEE 7

1. The Working Group presents the texts of the definitions set out in the Annex for the approval of Committee 7. These were approved unanimously in the Working Group.

2.1 The delegate of France, supported by other French speaking delegations sought to amend the definition of "Telephony" (3013/7) in view of the incorrect language used therein. No change is required in English or Spanish. The only objections to this proposal were based on the fact that the text appears (with the same error) in the Convention.

2.2 It is accepted that this Conference cannot interfere with the Convention but since no change in meaning is intended, it may perhaps be allowable to make this editorial change in the definition in the Radio Regulations. The modification is set out below. Committee 7 is invited to approve this change.

MOD 3013/17 ~~Téléphonie : Système-de-t~~ Télécommunication établie
en vue de la transmission de la parole ou, dans certains cas, d'autres sons.

(MOD) 3013/17 Telephony : A system of telecommunication set up for
the transmission of speech or, in some cases, other sounds. [(CONV.)]

(MOD) 3013/17 Telefonía : Sistema de telecomunicación para la
transmisión de la palabra o, en algunos casos, de otros sonidos. [(CONV.)]

A.L. WITHAM
Chairman of Working Group 7B

Annex : 1



A N N E X

NOC 3007/10 Telegraphy : A system of telecommunication which is concerned in any process providing transmission and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. The foregoing definition appears in the Convention, but, for the purposes of these Regulations, telegraphy shall mean, unless otherwise specified, "A system of telecommunication for the transmission of written matter by the use of a signal code".

NOC 3008/11 Frequency-Shift Telegraphy : Telegraphy by frequency modulation in which the telegraph signal shifts the frequency of the carrier between predetermined values. There is phase continuity during the shift from one frequency to the other.

SUP 3009/12

(MOD) 3010/13 Telegram : Written matter intended to be transmitted by telegraphy for delivery to the addressee; this term also includes radiotelegram unless otherwise specified. In this definition the term Telegraphy has the meaning defined in the Convention. [-(CONV.)-]

MOD 3011/14 Radiotelegram : A telegram, originating in or intended for a mobile station or a mobile Earth station in the maritime mobile-satellite service, transmitted on all or part of its route over the radiocommunication channels of a mobile service or of the maritime mobile-satellite service.

NOC 3012/14A
Mar 2 Radiotelex Call : A telex call, originating in or intended for a mobile station or a mobile Earth station transmitted on all or part of its route over the radiocommunication channels of the maritime mobile service or the maritime mobile-satellite service.

MOD 3014/18 Radiotelephone Call : A telephone call, originating in or intended for a mobile station or a mobile Earth station in the maritime mobile-satellite service transmitted on all or part of its route over the radiocommunication channels of a mobile service or of the maritime mobile-satellite service.

NOC 3015/19 Television : A system of telecommunication for the transmission of transient images of fixed or moving objects.

MOD 3016/20 Facsimile : A system-of-telecommunication form of telegraphy for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.

[In this definition the term Telegraphy has the meaning defined in the Convention.]

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/141(Rev.1)-E

10 November 1979

Original : EnglishWORKING GROUP 5DDRAFT

FOURTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Approval of draft reports and allocations in frequency bands 3 500 - 4 200 MHz and
4 990 - 5 470 MHz

1. The Working Group approved the 2nd, 4th, 5th, 6th, 7th and 8th reports of Working Group 5D to Committee 5 with modifications.

2. Frequency bands between 3 500 and 4 200 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

3. During the discussions on the allocations in the band 3 500 - 3 700 MHz in Regions 2 and 3 the proposals as given below by India and Federal Republic of Germany were considered.

Proposal of India

To change status of radiolocation from primary to secondary status in 3 500 - 3 700 MHz for Regions 2 and 3 with footnote provision of primary radiolocation for those countries who are having this service operational. It was also suggested that this radiolocation service should be gradually phased out to allow growth of the fixed-satellite service.

4. The delegations of the following countries indicated a choice for the proposal of India :

Afghanistan, Saudi Arabia, Argentina, Bangladesh, Brazil, Chile, China, Colombia, Congo, Costa Rica, Ivory Coast, Cuba, El Salvador, Spain, Ghana, Guatemala, Guyana, India, Indonesia, Iraq, Jamaica, Japan, Liberia, Mexico, Nicaragua, Qatar, Senegal, Singapore, Sudan, Thailand, Venezuela, Yugoslavia, Zambia.

5. Proposal of the Federal Republic of Germany

		Region 1	Region 2	Region 3
5.1	3.4 - 3.6 GHz	NOC	NOC	
5.2	3.6 - 3.7 GHz	NOC	Radiolocation on a secondary basis	



5.3 Resolution

Administrations are urged to free the band 3.4 - 3.6 GHz from radiolocation service in the future. Considering that 3.6 - 3.7 GHz can already be used for FIXED SATELLITE service (space-to-Earth) on a world-wide basis, the whole band 3.4 - 3.7 GHz should be made available for FIXED-SATELLITE service (space-to-Earth) on a world-wide basis.

6. The delegations of the following countries indicated a choice for the proposal of the Federal Republic of Germany :

The Federal Republic of Germany, Australia, Belgium, Denmark, the United States of America, Finland, Iran, Ireland, Italy, Norway, New Zealand, United Kingdom, Sweden.

7. The delegations of the following countries abstained from show of card :

Benin, Bulgaria, Gabon, Malaysia, Malta, Mongolia, Niger, Pakistan, Papua New Guinea, Poland, Portugal, Roumania, the German Democratic Republic, Tanzania, Togo, Turkey.

8. Several Administrations requested that Working Group 5D not make a final decision on the 3 400 - 3 700 MHz band until the entire fixed-satellite issue below 10 GHz had been addressed in Working Group 5D. The Chairman of Working Group 5D indicated that this would be done, if possible.

9. The delegations of Saudi Arabia and Qatar (representing State of Bahrain, United Arab Emirates, Republic of Iraq, State of Kuwait, Sultanate of Oman, State of Qatar as well) reserved the right to come back to the allocation of the mobile service in the band 3 600 - 4 200 MHz in Region 1.

10. Frequency bands between 4 990 and 5 470 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

11. The delegations of France and the USSR reserved the right to come back to footnote 3686/352A.

12. The delegation of the USSR reserved the right to come back to footnotes 3687/352B and 3750/383B.

13. The Working Group decided to suppress footnotes 3740/377, 3742/379, 3749/383A, 3752/384A and 3737/374 (in the band 3 600 - 3 770 MHz).

Dr. B.S. RAO
Chairman of Working Group 5D

A N N E X 1

MHz
3 500 - 4 200

Region 1	Region 2	Region 3
3 600 - 4 200 FIXED FIXED-SATELLITE (Space-to-Earth) 3741A [Mobile]	3 500 - 3 700 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [RADIOLOCATION] 3741/378	
[3750A]	3 700 - 4 200 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3750A] 3742A	

SUP 3740/377

SUP 3737/374

(in the band 3 600 - 3 770 MHz)

NOC [3741/378

In Japan, in the band 3 620 - 3 700 MHz the radiolocation service is excluded.]

SUP 3742/379

[3750A]

[The footnote referring to the maritime mobile-satellite service will be included depending on the decision to be taken in the discussions on Document No. DL/106 in the band [4 195 - 4 215] MHz.]

ADD 3742A
(NZL/51/145)

Additional allocation : in New Zealand, the band 3 700 - 3 770 MHz is also allocated to the radiolocation service on a secondary basis.

A N N E X 2

MHz
4 990 - 5 470

Region 1	Region 2	Region 3
4 990 - 5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research / (passive) / 3531L	
5 000 - 5 250	AERONAUTICAL RADIONAVIGATION 3686/352A 3687/352B 3750/383B 3750AA	
5 250 - 5 255	RADIOLOCATION Space Research 3751/384 3675A	
5 255 - 5 350	RADIOLOCATION 3751/384 3675A	
5 350 - 5 460	AERONAUTICAL RADIONAVIGATION 3753/385 Radiolocation	
5 460 - 5 470	RADIONAVIGATION 3753/385 Radiolocation	

SUP 3531/233B (in the band 4 990 - 5 000 MHz)

ADD 3531L In making assignments to stations of other services to which the band 4 990 - 5 000 MHz is allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service. (See Nos. 3280/116 and 3281/116A and Article N33A).

SUP 3749/383A

MOD 3686/352A

The bands 1 610 - 1 626.5 MHz ~~and~~ 4 200 - 4 400 MHz, 5 000 - 5 250 MHz and 15.4 - 15.6 GHz ~~are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services operating in accordance with the table, which may be affected.~~

obtained under the procedure set forth in Article N13A.

MOD 3687/352B

The bands 1 610 - 1 626.5 MHz ~~and~~ 5 000 - 5 250 MHz and 15.4 - 15.7 GHz ~~are also allocated to the aeronautical mobile-satellite service on a primary basis. Such use and development is subject to agreement~~

obtained under the procedure set forth in Article N13A.

MOD 3750/383B
(G/53B/533)

The bands 5 000 - 5 250 MHz ~~and~~ 15.4 - 15.7 GHz ~~are also allocated to the fixed-satellite service and the inter-satellite service for connection between one or more Earth stations at specified fixed points on the Earth and satellites when these services are used by the aeronautical mobile-(R) service and/or the radio-determination in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use and development shall be subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.~~

obtained under the procedure set forth in Article N13A.

ADD 3750AA
(USA/45/180)

The band 5 000 - 5 250 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of the band.

3751/384

Additional allocation : in Austria, Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Roumania, Switzerland, Czechoslovakia and the USSR, the band 5 250 - 5 350 MHz is also allocated to the radionavigation service on a primary basis.

ADD 3675A

In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz, 5 250 - 5 350 MHz, 8 550 - 8 650, 9 500 - 9 800 MHz, and 13.4 - 14.0 GHz, radiolocation stations installed on spacecraft may also be employed for the Earth exploration-satellite and space research services on a secondary basis.

SUP 3752/384A

NOC 3753/385

The use of the band 5 350 - 5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/141-E

23 October 1979

Original : EnglishWORKING GROUP 5DDRAFTFOURTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Approval of draft reports and allocations in frequency bands 3 500 - 4 200 MHz and 4 990 - 5 470 MHz

1. The Working Group approved the 2nd, 4th, 5th, 6th, 7th and 8th reports of Working Group 5D to Committee 5 with modifications.

2. Frequency bands between 3 500 and 4 200 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

3. During the discussions on the allocations in the band 3 500 - 3 700 MHz in Regions 2 and 3 the proposals as given below by India and Federal Republic of Germany were considered.

Proposal of India

To change status of radiolocation from primary to secondary status in 3 500 - 3 700 MHz for Regions 2 and 3 with footnote provision of primary radiolocation for those countries who are having this service operational. It was also suggested that this radiolocation service should be gradually phased out to allow growth of the fixed-satellite service.

4. The delegations of the following countries indicated a choice for the proposal of India :

Afghanistan, Saudi Arabia, Argentina, Brazil, Canada, Chile, China, Colombia, Congo, Republic of Korea, Costa Rica, Ivory Coast, Cuba, El Salvador, Spain, France, Ghana, Greece, Guatemala, Guyana, India, Indonesia, Iraq, Jamaica, Japan, Liberia, Mexico, Nicaragua, Qatar, Senegal, Singapore, Sudan, Switzerland, Thailand, Venezuela, Yugoslavia, Zambia.

5. Proposal of the Federal Republic of Germany

		Region 1	Region 2	Region 3
5.1	3.4 - 3.6 GHz	NOC	NOC	
5.2	3.6 - 3.7 GHz	NOC	Radiolocation on a secondary basis	



5.3 Resolution

Administrations are urged to free the band 3.4 - 3.6 GHz from radiolocation service in the future. Considering that 3.6 - 3.7 GHz can already be used for FIXED SATELLITE service (space-to-Earth) on a world-wide basis, the whole band 3.4 - 3.7 GHz should be made available for FIXED-SATELLITE service (space-to-Earth) on a world-wide basis.

6. The delegations of the following countries indicated a choice for the proposal of the Federal Republic of Germany :

The Federal Republic of Germany, Australia, Austria, Belgium, Denmark, the United States of America, Finland, Iran, Ireland, Italy, Norway, New Zealand, Oman, United Kingdom, Sweden.

7. The delegations of the following countries abstained from voting :

Benin, Bulgaria, Gabon, Malaysia, Malta, Mongolia, Niger, Pakistan, Papua New Guinea, Poland, Portugal, Roumania, the German Democratic Republic, Tanzania, Togo, Turkey.

8. Several Administrations requested that Working Group 5D not make a final decision on the 3 400 - 3 700 MHz band until the entire fixed-satellite issue below 10 GHz had been addressed in Working Group 5D. The Chairman of Working Group 5D indicated that this would be done, if possible.

9. The delegations of Saudi Arabia and Qatar (representing State of Bahrain, United Arab Emirates, Republic of Iraq, State of Kuwait, Sultanate of Oman, State of Qatar as well) reserved the right to come back to the allocation of the mobile service in the band 3 600 - 4 200 MHz in Region 1.

10. Frequency bands between 4 990 and 5 470 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

11. The delegations of France and the USSR reserved the right to come back to footnote 3686/352A.

12. The delegation of the USSR reserved the right to come back to footnotes 3687/352B and 3750/383B.

13. The Working Group decided to suppress footnotes 3740/377, 3742/379, 3749/383A and 3752/384A.

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Dr. B.S. RAO
Chairman of Working Group 5D

A N N E X 1

MHz
3 500 - 4 200

Region 1	Region 2	Region 3
3 600 - 4 200 FIXED FIXED-SATELLITE (Space-to-Earth) / Mobile / / 3741A / / 3750A /	3 500 - 3 700 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile / RADIOLOCATION / / 3741A / / 3741/378 /	
	3 700 - 4 200 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile / 3750A / 3742A	

SUP 3740/377

SUP 3737/374

(in the band 3 600 - 3 770 MHz)

NOC / 3741/378

In Japan, in the band 3 620 - 3 700 MHz the radiolocation service is excluded. /

ADD 3741A
(CAN/60B/425)

In the bands 3 600 - 3 700 MHz / and 6 425 - 6 525 MHz / the fixed-satellite service is restricted to single-channel-per-carrier or other frequency-division multiple-access systems.

SUP 3742/379

/ 3750A /

/ The footnote referring to the maritime mobile-satellite service will be included depending on the decision to be taken in the discussions on Document No. DL/106 in the band / 4 195 - 4 215 / MHz. /

ADD 3742A
(NZL/51/145)

Additional allocation : In New Zealand the band 3 700 - 3 770 MHz is also allocated to the radiolocation service on a secondary basis.

A N N E X 2

MHz
4 990 - 5 470

Region 1	Region 2	Region 3
4 990 - 5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research / (passive) / / 3531/233B /	
5 000 - 5 250	AERONAUTICAL RADIONAVIGATION 3686/352A 3687/352B 3750/383B 3750AA	
5 250 - 5 255	RADIOLOCATION Space Research 3751/384 3675A	
5 255 - 5 350	RADIOLOCATION 3751/384 3675A	
5 350 - 5 460	AERONAUTICAL RADIONAVIGATION 3753/385 Radiolocation	
5 460 - 5 470	RADIONAVIGATION 3753/385 Radiolocation	

/ 3531/233B /

/ The Drafting Group 5D5 will provide the text of the
footnote in the band 4 990 - 5 000 MHz. /

SUP 3749/383A

MOD 3686/352A
(G/53B/476)

The bands / 1 565 - 1 629.5 MHz, 4 213 - 4 413 MHz /
5 000 - 5 250 MHz / and 15.4 - 15.7 MHz / may also be used on a world-wide basis
for the use and development of airborne electronic aids to air navigation and
any directly associated ground-based or satellite-borne facilities. Such
satellite use is subject to agreement and coordination between the
Administrations concerned and those having services operating in accordance with
the table, which may be affected.

NOC 3687/352B

The bands /1 558.5 - 1 636.5 MHz, / 5 000 - 5 250 MHz and /15.4 - 15.7 GHz/ are also allocated to the aeronautical mobile (R) service for the use and development of systems using space radiocommunication techniques. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.

MOD 3750/383B
(G/53B/533)

The bands 5 000 - 5 250 MHz /and 15.4 - 15.7 GHz/ are also allocated to the fixed-satellite service and the inter-satellite service for connection between one or more Earth stations at specified fixed points on the Earth and satellites when these services are used by the aeronautical mobile (R) service and/or the radio-determination in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use and development shall be subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.

ADD 3750AA
(USA/45/180)

The band 5 000 - 5 250 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of the band.

3751/384

Additional allocation : In Austria, Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Roumania, Switzerland, Czechoslovakia and the USSR, the band 5 250 - 5 350 MHz is also allocated to the radionavigation service on a primary basis.

ADD 3675A

In the bands 1 215 - 1 300 MHz, 3 100 - 3 200 MHz, 5 250 - 5 350 MHz /9 700 - 9 800 MHz, and 13.4 - 14.0 GHz,/ radiolocation stations installed on spacecraft may also be employed for the Earth exploration-satellite and space research services on a secondary basis.

SUP 3752/384A

NOC 3753/385

The use of the band 5 350 - 5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/142-E

29 October 1979

Original : English

WORKING GROUP 4C

DRAFT

REPORT OF SUB-WORKING GROUP 4C4 TO
WORKING GROUP 4C

Terms of reference : Revision of Appendices 5 and New B

1. Sub-Working Group 4C4, composed of delegates of Africa, France, the United Kingdom, the United States of America, Cuba, Norway, the Netherlands, Canada, Japan, Mexico, the USSR and the Federal Republic of Germany has held three meetings.
2. After having considered all relevant proposals, Appendix 5, as revised (see Annex), is submitted for approval in Working Group 4C.
3. It was felt, that where the fourth and the fifth symbols are not used for the classification of an emission, the indication by a dash for each or both (see Recommendation No. 507) could be misinterpreted where the two dashes would run together.

It is therefore proposed by the Sub-Working Group to make this indication either /_ by a stroke (/) or by the sign #_ and leave the decision to Working Group 4C.

4. In order to bring corresponding paragraphs in Article N3 and in Appendix 5 in line it is proposed to make the following addition to provision 3213 of MOD Article N3 (see Document No. DT/128) :

- ADD
1. Type of modulation (First symbol)
 2. Nature of signals (Second symbol)
 3. Type of information (Third symbol)

5. Sub-Working Group 4C4 would like to draw the attention of Working Group 4C to the fact that concerning the K-values sufficient information is not available at present. It is therefore proposed that further study is required on this matter by the CCIR.

O.M. LANGER
Chairman of Sub-Working Group 4C4



A N N E X

SUP	APPENDIX 5
SUP	NEW APPENDIX B
ADD	APPENDIX 5

Additional Characteristics for the
Classification of Emissions;
Determination of necessary Bandwidths including
Examples for their Calculation and Associated
Examples for the Designation of Emissions
(see Article N3)

PART A

Additional characteristics for the
classification of emissions

Article N3 of these Regulations describes the basic characteristics, with three symbols, for the classification of emissions. For a more complete description of an emission, two optional, additional characteristics should be added.

The optional additional characteristics and the order in which they are symbolized are :

1. Details of signal(s) (Fourth symbol).
2. Nature of multiplexing (Fifth symbol).

Where the fourth or the fifth symbol is not used this should be indicated by a / stroke (/) or by the sign #_ where each symbol would otherwise appear.

The optional additional characteristics described by the fourth and the fifth symbols may be supplemented by the CCIR. The latest relevant CCIR Recommendations should be consulted for possible updating of these symbols.

- | | | |
|-----|--|---|
| 1. | Fourth symbol - details of signal(s) | |
| 1.1 | Two-condition code with elements of differing numbers and/or durations | A |
| 1.2 | Two-condition code with elements of the same number and duration without error-correction | B |

1.3	Two-condition code with elements of the same number and duration with error-correction	C
1.4	Four-condition code in which each condition represents a signal element (of one or more bits)	D
1.5	Multi-condition code in which each condition represents a signal element (of one or more bits)	E
1.6	Multi-condition code in which each condition or combination of conditions represents a character	F
1.7	Sound of broadcasting quality-monophonic	G
1.8	Sound of broadcasting-quality stereophonic or quadraphonic	H
1.9	Sound of commercial quality (excluding categories given in sub-paragraphs 9.10 and 9.11)	J
1.10	Sound of commercial quality with the use of frequency inversion or band-splitting	K
1.11	Sound of commercial quality with separate frequency-modulated signals to control the level of demodulated signal	L
1.12	Monochrome	M
1.13	Colour	N
1.14	Combination of the above	W
1.15	Cases not otherwise covered	X
2.	Fifth symbol - nature of multiplexing	
2.1	None	N
2.2	Code-division multiplex*)	G
2.3	Frequency-division multiplex	F
2.4	Time-division multiplex	T
2.5	Combination of frequency-division multiplex and time-division multiplex	W
2.6	Other types of multiplexing	X

*) This includes bandwidth expansion techniques.

PART B

Determination of necessary bandwidths
including examples for their calculation
and associated examples for the
designation of emissions

For full designation of an emission, the necessary bandwidth, indicated in four characters, shall be added just before the classification symbols. When used, the necessary bandwidth shall be determined by one of the following methods :

- 1) use of the formulae included in the following table which also gives examples of necessary bandwidths and designation of corresponding emissions;
- 2) computation in accordance with CCIR Recommendations; [1]
- 3) measurement, in cases not covered by a) or b) above.

However, the necessary bandwidth so determined is not the only characteristic of an emission to be considered in evaluating the interference that may be caused by that emission.

In the formulation of the table, the following terms have been employed :

B_n = Necessary bandwidth in hertz

B = Modulation rate in bauds

N = Maximum possible number of black plus white elements to be transmitted per second, in facsimile

M = Maximum modulation frequency in hertz

C = Sub-carrier frequency in hertz

D = Peak deviation, i.e., half the difference between the maximum and minimum values of the instantaneous frequency

The instantaneous frequency in hertz is the time rate of change in phase in radians divided by 2π

t = Pulse duration in seconds at half-amplitude

t_r = Pulse rise time in seconds between 10 % and 90 % amplitude

K = An overall numerical factor which varies according to the emission and which depends upon the allowable signal distortion

N_c = Number of baseband channels in radio systems employing multichannel multiplexing

f_p = Continuity pilot subcarrier frequency (Hz) (continuous signal utilized to verify performance of frequency division multiplex systems).

[1] See also [Draft] Resolution "Examples of Necessary Bandwidths".

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
I. No modulating signal			
No modulating signal	-	-	NON
II. Amplitude modulation			
1. Signal with quantized or digital information			
Continuous wave telegraphy, Morse code	$B_n = BK$ $K = 5$ for fading circuits $K = 3$ for non-fading circuits	25 words per minute; $B = 20, K = 5$ Bandwidth : 100 Hz	100HA1AAN
Telegraphy by on-off keying of a tone modulated carrier, Morse code	$B_n = BK + 2M$ $K = 5$ for fading circuits $K = 3$ for non-fading circuits	25 words per minute; $B = 20,$ $M = 1000$ $K = 5$ Bandwidth : 2 100 Hz	2K10A2AAN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
Selective calling signal using sequential single frequency code, single sideband, full carrier	$B_n = M$	Maximum code frequency is : 2 110 Hz $M = 2\ 110$ Bandwidth : 2 110 Hz	2K11H2BFW
Two-tone telegraphy using a modulating sub-carrier, with error-correction, single sideband, suppressed carrier (single channel)	$B_n = 2M + 2DK$ $M = B/2$	$B = 50$ bauds $D = 35$ Hz (70 Hz shift) $K = 1.2$ Bandwidth : 134 Hz	134HJ2BCN
Telegraphy, multi-channel with voice frequency, error-correction, some channels are time-division multiplexed, single sideband, reduced carrier	$B_n \neq$ highest central frequency + $M + DK$ $M = \frac{B}{2}$	15 channels : highest central frequency is : 2 805 Hz $B = 100$ bauds $D = 42.5$ Hz (85 Hz shift) $K = 0.7$ Bandwidth : 2 885 Hz	2K89R7BCW
2. Telephony (commercial quality)			
Telephony, double sideband (single channel)	$B_n = 2M$	$M = 3\ 000$ Bandwidth : 6 000 Hz	6K00A3EJN
Telephony, single sideband, full carrier (single channel)	$B_n = M$	$M = 3\ 000$ Bandwidth : 3 000 Hz	3K00H3EJN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
Telephony, single sideband, suppressed carrier (single channel)	$B_n = M - \text{lowest modulation frequency}$	$M = 3\ 000$; lowest modulation frequency is 300 Hz Bandwidth : 2 700 Hz	2K70J3EJN
Telephony with separate frequency modulated signal to control the level of de-modulated speech signal, single sideband, reduced carrier, (Lincompex) (single channel)	$B_n = M$	Maximum control frequency is 2 990 Hz $M = 2\ 990$ Bandwidth : 2 990 Hz	2K99R3ELN
Telephony with privacy, single sideband, suppressed carrier (two or more channels)	$B_n = N_c M - \text{lowest modulation frequency in the lowest channel}$	$N_c = 2$ $M = 3\ 000$ lowest modulation frequency is 250 Hz Bandwidth : 5 750 Hz	5K75J8EKF
Telephony, independent sideband (two or more channels)	$B_n = \text{sum of } M \text{ for each sideband}$	two channels $M = 3\ 000$ Bandwidth : 6 000 Hz	6K00B8EJN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
3. Sound broadcasting			
Sound broadcasting double sideband	$B_n = 2M$ M may vary between 4 000 and 10 000 depending on the quality desired	Speech and music, $M = 4\ 000$ Bandwidth : 8 000 Hz	8K00A3EGN
Sound broadcasting, single sideband, reduced carrier (single channel)	$B_n = M$ M may vary between 4 000 and 10 000 depending on the quality desired	Speech and music, $M = 4\ 000$ Bandwidth : 4 000 Hz	4K00R3EGN
Sound broadcasting, single sideband, suppressed carrier	$B_n = M$ - Lowest modulation frequency	Speech and music, $M = 4\ 500$; lowest modulation frequency = 50 Hz; Bandwidth : 4 450 Hz	4K45J3EGN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
4. Television			
Television, vision and sound	Refer to relevant CCIR documents for the bandwidths of the commonly used television systems	Number of lines = 625; Nominal video bandwidth : 5 MHz Sound carrier relative to video carrier = 5.5 MHz; Total vision bandwidth : 6.25 MHz; FM sound bandwidth including guardbands : 0.75 MHz; RF channel bandwidth : 7 MHz	6M25C3F/_/_7 750KF3EGN
5. Facsimile			
Analogue facsimile by sub-carrier frequency modulation of a SSB emission with reduced carrier, monochrome	$B_n = C + \frac{N}{2} + DK$ $K = 1.1$ typically	$N = 1\ 100$ corresponding to an index of cooperation of 352 and a cylinder rotation speed of 60 rpm. Index of cooperation is product of drum diameter and number of lines per unit length $C = 1\ 900$, $D = 400$ Bandwidth : 2 890 Hz	2K89R3CMN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
Analogue fac-simile; frequency modulation of an audio frequency sub-carrier which modulates the main carrier, single sideband suppressed carrier	$B_n = 2M + 2DK$ $M = \frac{N}{2}$ $K = 1.1$ typically	$N = 1\ 100$ $D = 400$ Bandwidth : 1 980 Hz	1K98J3C[]
6. Composite emissions			
Double sideband, television relay	$B_n = 2C + 2M + 2D$	Video limited to 5 MHz, audio on 6.5 MHz frequency modulated sub-carrier, sub-carrier deviation = 50 kHz $C = 6.5\text{ MHz}$ $D = 50\text{ kHz}$ $M = 15\text{ kHz}$ Bandwidth : $13.13 \times 10^6\text{ Hz}$	13M1A8W[]
Double sideband, radio-relay system, FDM	$B_n = 2M$	10 voice channels occupying base-band between 1 and 164 kHz; $M = 164\ 000$ Bandwidth : 328 000 Hz	328KA8E[]

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
Double sideband emission of VOR with voice	$B_n = 2C_{\max} + 2M + 2DK$ $K = 1,$ typically	The main carrier is modulated by : - a 30 Hz sub- carrier - a carrier resulting from a 9 960 Hz tone fre- quency modu- lated by a 30 Hz tone - a telephone channel - a 1 020 Hz keyed tone for continual Morse iden- tification $C_{\max} = 9\ 960$ $M = 30$ $D = 480$ Bandwidth : 20 940 Hz	20K9A9WWF
Independent sidebands; several tele- graph channels with error correction to- gether with several tele- phone channels with privacy; frequency division multiplexing	$B_n = \text{sum of } M$ for each sideband	Normally com- posite systems are operated in accordance with standardized channel arrangements (e.g. CCIR- Rec. 348-2). 3 telephone channels and 15 telegraphy channels re- quire the bandwidth 12 000 Hz	12K0B9WWF

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
III-A Frequency modulation			
1. Signal with quantized or digital information			
Telegraphy without error-correction (single channel)	$B_n = 2M + 2DK$ $M = B/2$ $K = 1.2$, typically	$B = 100$ bauds $D = 85$ Hz (170 Hz shift) Bandwidth : 304 Hz	304HF1BEN
Telegraphy, narrowband direct printing with error-correction (single channel)	$B_n = 2M + 2DK$ $M = B/2$ $K = 1.2$, typically	$B = 100$ bauds $D = 85$ Hz (170 Hz shift) Bandwidth : 304 Hz	304HF1BCN
Selective calling signal	$B_n = 2M + 2DK$ $M = B/2$ $K = 1.2$, typically	$B = 100$ bauds $D = 85$ Hz (170 Hz shift) Bandwidth : 304 Hz	304HF1BCN
Four-frequency Duplex telegraphy	$B_n = 2M + 2DK$ $B =$ Modulation rate in bauds of the faster channel. If the channels are synchronized $M = B/2$ (otherwise $M = 2B$) $K = 1.1$, typically	Spacing between adjacent frequencies = 400Hz; Synchronized channels $B = 100$ bauds $M = 50$ $D = 600$ $B_n = 1\ 420$ Hz	1K42F7BDX
2. Telephony (Commercial quality)			
Commercial telephony	$B_n = 2M + 2DK$ $K = 1$ typically, but under certain conditions a higher value may be necessary	For an average case of commercial telephony, $D = 5\ 000$ $M = 3\ 000$ Bandwidth : 16 000 Hz	16KOF3EJN

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
3. Sound broadcasting			
Sound broadcasting	$B_n = 2M + 2DK$ $K = 1$, typically	Monaural $D = 75\ 000$ $M = 15\ 000$ Bandwidth : $180\ 000\ \text{Hz}$	180KF3EGN
4. Facsimile			
Facsimile by direct frequency modulation of the carrier; black and white	$B_n = 2M + 2DK$ $M = \frac{N}{2}$ $K = 1.1$, typically	$N = 1\ 100$ elements/sec; $D = 400\ \text{Hz}$ $B_n = 1\ 980\ \text{Hz}$	1K98F1C[]
Analogue facsimile	$B_n = 2M + 2DK$ $M = \frac{N}{2}$ $K = 1.1$, typically	$N = 1\ 100$ elements/sec $D = 400\ \text{Hz}$ $B_n = 1\ 980\ \text{Hz}$	1K98F3C[]

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
6. Composite emissions			
Radio-relay system, FDM	$B_n = 2f_p + 2DK$ $K = 1,$ typically	60 telephone channels occu- pying baseband between 60 and 300 kHz; rms per-channel deviation 200 kHz; continuity pilot at 331 kHz pro- duces 100 kHz rms deviation of main carrier Computation of B_n : See Table III-B below $D = 200 \times 10^3$ $\times 3.76 \times$ 2.02 $= 1.52 \times$ $10^6 \text{ Hz};$ $f_p = 0.331 \times$ $10^6 \text{ Hz};$ Bandwidth : $B_n =$ 3.702 $\times 10^6 \text{ Hz}$	3M70F8EJF

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
Radio-relay system; FDM	$B_n = 2M + 2DK$ $K_n = 1$, typically	960 telephone channels occu- pying baseband between 60 and 4 020 kHz; rms per-channel deviation 200 kHz; continuity pilot at 4 715 kHz pro- duces 140 kHz rms deviation of main carrier Computation of B_n : See Table III-B below $D = 200 \times 10^3$ $\times 3.76 \times$ 5.5 $= 4.13 \times$ 10^6 Hz; $M = 4\ 028 \times$ 10^6 Hz; $f_p = 4\ 715 \times$ 10^6 Hz; ($2M + 2DK$) $> 2f_p$ Bandwidth $B_n =$ 16.32×10^6 Hz	16M3F8FJF

Description of emission	Necessary Bandwidth		Designation of emission 1)
	Formula	Sample calculation	
Radio-relay system; FDM	$B_n = 2f_p$	<p>600 telephone channels occupying baseband between 60 and 2 540 kHz; rms per-channel deviation 200 kHz; continuity pilot at 8 500 kHz produces 140 kHz rms deviation of main carrier Computation of B_n : See Table III-B below $D = 200 \times 10^3$ $\times 3.76 \times 4.36$ $= 3.28 \times 10^6 \text{ Hz};$ $M = 2.54 \times 10^6 \text{ Hz};$ $K = 1;$ $f_p = 8.5 \times 10^6 \text{ Hz};$ $(2M + 2DK) < 2f_p$ Bandwidth : $B_n = 17 \times 10^6 \text{ Hz}$</p>	17MOF8EJF
Stereophonic sound broadcasting with multiplexed subsidiary telephony sub-carrier	$B_n = 2M + 2DK$ $K = 1,$ typically	<p>Pilot tone system; $M = 75\,000 \text{ Hz};$ $D = 75\,000 \text{ Hz};$ Bandwidth : $B_n = 300\,000 \text{ Hz}$</p>	300KF8EHF

III-B MULTIPLYING FACTORS FOR USE IN COMPUTING D, PEAK FREQUENCY DEVIATION, IN FM FREQUENCY DIVISION MULTIPLEX (FM/FDM) MULTI-CHANNEL EMISSIONS

For FM/FDM systems the necessary bandwidth is :

$$B_n = 2M + 2DK.$$

The value of D or peak frequency deviation in this formula for B_n is calculated by multiplying the rms value of per-channel deviation by the appropriate "Multiplying factor" shown below.

In the case where a continuity pilot of frequency f_p exists above the maximum modulation frequency, M, the general formula becomes :

$$B_n = 2f_p + 2DK.$$

In the case where modulation index of the main carrier produced by the pilot is less than 0.25, and the rms frequency deviation of the main carrier by the pilot is less than or equal to 70 % of the rms value of per-channel deviation, the general formula becomes either

$$B_n = 2f_p \text{ or } B_n = 2M + 2DK$$

whichever is greater.

Number of telephone channels, N_c	Multiplying factor 1)
	(peak factor) x antilog $\left[\frac{\text{dB above modulation reference level}}{20} \right]$
$3 < N_c < 12$	$4.47 \times \text{antilog} \left[\frac{\text{a value in dB specified by the equipment manufacturer or station licensee, subject to administration approval}}{20} \right]$
$12 \leq N_c < 60$	$3.76 \times \text{antilog} \left[\frac{(2.6 + 2 \log N_c)}{20} \right]$
$60 \leq N_c < 240$	$3.76 \times \text{antilog} \left[\frac{(-1 + 4 \log N_c)}{20} \right]$
$N_c \geq 240$	$3.76 \times \text{antilog} \left[\frac{(-15 + 10 \log N_c)}{20} \right]$

1) In the above chart, the multipliers 3.76 and 4.47 correspond to peak factors of 11.5 dB and 13.0 dB, respectively.

Description of emission	Necessary Bandwidth		Designation of emission
	Formula	Sample calculation	
IV. Pulse modulation			
1. Radar			
Unmodulated pulse emission	$B_n = \frac{2K}{t}$ K depends upon the ratio of pulse duration to pulse rise time. Its value usually falls between 1 and 10 and in many cases it does not need to exceed 6	Primary Radar Range resolution 150 m. K = 1.5 (triangular pulse where $t=t_r$ only components down to 27 dB from the strongest are considered Then $t = \frac{2(\text{range resolution})}{\text{velocity of light}}$ $= \frac{2 \times 150}{3 \times 10^8}$ $= 1 \times 10^{-6} \text{ seconds}$ $B_n = 3 \times 10^6 \text{ Hz}$	3MOOPONAN
2. Composite emissions			
Radio-relay system	$B_n = \frac{2K}{t}$ K = 1.6	Pulse-position modulated by 36-voice channel baseband; pulse width at half amplitude = 0.4 μ s Bandwidth : $8 \times 10^6 \text{ Hz}$ (Bandwidth independent of the number of voice channels)	8MOOM7EJT

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/143-E

29 October 1979

Original : English

COMMITTEE 4

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF COMMITTEE 6

Committee 4 has approved a revision to Article N3 [Document No.]. This revision includes a new method for indicating the Necessary Bandwidth as well as the Classification of Emissions. During the discussion on this item, the problem was raised of updating the present entries in the Master International Frequency Register to this new system.

Committee 6 may wish to consider the appropriate procedures for updating the Master Register.

N. MORISHIMA

Chairman of Committee 4



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/144-E

29 October 1979

Original : English

WORKING GROUP 4A

Note from the Chairman of Working Group 4A

Working Group 4A proposes the following text of a note to be sent from Committee 4 to Committee 6 :

DRAFT

" NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF COMMITTEE 6

1. Referring to your note in Document No. 372 about the term "acceptable level of interference", Committee 4 wishes to re-state that it had already considered three levels of interference :

- harmful interference
- accepted interference
- permissible interference.

This was done on the basis that :

- harmful interference, a well known term which can be found also in the Convention, relates to a level of "catastrophic" degradation of the system;
- accepted interference relates to a level of interference agreed upon by two or more Administrations concerned, or to a regional arrangement;
- permissible interference relates to a level of interference agreed upon by all Administrations.

It follows that the level of "accepted" interference is normally above the level for "permissible" interference.



2. Committee 4 considers that your request of a definition of "acceptable level of interference", in clarifying the provision 4170/492D, falls into the category of "accepted" interference. But in general terms, the "acceptable level of interference" could fall into the category of "permissible interference", the level of which has been agreed by all Administrations.

3. Moreover, "unaccepted" or "unacceptable" interference will fall between "accepted" and "harmful" interference. Committee 4 did not feel it was necessary to define this fourth term, as it believes that the three levels as described in Document No. 307 and DT/115 are sufficiently clear. It would be advantageous that Committee 6 could declare its satisfaction with the three definitions. "

A.R. BASTIKAR
Chairman of Working Group 4A

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/145-E

30 October 1979

Original: English

COMMITTEE 7

DRAFT

FIRST REPORT OF COMMITTEE 7

(General Administration)

Committee 7 has had seven meetings to date. In the course of discussions on the proposals and documents allocated to Committee 7 in accordance with its terms of reference, the following decisions were taken :

1. Article N21

1.1 The revision of the text of Article N21 was adopted unanimously.

2. Article N22

2.1 A discussion on the different points of view was held on the use of the terms "administration" or "government", with some delegations stating that the term "administration" might be the better term according to its definition in Annex 2 of the Convention, with other delegations stating that problems could arise from the use of the word "administration" under their own national legislation; in particular, the delegates of Iraq, Liberia, Qatar and the USSR stated that the matter might have to be dealt with at the Plenary Meeting.

2.2 The attention of Committee 9 is drawn to the use of the words "agreement" and "arrangement" (see document No. 236).

2.3 The revision of the texts of Article N22 was adopted with the exception of provisions 5228 and ADD 5228A which were left pending. An Ad Hoc Drafting Group examined proposals relating to these provisions and submitted its conclusions in document No. DL/158.

3. Article N30

3.1 The revision of the texts of Article N30 was adopted unanimously, with the exception of the expression "permissible interference" which was left pending a decision by Committee 6.

4. Article N31

4.1 The revision of the texts of Article N31 was approved unanimously. A decision on the title and headings was deferred pending advice from the Committee dealing with the relevant terms and definitions. (See Document No. 233)

5. Article N32

5.1 The revision of the texts of Article N32 was adopted. A decision on the title and headings was deferred pending advice from the Committee dealing with the relevant terms and definitions, as well as on the term "harmful interference" which was left pending a decision by Committee 5.

5.2 With respect to provision 6422, some delegates reserved the right to raise this question at the Plenary Meeting.



6. Article N33

6.1 The texts of Sections I, III and IVA were adopted unanimously; the title and Section II were deferred pending advice from the Committee dealing with the relevant terms and definitions.

7. Article N37

7.1 A Working Group (7A) was set up under the Chairmanship of Mr. J.J. Foggon (Australia) to deal with all proposals concerning agenda item 2.6, which affected Articles N7, N12, N23, N34, N35, N36, N37, N39, N39A, N48 and N58.

7.2 Working Group 7A submitted a series of texts for new Section II of Article N37 in its report to Committee 7 (see document No. 268). Committee 7 adopted unanimously the new Section II relating to medical transports and the necessary editorial changes in Article N37.

8. Article N39

8.1 The revision of the texts of Article N39 was approved, with the exception of the terms "transmission" and "emission" (see document No. 227, Note to the Editorial Committee) which were left pending a decision by Committee 5.

8.2 The terms "arrangement" and "agreement" were left in square brackets for the purposes of the work of Committee 7 (see document No. 236).

9. The revised texts as adopted by Committee 7 have been submitted to the Editorial Committee for subsequent submission to the Plenary Meeting (see document No. []). (See Annex.)

H.L. VENHAUS

Vice-Chairman of Committee 7

Annex : 1

A N N E X

CHAPTER NVI

Administrative Provisions for Stations

ARTICLE N21/17

Secrecy

- MOD 5193 722 Convention, ^{the} In the application of the appropriate provisions of the
and prevent: The administrations bind themselves to take the necessary measures to prohibit
- NOC 5194 723 a) the unauthorized interception of radiocommunications not intended for the
general use of the public;
- NOC 5195 724 b) the divulgence of the contents, simple disclosure of the existence, publication
or any use whatever, without authorization of information of any nature
whatever obtained by the interception of the radiocommunications mentioned
in No. 5194/723.
- 5196
to
5220 NOT allocated.

ARTICLE N22/18

Licences

- MOD 5221 725 § 1. (1) No transmitting station may be established or ^{administration} operated by a private person or by
any enterprise without a licence issued by the government of the country to which the station
in question is subject. (However, see Nos. 5222/726 and 5228/732.)
- MOD 5222 726 in an appropriate form and in conformity with the provisions of
more (countries) these Regulations
- (2) However, the government of a country may conclude with the government of ~~one~~ or
neighbouring ~~country~~ a special [agreement] concerning one or several stations of its
broadcasting service or of its land mobile services, operating on frequencies above 41 MHz,
situated in the territory of the neighbouring country and intended to improve national
coverage. This [agreement], which shall be compatible with the provisions of the present
Regulations as well as of those regional [agreements] to which the countries concerned are
signatories, may allow exceptions to the provisions of No. 5221/725 and shall be communi-
cated to the Secretary-General in order that it may be brought to the notice of administrations
for their information.

- NOC 5223 727 (3) Mobile stations which are registered in a territory or group of territories which does not have full responsibility for its international relations may be considered, in so far as the issue of licences is concerned, as subject to the authority of that territory or group of territories.
- MOD 5224 728 § 2. The holder of a licence is required to preserve the secrecy of the relevant provisions mention telecommunications, as provided in ~~Article 22~~ of the Convention. Moreover, the licence shall ~~provide~~, specifically or by reference, that if the station includes a receiver, the interception of radiocommunication correspondence, other than that which the station is authorized to receive, is forbidden, and that in the case where such correspondence is involuntarily received, it shall not be reproduced, nor communicated to third parties, nor used for any purpose, and even its existence shall not be disclosed.
- MOD 5225 729 § 3. To facilitate the verification of licences issued to mobile stations, there shall be added, when necessary, to the text written in the national language, a translation of the text in one of ~~a language widely-used in international relations-~~ the Union's working languages.
- MOD 5226 730 § 4. (1) The administration ~~government~~ which issues a licence to a mobile station shall mention therein in clear form the particulars of the station, including its name, call sign and public correspondence category, as well as the general characteristics of the installation.
- MOD 5227 731 , where appropriate, the
, including stations consisting only of one or more receivers,
(2) For land mobile stations a clause shall be included in the licence, specifically or by reference, under which the operation of these stations shall be forbidden in countries other than the country which has issued the licence, except as may be provided by special agreement between the governments of the countries concerned.
in is issued
- NOC 5228 732 § 5. (1) In the case of a new registration of a ship or aircraft in circumstances where delay is likely to occur in the issue of a licence by the country in which it will be registered, the administration of the country from which the mobile station wishes to make its voyage or flight may, at the request of the operating company, issue a certificate to the effect that the station complies with these Regulations. This certificate, drawn up in a form determined by the issuing administration, shall give the particulars mentioned in No. 5226/730 and shall be valid only for the voyage or flight to the country in which the registration of the ship or aircraft will be effected, or for a period of three months, whichever is the lesser.
- ADD 5228A (2) In the case of hire, lease or interchange of aircraft, the administration having authority over the aircraft operator receiving an aircraft under such an arrangement may, by agreement with the administration of the country in which the aircraft is registered, issue a licence in conformity with that specified in 5226/730 as a temporary substitute for the original licence.

(MOD) 5229 733 (3)-(2) The administration issuing the certificate shall inform the administration responsible for issuing the licence of the action taken.

(MOD) 5230 734 (4)-(3) The holder of the certificate shall comply with the provisions of these Regulations applicable to licence-holders.

5231
to
5339
NOT allocated.

ARTICLE N30/41

[(MOD)] [Radio] Amateur Service and [Radio] Amateur-Satellite Service

[(MOD)] [Radio]
Section I. [Radio] Amateur Service

[(MOD)] 6354 1560 [radio]
§ 1. Radiocommunications between [radio] amateur stations of different countries shall be forbidden if the administration of one of the countries concerned has notified that it objects to such radiocommunications.

MOD 6355 1561 [radio]
§ 2. (1) When transmissions between [radio] amateur stations of different countries are permitted, they shall be made in plain language and shall be limited to messages of a technical nature relating to tests and to remarks of a personal character for which, by reason of their unimportance, recourse to the public telecommunications service is not justified. ~~It is absolutely forbidden for amateur stations to be used for transmitting international communications on behalf of third parties.~~

ADD 6355A (2) ~~←~~ It is absolutely forbidden for [radio] amateur stations to be used for transmitting international communications on behalf of third parties.

(MOD) 6356 1562 ³
(2) The preceding provisions may be modified by special [arrangements] between the administrations of the countries concerned.

MOD 6357 1563 seeking a licence to operate [radio]
§ 3. (1) Any person ~~operating~~ the apparatus of an amateur station shall ~~have~~ proved that he is able to send correctly by hand and to receive correctly by ear, texts in Morse code signals. Administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above ~~144~~ ³⁰ MHz.

MOD 6358 1564 (2) Administrations shall take such measures as they judge necessary to verify the technical qualifications of any person operating the apparatus of an amateur station wishing to operate [radio]

[(MOD)] 6359 1565 [radio]
§ 4. The maximum power of amateur stations shall be fixed by the administrations concerned, having regard to the technical qualifications of the operators and to the conditions under which these stations are to work.

[MOD] 6360 1566 [radio] § 5. (1) All the general rules of the Convention and of these Regulations shall apply to amateur stations. In particular, the emitted frequency shall be as stable and as free from spurious emissions as the state of technical development for such stations permits.

[MOD] 6361 1567 [radio] (2) During the course of their [transmissions] amateur stations shall transmit their call sign at short intervals.

[Radio]

Section II. ✓ Amateur-Satellite Service

[MOD]

ADD 6361A

§ 6.. (1) The provisions of Section I of this Article shall apply as appropriate, equally to the [radio] amateur-satellite service.

[radio]

[MOD] 6362 1567A Spa2 ~~§ 6.~~ (2) Space stations in the amateur-satellite service operating in bands shared with other services shall be fitted with appropriate devices for controlling emissions in the event that [harmful interference] is reported in accordance with the procedure laid down in Article N20/15. Administrations authorizing such space stations shall inform the I.F.R.B., and shall ensure that sufficient earth command stations are established before launch to guarantee that any [harmful interference] that might be reported can be terminated by the authorizing administration (see No. 6105/470V).

6363
to
6388

NOT allocated.

ARTICLE N31

[(MOD)]

Standard Frequency [Service] and Time Signals Service

MOD

6389 1623

providing or intending to provide service

§ 1. (1) To facilitate more efficient use of the radio frequency spectrum and to assist other technical and scientific activities, administrations ~~should endeavour to provide, on a co-ordinated world-wide basis, a service of standard frequency and time signal transmissions~~. Attention should be given to the extension of this service to those areas of the world not adequately served.

shall co-ordinate, in accordance with the provisions of this Article, the establishment and operation of such ^(a) services on a world-wide basis.

[(MOD)]

6390 1624

(2) To this end, each administration shall take steps to co-ordinate, with the assistance of the International Frequency Registration Board, any new standard frequency or time signal ~~transmission~~ or any change in existing ~~transmissions~~ in the standard frequency bands. For this purpose, administrations shall exchange between themselves, and furnish to the Board, all relevant information. On this matter the Board shall consult the Director of the C.C.I.R. who shall also continue to seek the advice and co-operation of the International Time Bureau (B.I.H.), the International Scientific Radio Union (U.R.S.I.) and other international organizations having a direct and substantial interest in the subject.

NOC

6391 1625
to
6393 1627

[(MOD)]

6394 1628

§ 4. In selecting the technical characteristics of standard frequency and time signal ~~transmissions~~, administrations shall be guided by the relevant C.C.I.R. Recommendations.

6395
to
6419

NOT allocated.

ARTICLE N32/42

[(MOD)]

[Research]
Experimental Stations

[(MOD)]

6420 1568

[research]

[research]
§ 1. (1) An experimental station may enter into communication with an experimental station of another country only after it has been authorized to do so by its administration. Each administration shall notify other administrations concerned when such authorizations are issued.

[(MOD)]

6421 1569

(2) The administrations concerned determine by special [arrangement] the conditions under which communications may be established.

[(MOD)]

6422 1570

[research]
§ 2. (1) In experimental stations any person operating radiotelegraph apparatus, either on his own account or for another, shall have proved his ability to transmit by hand and to receive by ear, texts in Morse code signals.

MOD

6423 1571

(2) Administrations shall take such steps as they think necessary to verify the qualifications, from the technical point of view, of any person operating the apparatus of an experimental station.

[research]

wishing to operate

MOD

6424 1572

[research]

§ 3. The administrations concerned shall fix the maximum power of experimental stations, having regard to the purpose for which their establishment has been authorized and the conditions under which they are to ~~work~~ operate.

MOD

6425 1573

[research]

[research]
§ 4. (1) All the general rules of the Convention, and of these Regulations, shall apply to experimental stations. In particular, experimental stations shall comply with the technical conditions imposed upon transmitters operating in the same frequency bands, except where the technical principles of the experiments prevent this. In such a case, the administration which authorizes the operation of these stations may grant a dispensation in an appropriate form.

MOD

6426 1574

[research]
(2) During the course of their [transmissions] experimental stations shall transmit, at short intervals, their call sign, ~~or, in the case of stations not yet provided with a call sign, their name or other identification in a recognized form~~ (see Article N23). ~~any~~ of identification

[(MOD)]

6427 1575

[research]
§ 5. Where there is no risk of an experimental station causing [harmful interference] to a service of another country, the administration concerned may, if considered desirable, adopt different provisions from those contained in this Article.

6428
to
6452

NOT allocated.

ARTICLE N33

[(MOD)]

[Radiodetermination]Service and [Radiodetermination]Satellite Service

NOC

Section I. General Provisions

[(MOD)]

6453 1576

§ 1. Administrations which have established a [radiodetermination] service shall take the necessary steps to ensure the effectiveness and regularity of that service; however they accept no responsibility for the consequences that might arise from the use of inaccurate information furnished, defective working, or failure of their stations.

MOD

6454 1577

§ 2. In the case of doubtful or unreliable observations, the station taking the bearing or fixing the position shall, whenever possible, notify the station ~~for which the information is being obtained~~ of any such doubt or unreliability. ~~to this given~~

[(MOD)]

6455 1578

§ 3. Administrations shall notify to the Secretary-General the characteristics of each [radiodetermination] station providing an international service of value to the maritime mobile service and, if considered necessary, for each station or group of stations, the sectors in which the information furnished is normally reliable. This information is published in the List of Radiodetermination and Special Service Stations, and the Secretary-General shall be notified of any change of a permanent nature.

[(MOD)]

6456 1579

§ 4. The method of identification of [radiodetermination] stations shall be so chosen as to avoid any doubt as to their identity.

[(MOD)]

6457 1580

§ 5. Signals sent by [radiodetermination] stations shall be such as to permit accurate and precise measurements.

[(MOD)]

6458 1581

§ 6. Any information concerning modification or irregularity of working of a [radiodetermination] station shall be notified without delay in the following manner:

[(MOD)]

6459 1582

a) Land stations of countries operating a [radiodetermination] service shall send out daily, if necessary, notices of modifications or irregularities in working until such time as normal working is restored or, if a permanent alteration has been made, until such time as it can reasonably be taken that all navigators interested have been warned.

NOC

6460 1583

b) Permanent alterations or irregularities of long duration shall be published as soon as possible in the relevant notices to navigators.

SUP

6461 1584

[MOD)]

Section II. Provisions for [Maritime]
[Radiodetermination] Satellite Service

MOD 6462 1584A § 8. The provisions of Nos. 6453/1576 to 6460/1583²⁾ also apply to the [maritime]
Mar2 [radiodetermination] satellite service, in so far as practicable.

NOC

Section III. Radio Direction-Finding Stations

NOC 6463 1585
to
6465 1587

[MOD)] 6466 1588 § 11. In the absence of prior [arrangements] an aircraft station which calls a radio direction-finding station for a bearing shall use for this purpose a frequency on which the station called normally keeps watch.

[MOD)] 6467 1589 § 12. In the aeronautical radionavigation service, the procedure contemplated for radio direction-finding in this section is applicable, except where special procedures are in force as a result of [arrangements] concluded between the administrations concerned.

NOC

Section IV. Radiobeacon Stations

NOC 6468

A. General

NOC 6469 1590 § 13. When an administration thinks it desirable in the interests of navigation to organize a service of radiobeacon stations, it may use for this purpose:

[MOD)] 6470 1591 a) radiobeacons properly so called, established on land or on ships permanently moored or, exceptionally, on ships navigating in a restricted area, the limits of which are known and published. The [emissions] of these radiobeacons may have either directional or non-directional patterns:

NOC 6471 1592 b) fixed stations, coast stations or aeronautical stations designated to function as radiobeacons, at the request of mobile stations.

NOC 6472 1593
to
6474 1595

ARTICLE N37

MOD Urgency and Safety Transmissions, and Medical Transports

NOC Section I. Urgency Signal and Messages

NOC 6873 1477
to
6885 1487

MOD Section II. Medical Transports

ADD 6885A § 7. The term "medical transports" as defined in the 1949 Geneva Conventions and Additional Protocols refers to any means of transportation by land, water or air, whether military or civilian, permanent or temporary, assigned exclusively to medical transportation and under the control of a competent authority of a Party to a conflict.

ADD 6885B § 8. For the purpose of announcing and identifying medical transports which are protected under the above mentioned Conventions, a complete transmission of the urgency signals described in Nos. 6873 and 6874 shall be followed by the addition of the single group "YYY" in radiotelegraphy and by the addition of the single word "Medical", pronounced as in French, "MAY-DEE-CAL", in radiotelephony.

ADD 6885C § 9. The frequencies specified in No. 6878 may be used by medical transports for the purpose of self-identification and to establish communications. As soon as practicable, communications shall be transferred to an appropriate working frequency.

ADD 6885D | § 10. The use of the signal described in 6885B indicates that the message which follows concerns a protected medical transport. The message shall convey the following data :

- a) the call sign or other recognized means of identification of the medical transport;
- b) position of the medical transport;
- c) number and type of medical transports;
- d) intended route;
- e) estimated time en route and of departure and arrival, as appropriate;
- f) any other information, such as flight altitude, radio frequencies guarded, languages and secondary surveillance radar modes and codes.

ADD 6885E | § 11. The provisions of Section I of this Article shall apply as appropriate to the use of the urgency signal by medical transports.

ADD 6885F | § 12. The use of radiocommunications for announcing and identifying medical transports is optional; however, if they are used, the provisions of the Radio Regulations and this Section and of Articles N34 and N35 apply. particularly
shall

III

(MOD) Section ~~II~~ Safety Signal and Messages

(MOD) 6886 1488 13 §-7.- (1) In radiotelegraphy, the safety signal consists of three repetitions of the group TTT, the individual letters of each group and the successive groups being clearly separated from each other. It shall be sent before the call.

NOC 6887 1489 (2) In radiotelephony, the safety signal consists of the word SÉCURITÉ pronounced clearly as in French, spoken three times and transmitted before the call.

(MOD) 6888 1490 14 §-8.- (1) The safety signal indicates that the station is about to transmit a message containing an important navigational or important meteorological warning.
Mar2

NOC 6889 1491 (2) The safety signal and call shall be sent on one or more of the international distress frequencies (500 kHz, 2 182 kHz, 156.8 MHz) or on any other frequency which may be used in case of distress.
Mar2

NOC 6890 1492 (3) The safety message which follows the call should be sent on a working frequency. A suitable announcement to this effect shall be made at the end of the call.
Mar2

NOC 6891 1492A (4) In the maritime mobile service, safety messages shall generally be addressed to all
Mar stations. In some cases, however, they may be addressed to a particular station.

(MOD) 6892 1493 15 §-9- (1) With the exception of messages transmitted at fixed times, the safety signal, when
Mar* used in the maritime mobile service, shall be transmitted towards the end of the first available
period of silence (see No. 6696/1130 for radiotelegraphy and No. 6708/1335A for radiotele-
phony); the message shall be transmitted immediately after the period of silence.

NOC 6893 1494 (2) In the cases prescribed in Nos. 6997/1612, 7000/1615 and 7004/1619, the safety
signal and the message which follows it shall be transmitted as soon as possible, and shall be
repeated at the end of the first period of silence which follows.

(MOD) 6894 1495 16 §-10- All stations hearing the safety signal shall listen to the safety message until they
are satisfied that the message is of no concern to them. They shall not make any transmission
likely to interfere with the message.

6895
to
6919 NOT allocated.

ARTICLE N39

NOC Special Services relating to Safety

NOC Section I. Meteorological Messages

NOC 6981 1596
to
6991 1606

[(MOD)] 6992 1607 § 2. (1) The various national meteorological services mutually agree to prepare common
[transmission] programmes so as to use the transmitters best situated to serve the regions
concerned.

MOD 6993 1608 (2) The meteorological shall be observations contained in the classes mentioned in
Nos. 6982/1597 to 6985/1600 ~~are, in principle,~~ drawn up in an international meteorological
code, whether they are transmitted by or intended for mobile stations.

MOD 6994 1609 § 3. For observation messages intended for an official meteorological service, use shall
be made of the ~~facilities resulting from the allocation of exclusive frequencies to synoptic
meteorology and the aeronautical meteorological service,~~ in conformity with regional
agreements made by the services concerned for the use of these frequencies.
frequencies made available for meteorological purposes,

NOC 6995 1610 § 4. (1) Meteorological messages specially intended for all ship stations shall in principle
be sent in accordance with a definite timetable, and, as far as possible, at times when they can
be received by ship stations with only one operator. In radiotelegraphy the ~~transmission~~ speed
shall not exceed sixteen words a minute.

[(MOD)] 6996 1611 (2) During the [transmission] "to all stations" of meteorological messages intended
for stations of the maritime mobile service, all stations of this service whose [transmission]
might interfere with the reception of these messages, shall keep silent in order to permit all
stations which desire to do so to receive these messages.

during the next appropriate broadcast as indicated in the List of Radiodetermination and Special Service Stations.

MOD 6997 1612
Mar2*

(3) Meteorological warning messages for the maritime mobile service shall be transmitted without delay. They shall be repeated at the end of the first silence period which follows their receipt (see Nos. 6696/1130 and 6708/1335A) as well as ~~at the end of the first silence period which occurs in the working hours of a ship station having a single operator.~~ They shall be preceded by the safety signal and sent on the appropriate frequencies (see No. 6889/1491).

NOC 6998 1613

(4) In addition to the regular information services contemplated in the preceding sub-paragraphs, administrations shall take the necessary steps to ensure that certain stations shall, upon request, communicate meteorological messages to stations in the maritime mobile service.

~~MOD~~ 6999 1614

(5) The provisions of Nos. 6995/1610 to 6998/1613 are applicable to the aeronautical mobile service, in so far as they are not contrary to more detailed special arrangements which ensure at least equal protection to air navigation.

NOC 7000 1615
to
7002 1617

NOC

Section II. Notices to Mariners

NOC 7003 1618
to
7005 1620

NOC

Section III. Medical Advice

NOC 7006 1621

§ 9. Mobile stations requiring medical advice may obtain it through any of the land stations shown as providing this service in the List of Radiodetermination and Special Service Stations.

NOC 7007 1622

§ 10. Radiotelegrams and radiotelephone calls concerning medical advice may be preceded by the appropriate urgency signal (see Nos. 6875/1479 to 6885/1487).

7008
to
7107

NOT allocated.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

LIST OF DOCUMENTS
(301 - 350)*)

Document No. DT/146-E

29 October 1979

Original : French
English
Spanish

No.	Origin	Title	Destination
301	C.4	First Report of Committee 4	PL
302	C.4	First series of texts from Committee 4 to the Editorial Committee	C.9
303	IND	Information note regarding improvement in status for radio astronomy in the bands 37.50 - 38.25; 73 - 74.6; 150.05 - 153 and 608 - 614 MHz	C.5
304	C.7	Summary Record of the fifth meeting of Committee 7 (General administrative)	C.7
305	C.6	First Report of Committee 6	PL
306	C.6	First series of texts from Committee 6 to the Editorial Committee	C.9
307	WG 4A	Third Report of Working Group 4A to Committee 4	C.4
308	SG	Position of WARC accounts on 20 October 1979	C.3
309	WG 5/ ad hoc 4	Terms of reference of the Working Group 5/ad hoc 4 on HF broadcasting	C.5
310	C.5	Note from the Chairman of Committee 5 to Chairmen of Committee 4 and Committee 7	C.4, 7
311	C.5	Definitions of the terms telecommand, space telecommand, space telemetering and maintenance space telemetering	C.7
312	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 6	C.6
313	AFG	Note to the Chairman of Committee 5	C.5
314	C.4	Summary Record of the third meeting of Committee 4 (Technical regulations)	C.4
315	URS	Some aspects of the satellite sound broadcasting at 1 GHz and at 1.5 GHz	C.4, 5
316	F	Considerations relating to the French proposals on Article N1/1 of the Radio Regulations	C.4, 5, 7

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1
 For Documents Nos. 101 to 150, see Document No. DT/15
 For Documents Nos. 151 to 200, see Document No. DT/39
 For Documents Nos. 201 to 250, see Document No. DT/70
 For Documents Nos. 251 to 300, see Document No. DT/111



No.	Origin	Title	Destination
317	ARG	Suggestions for the preparation of the Table of Frequency Allocations	C.5, 8, 9
318	ALB	Proposals for the work of Working Group 5C	C.5
319	ALB	Proposals for the work of Working Group 5D	C.5
320 (Rev.1)	WG 5C	Third Report of Working Group 5C to Committee 5	C.5
321	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
322	C.4	Second Report of Committee 4	PL
323	C.4	Second series of texts from Committee 4 to the Editorial Committee	C.9
324	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
325	WG 5A	Fifth Report of the Working Group 5A to Committee 5	C.5
326	SDN/KEN/ CME	Proposals	C.5
327	WG 5E6	Report from Sub-Working Group 5E6 to Working Group 5E	WG 5E
328	C.7	Summary Record of the sixth meeting of Committee 7 (General administration)	C.7
329	C.7	Summary Record of the seventh meeting of Committee 7 (General administration)	C.7
330	F	Satellite sound broadcasting around 1 GHz	C.4, 5
331	C.5	Summary Record of the fifth meeting of Committee 5 (Frequency Allocations)	C.5
332	FJI	Note to the Chairman of the Conference - Heterodyne interference to MF broadcasting in the South Pacific	-
333	WG 5A2	Report of Sub-Working Group 5A2 to Working Group 5A	WG 5A
334	WG 4B3	Proposed new draft of Appendix 29	WG 4B
335	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
336	WG 6A	Note by the Chairman of Working Group 6A	C.6
337	WG 6A	Note by the Chairman of Working Group 6A	C.6
338	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5
339	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 7	C.7

No.	Origin	Title	Destination
340	WG 6A	Diagram on the supplementary procedure to be applied in cases where a footnote to the Table of Frequency Allocations requires an agreement with an Administration /Article N13A/ (Document No. 278)	C.6
341	WG 5C	Fourth Report of Working Group 5C to Committee 5	C.5
342 (Rev.1)	C.8	Note from the Chairman of Committee 8 to the Chairmen of Committees 4, 5, 7 and 9	C.4, 5, 7, 9
343	C.8	Note from the Chairman of Committee 8 to the Chairman of Committee 7	C.7
344	ISR	Proposals	C.5
345 (Rev.1)	SYR	Proposal	C.4, 5, 6
346	C.8	Second Report of Committee 8 (Restructure)	PL
347	C.8	First series of texts from Committee 8 to the Editorial Committee	C.9
348	YEM	Proposals	C.5
349	C.6	Summary Record of the fourth meeting of Committee 6 (Regulatory procedures)	C.6
350	WG 5D	Fourth Report of Working Group 5D to Committee 5 (Allocations)	C.5

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/147-E

30 October 1979

Original : English

WORKING GROUP 5E

DRAFT

SIXTH REPORT FROM WORKING GROUP 5E TO COMMITTEE 5

(ALLOCATIONS)

Subject : Frequency band between 217 - 275 GHz

1. The Working Group examined all the proposals for this band of frequencies and decided to recommend the adoption of the revised Table of Allocations shown in the Annex. All allocations were decided unanimously, with the exception that the United States of America wished to have the right to re-open at a future meeting of Working Group 5E the question of the wording of footnote 3815/412J for bands above 217 GHz.

2. The Working Group agreed with the Recommendation (Document No. DT/105(Rev.2)) of ad hoc Working Group 5/3 regarding the designation of ISM at 245.0 GHz \pm 1 GHz. The Group recognized that Document No. DT/105(Rev.2) had not yet been approved by Committee 5. The text of the footnote would be as shown in number 2 of Document No. 374.

A.W. ADEY

Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
217 - 248

Region 1	Region 2	Region 3
217 - 231	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) 3815/412J 3679A	
231 - 235	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE Radiolocation 3816H	
235 - 238	EARTH EXPLORATION-SATELLITE (Passive) FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE SPACE RESEARCH (Passive)	
238 - 241	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE Radiolocation 3816H	
241 - 248	RADIOLOCATION Amateur Amateur-satellite / 3816I /	

MOD 3815/412J

All emissions in the bands 51.4 - 54.25 GHz, 58.2 - 59 GHz, 64 - 65 GHz, 86 - 92 GHz, 105 - 116 GHz and 217 - 231 GHz are prohibited. The use of passive sensors by other services is also authorized.

ADD 3679A

In the bands [1 400 - 1 727 MHz, 7 101 - 120 GHz, and 197 - 220 GHz, passive research is being conducted by some countries in a programme for the search for space signals of extra-terrestrial intelligence.

ADD 3816H

In the United States of America and Japan, the allocation of the bands 231 - 235 GHz and 238 - 241 GHz to the radiolocation service is on a primary basis.

[ADD 3816I

The band 244 - 246 GHz is designated for industrial, scientific and medical applications (centre frequency 245 GHz). ISM equipment operating in this band shall not cause harmful interference to radio services operating inside or outside this band in accordance with the provisions of these Regulations. In applying this provision Administrations shall have due regard to the latest relevant CCIR Recommendations. 7

GHz
248 - 275

Region 1	Region 2	Region 3
248 - 250	AMATEUR AMATEUR-SATELLITE	
250 - 252	EARTH EXPLORATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 3816J	
252 - 265	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 3815E 3816K 3816L 3816M	
265 - 275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 3816N	

ADD 3816J

The band 250 - 251 GHz, is also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

ADD 3816K

The band 257.5 - 258 GHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

ADD 3815E

In the bands 43.5 - 47 GHz, 66 - 71 GHz, 95 - 100 GHz, 134 - 142 GHz, 190 - 200 GHz and 252 - 265 GHz satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

ADD 3816L

The band 262.24 - 262.76 GHz is also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

ADD 3816M

In the Federal Republic of Germany, Spain, France and the Netherlands, the band 261 - 265 GHz is also allocated to the radio astronomy service on a primary basis.

ADD 3816N_7

A. In making assignments to stations of other services to which the band 265 - 275 GHz is allocated, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference, especially in the bands 265.64 - 266.16 GHz, 267.34 - 267.86 GHz and 271.74 - 272.26 GHz, which are used for spectral line observations. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116)._7,

or

B. In making assignments to other services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 265 - 275 GHz, and especially in the bands 265.64 - 266.16 GHz, 267.34 - 267.86 GHz, and 271.74 - 272.26 GHz, which are used for spectral line observations. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116)._/

Note : Two options are proposed for the footnote 3816N. Option A (standard text 7.2 of Document No. 239) would apply if an Article on radio astronomy is developed, and Option B (standard text 7.3 of Document No. 239) if no Article is developed.

**WORLD ADMINISTRATIVE
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(Geneva, 1979)

Document No. DT/148-E

29 October 1979

Original : English

WORKING GROUP 4A

NOTE FROM THE CHAIRMAN OF WORKING GROUP 4A

1. Working Group 4B has sent a request to Working Group 4A about a definition of the term "interfering emission", (see DL/133); the basic concept comes from the need to quantify, in Appendix 28 and perhaps elsewhere, the interference from another system for sharing calculations.
2. Working Group 4A wishes to restate that it has already defined the three terms :
 - interference (see Document No. 241)
 - emission (see Document No. 241)
 - protection ratio (see Document No. DT/121), in which the term "unwanted signal" appears.
3. Working Group 4A believes that it is not necessary to define an additional term "interfering emission", as the meaning of it can easily be construed from the three definitions mentioned in paragraph 2 above. Moreover the term "interfering emission" is understood to mean "a deliberate emission being a component of the unwanted signal which interferes with the wanted signal".

A.R. BASTIKAR
Chairman of Working Group 4A



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 6A

Note from the Chairman of Sub-Working Group 6A2

The text below is proposed as a Note to the Chairman of Committee 4.

"DRAFT NOTE TO THE CHAIRMAN OF COMMITTEE 4

Consideration of Resolution No. Spa2 - 6

In the initial consideration by Committee 6 of Resolution No. Spa2 - 6, it was noted that proposal USA/47/1076 has been attributed to Committee 4. Committee 6 requests that Committee 4 expedite its consideration of that proposal and informs this Committee of its decision, so that final consideration of Resolution No. Spa2 - 6 can occur in a timely fashion in Committee 6."

J.A. LEWIS

Chairman of Sub-Working Group 6A2



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AD HOC GROUP 2 OF COMMITTEE 6

DRAFT TERMS OF REFERENCE FOR AD HOC GROUP 2 OF COMMITTEE 6

1. To examine all proposals related to the use of the geostationary orbit and to the planning of space services utilizing it.
2. To give consideration to:
 - 2.1 the desirability, feasibility and the possibilities of planning of space services;
 - 2.2 the services and frequency bands which might be considered within the framework of this planning;
 - 2.3 the preparatory work that would have to be carried out before any planning conference, including development of the principles and necessary technical bases;
 - 2.4 the desirability, feasibility and possibilities of other approaches supplemental to the existing provisions of Articles N11 and N13.
3. To prepare, as necessary, the texts to be proposed for adoption by Committee 6.

E.J. WILKINSON

Chairman of Ad Hoc Group 2 of Committee 6



**WORLD ADMINISTRATIVE
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AD HOC GROUP 2 OF COMMITTEE 6

DRAFT TERMS OF REFERENCE FOR AD HOC GROUP 2 OF COMMITTEE 6

1. To examine all proposals related to the use of the geostationary orbit and to the planning of space services utilizing it.
2. To give consideration to:
 - 2.1 the **desirability**, feasibility and the possibility of planning of space services;
 - 2.2 the services and frequency bands which might be considered within the framework of this planning;
 - 2.3 the preparatory work that would have to be carried out before any planning conference, including development of the principles and necessary technical bases;
 - 2.4 the **desirability**, feasibility and possibility of other approaches supplemental to the existing provisions of Articles N11 and N13.
3. To prepare, if necessary, the texts to be proposed for adoption by WARC 1979.

E.J. WILKINSON

Chairman of Ad Hoc Group 2 of Committee 6



WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5C

DRAFT

NINTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands between 174 and 235 MHz

1. Working Group 5C considered all proposals to the bands 174 - 235 MHz. With the exception mentioned in point 5 below, it was agreed by a majority to recommend the revised Table in Annex 1 of this Report to Committee 5 for adoption.
2. France and the Netherlands reserved their position on the exclusive allocation of the band 174 - 223 MHz to the broadcasting service in Region 1 without any reference to a long-term evolution.
3. Japan reserved its position on the introduction of the fixed and mobile services into the band 216 - 223 MHz in Region 3.
4. Argentina, Brazil and Canada reserved their position on the introduction of the mobile service in the band 220 - 225 MHz.
5. The introduction of the fixed service into the band 220 - 225 MHz in Region 2 met with a considerable number of objections and no clear majority was obtained. Argentina, Canada and the United States of America reserved their position on this matter.
6. Austria reserved its position on the footnote 3612C.
7. The delegate of Sweden made the statement reproduced in Annex 2 to this Report.

K. OLMS

Chairman of Working Group 5C

Annexes: 2



ANNEX 1

MHz
174 - 235

REG. 1	REG. 2	REG. 3
174 - 223	174 - 216 BROADCASTING Fixed Mobile 3601B	174 - 216 FIXED MOBILE BROADCASTING 3603/295 3602A 3601C 3602B
BROADCASTING	216 - 220 FIXED MARITIME MOBILE Radiolocation 3608AA	216 - 230 FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation
3600A 3601/293 3601A 3608/300 3608A	220 - 225 AMATEUR FIXED MOBILE Radiolocation 3608AA	
223 - 230 BROADCASTING Fixed Mobile 3601/293 3601A 3608/300 3608A 3608B 3608C 3612/304	225 - 235 FIXED MOBILE	3612A 3612B
230 - 235 FIXED MOBILE 3608/300 3608B 3608C 3612C 3612/304 /3618/308A/	/3618/308A/	230 - 235 FIXED MOBILE AERONAUTICAL RADIONAVIGATION 3612B /3618/308A/

SUP 3599/291

SUP 3600/292

ADD 3600A For future planning of the band 174 - 223 MHz in Region 1, Administrations shall take into account the needs of the mobile, except aeronautical mobile, service for extension of its bands.

MOD 3601/293 Additional allocation: in the People's Republic of the Congo, Ethiopia, Gambia, Guinea, Kenya, Malawi, Oman, Uganda, Senegal, Sierra Leone, Zambia and Zimbabwe, the band 174 - 230 MHz is also allocated to the fixed and mobile services on a permitted basis. Stations of the fixed and mobile services shall not cause harmful interference to or claim protection from existing or planned broadcasting stations.

ADD 3601A Additional allocation: in Austria, the Federal Republic of Germany, Belgium, Denmark, Finland, France, Ireland, Israel, Italy, Liechtenstein, Luxembourg, Monaco, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174 - 230 MHz is also allocated to the land mobile service on a permitted basis. Stations of the land mobile service shall not cause harmful interference to or claim protection from existing or planned broadcasting stations.

ADD 3601B Different category of service: in the United States of America and Mexico, the allocation of the band 174 - 216 MHz to the fixed and mobile services is on a primary basis (see No. 3432/141).

ADD 3601C Additional allocation: in China, the band 174 - 184 MHz is also allocated to the space research (space-to-earth) and the space operation (space-to-earth) services on a primary basis subject to agreement obtained under the procedure set forth in Article 7.

SUP 3602/294

ADD 3602A Additional allocation: in Bangladesh, Pakistan and the Philippines the band 200 - 216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

ADD 3602B Additional allocation: in Australia and Papua New Guinea, the band 204 - 208 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

MOD 3603/295 Additional allocation: in India, the band 208 - 216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

SUP 3604/296

SUP 3605/297

SUP 3606/298

SUP 3607/299

MOD 3608/300 Additional allocation: in Oman, the United Kingdom and Turkey the band 216 - 235 MHz is also allocated to the radiolocation service on a secondary basis.

ADD 3608A Additional allocation: in Somalia, the band 216 - 225 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

ADD 3608AA In Region 2, the band 216 - 225 MHz is also allocated to the radiolocation service on a primary basis until 1 January 1990. As of 1 January 1990, no new stations in that service may be authorized. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis.

ADD 3608B Additional allocation: in Jordan, Oman, Qatar and Syria, the band 223 - 235 MHz is also allocated to the aeronautical radionavigation service on a permitted basis.

ADD 3608C Additional allocation: in Sweden, the band 223 - 235 MHz is also allocated to the aeronautical radionavigation service on a primary basis until 1 January 1990.

SUP 3609/301

SUP 3610/302

SUP 3611/303

MOD 3612/304 Alternative allocation: in Botswana, Lesotho, Namibia, South Africa and Swaziland, the band 223 - 235 MHz is allocated to the broadcasting service on a primary basis.

ADD 3612A Alternative allocation: in New Zealand, Western Samoa, Niue and Cook Islands, the band 225 - 230 MHz is allocated to the fixed, mobile and aeronautical radionavigation services on a primary basis.

ADD 3612B Additional allocation: in China, the band 225 - 235 MHz is also allocated to the radio astronomy service on a secondary basis.

ADD 3612C Additional allocation: in Nigeria and Yugoslavia the band 230 - 235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

SUP 3613/305

SUP 3615/306

SUP 3616/307

SUP 3617/308

ANNEX 2

Statement by the Delegate of Sweden

"We have, during the discussions on this band, heard expressed a great deal of sympathy with and support for a world-wide allocation to the mobile service: in this case to the maritime mobile service.

It is also our Administration's view that such an allocation on a world-wide basis should be catered for on an exclusive or primary basis to fulfil the future traffic increase foreseen for the mobile services.

We find it appropriate that we should reflect this in the Report of this meeting in order to try to satisfy the requirements of the mobile services in another part of the spectrum later in our discussions."

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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WORKING GROUP 5D

DRAFT

FIRST REPORT OF WORKING GROUP 5D12 TO WORKING GROUP 5D

For the band 1 530 - 1 660.5 MHz Working Group 5D12 agreed to recommend the adoption of the revised Table and revised footnotes given in the Annex.

The following remarks may be made :

- 1) The representatives of Australia and of Japan reserved their delegations' positions on the compromise adopted by the Group.
- 2) The representative of the USSR again expressed his delegation's reservation concerning the retention of footnotes 3686/352A and 3687/352B.
- 3) The representative of Brazil was not satisfied with the wording of the new footnote 3695C and reserved the right to submit a new draft.
- 4) Footnote 3695D should be a standard footnote applicable to the radio astronomy service wherever primary status is allocated to it and another service has the same status.
- 5) The thirteenth report of Working Group 5D to Committee 5 (Document No. DT/120), which deals in particular with the band 1 525 - 1 535 MHz, will have to be amended if Working Group 5D endorses the conclusions of Working Group 5D12 concerning the band 1 530 - 1 535 MHz.
- 6) Since Spain was not represented in Group 5D12, the following proposal, submitted by Mr. Valbuena to the Chairman of Group 5D6, was not examined :

E/144/86B
(Corr.1)

ADD

3689A

The aeronautical mobile-satellite (R) service may also use the sub-band 1 540 - 1 542.5 MHz on an experimental basis.

J.P. HOUSSIN

Chairman of Working Group 5D12

Annex : 1



A N N E X

MHz
1 530 - 1 660.5

Allocation to Services		
Region 1	Region 2	Region 3
1 530 - 1 535 SPACE OPERATION {Telemetry} 3681/350A (Space-to-Earth) FIXED 3682/350B MARITIME MOBILE-SATELLITE (Space-to-Earth) Earth exploration satellite Mobile except aeronautical mobile [3683/350C] 3679A 3695C	1 530 - 1 535 SPACE OPERATION {Telemetry} 3681/350A (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) Earth exploration satellite Fixed Mobile 3684/350B 3679A 3680A 3695C	1 530 - 1 535 SPACE OPERATION {Telemetry} 3681/350A (Space-to-Earth) FIXED 3682/350B MARITIME MOBILE-SATELLITE (Space-to-Earth) Earth exploration satellite Mobile 3679A 3680A 3695C
1 535 - 1 544	MARITIME MOBILE-SATELLITE (Space-to-Earth) 352D	
1 544 - 1 545	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) 352D 3695A	
1 545 - 1 559	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) 352 352D	
1 559 - 1 610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (Space-to-Earth) 352 352A 352B 352D 3695B	
1 610 - 1 626.5	AERONAUTICAL RADIONAVIGATION 352 352A 352B 352D 352K 3695B	
1 626.5 - 1 645.5	MARITIME MOBILE-SATELLITE (Earth-to-space) 352 352D	

MHz
1 530 - 1 660.5 (cont.)

Region 1	Region 2	Region 3
1 645.5 - 1 646.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) MARITIME MOBILE-SATELLITE (Earth-to-space) 352 352D 3695A	
1 646.5 - 1 660	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) 352 352D	
1 660 - 1 660.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) RADIO ASTRONOMY [METEOROLOGICAL AIDS] 3695D	

SUP 3681/350A

SUP 3682/350B

MOD 3683/350C

[Different category of service : in Algeria, Saudi Arabia, Bahrain, Bulgaria, Egypt, United Arab Emirates, France, Hungary, Iran, Iraq, Jordan, Kuwait, Lebanon, Mongolia, Morocco, Oman, Poland, Qatar, German Democratic Republic, Roumania, Czechoslovakia, USSR, PDR of Yemen and Yugoslavia, the allocation of the band 1 525 - 1 535 MHz to the mobile, except aeronautical mobile service is on a primary basis. (See No. 3432/141.)]

SUP 3684/350D

ADD 3679A
(US/45/90)

In the bands 1 400 - 1 727 MHz, [101 - 120 GHz, and 197 - 220 GHz], passive research is being conducted by some countries in a programme for the search for space signals of artificial origin.

ADD 3680A

In Region 2 and in Papua New Guinea where the mobile service is authorized in the bands [1 435 - 1 525 MHz] and 1 525 - 1 535 MHz the primary use of this allocation is by the aeronautical mobile service for telemetering purposes.

MOD 3685/352

In Bulgaria, Hungary, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 1 550 - 1 660 MHz is also allocated to the fixed service.

- MOD 3686/352A The bands 1 559 - 1 626.5 MHz / 4 200 - 4 400 MHz, 5 000 - 5 250 MHz and 15.4 - 15.6 GHz are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.
- MOD 3687/352B The bands 1 559 - 1 626.5 MHz / 5 000 - 5 250 MHz and 15.4 - 15.7 GHz are also allocated to the aeronautical mobile (R) service for the use and development of systems using space radiocommunication techniques. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.
- 3688/352D In Austria, Indonesia and the Federal Republic of Germany, the band 1 540 - 1 660 MHz is also allocated to the fixed service.
- SUP 3689/352E
- SUP 3690/352F
- SUP 3691/352G
- SUP 3692/352H
- SUP 3693/352I
- SUP 3694/352J
- MOD 3695/352K The bands 1 610.6 - 1 613.8 MHz and 1 720 - 1 721 MHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).
- ADD 3695A (F/57B/316) The uses of the bands 1 544 - 1 545 MHz (Space-to-Earth) and 1 645.5 - 1 646.5 (Earth-to-space) by the mobile-satellite services is limited to distress and safety operations.
- ADD 3695B Alternative allocation : In Sweden the band 1 590 - 1 626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.
- ADD 3695C The allocation to the maritime mobile-satellite service in the band 1 530 - 1 535 MHz may not be used before 1 January 1990. From this date the fixed service will be on a secondary basis.
- ADD 3695D / Note concerning the band 1 660 - 1 660.5 : Standard applicable to the radio astronomy service in cases where primary status is allocated to this service and where another service has the same status. /

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

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WORKING GROUP 4A

Note from the Chairman of Working Group 4A

Working Group 4A proposes the following text of a note to be sent from Committee 4 to Committee 6 :

DRAFT

" NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF COMMITTEE 6

1. While, in the process of preparation the texts for the two definitions namely, "coordination distance" and "coordination area" by applying the same station separation criteria for both; the term "or another earth" appears in square brackets. It was considered opinion of the Working Group 4A, that it is not within its competence to study the case when there is a bidirectional frequency re-use and that this matter should be referred to Committee 6 to seek their guidance."

A.R. BASTIKAR

Chairman of Working Group 4A



**CONFERENCE ADMINISTRATIVE
MONDIALE
DES RADIOCOMMUNICATIONS**

(Genève, 1979)

Addendum to Document No. DT/154-F/E/S ✓
1 November 1979

GROUPE DE TRAVAIL 4A
WORKING GROUP 4A
GRUPO DE TRABAJO 4A

Ajouter à MOD 3143 / Add to MOD 3143 / Añadase a MOD 3143 :

La lettre petit (p) a été adoptée pour tenir compte de l'Avis 341 sur la notion d'affaiblissement de transmission dans l'étude des systèmes radioélectriques, qui recommande que d'une part les lettres en majuscules soient utilisées pour des grandeurs exprimées en décibels et d'autre part que les lettres en minuscules pour des valeurs de puissance exprimées en Watt.

The letter "p" was adopted to meet Recommendation 341 on the concept of transmission loss in studies of radio systems, which recommends the use of capital letters to denote ratios expressed in decibels and lower-case type for power values expressed in Watts.

La letra minúscula (p) se ha adoptado para tener en cuenta la Recomendación 341 sobre la noción de atenuación de transmisión en el estudio de los sistemas radioeléctricos, en la que se recomienda, por una parte, que las letras mayúsculas se utilicen para las magnitudes expresadas en decibelios y, por otra, que las letras minúsculas se empleen para los valores de potencia expresados en vatios.

A. BASTIKAR

Président du Groupe de travail 4A

Chairman of Working Group 4A

El Presidente del Grupo de trabajo 4A



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WORKING GROUP 4A

DRAFT

SIXTH REPORT OF THE CHAIRMAN OF WORKING GROUP 4A TO THE CHAIRMAN OF COMMITTEE 4

Working Group 4A has examined the proposals submitted by Administrations for several terms in Section VI of Article N1 (see Annex).

The delegation of the United Kingdom has expressed its reservation to the term "accepted interference".

Concerning the symbols used in MOD 3143, there was a divergence of opinion. The delegations of Algeria, Ivory Coast, Cuba, Spain, France, Gabon, Morocco and Zaïre have expressed their reservations to the maintenance of the present symbols p_p , p_m and p_c .

A. R. BASTIKAR
Chairman of Working Group 4A

Annex : 1



A N N E X

ADD Brouillage accepté : Brouillage, supérieur à celui défini comme admissible, qui a fait l'objet d'un accord entre deux ou plusieurs administrations intéressées sans préjudice aux autres administrations.

ADD Accepted Interference : Interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more Administrations without prejudice to other Administrations.

ADD Interferencia aceptada : Interferencia de nivel más elevado que el definido como admisible, y que ha sido acordada entre dos o más administraciones, sin perjuicio para otras administraciones.

MOD 3143/94

Puissance : Chaque fois que la puissance d'un émetteur radioélectrique, etc. est mentionnée, elle doit être exprimée sous l'une des formes suivantes : ci-dessous, selon la classe d'émission :

- puissance ^{en} de crête (\hat{p}) ; (p_p) ;
- puissance moyenne (\bar{p}) ; (p_m) ;
- puissance de ^{la} ~~l'onde~~ porteuse (\ddot{p}) ; (p_c) .

en Pour différentes classes d'émission, les rapports entre la puissance de crête, la puissance moyenne et la puissance de ^{la} ~~l'onde~~ porteuse, dans les conditions de fonctionnement normal et en l'absence de modulation, sont indiqués dans des Avis du CCIR, lesquels peuvent être utilisés comme guides.

MOD 3143/94

Power : Whenever the power of a radio transmitter etc. is referred to it shall be expressed in one of the following forms, according to the class of emission :

- peak envelope power (\hat{p}) ; (p_p) ;
- mean power (\bar{p}) ; (p_m) ;
- carrier power (\ddot{p}) ; (p_c) .

For different classes of emissions, the relationships between peak envelope power, mean power and carrier power, under normal operating conditions and of no modulation, are contained in Recommendations of CCIR which may be used as a guide.

MOD 3143/94

Potencia: Siempre que se haga referencia a la potencia de un transmisor radioeléctrico, etc, se expresará en una de estas formas, según la clase de emisión:

- potencia ^{en} ~~de~~ la cresta (\hat{p}) ; (p_p) ; de la envolvente
- potencia media (\bar{p}) ; (p_m) ;
- potencia de la portadora (\ddot{p}) ; (p_c) .

Las relaciones entre la potencia en la cresta de la envolvente, la potencia media y la potencia de la portadora, para las distintas clases de emisiones, en condiciones normales de funcionamiento y en ausencia de modulación, se indican en las Recomendaciones del CCIR que pueden tomarse como guía para determinar tales relaciones.

MOD 3144/95

Puissance en crête (d'un émetteur radioélectrique) :
Moyenne de la puissance fournie à la ligne d'alimentation de l'antenne par un émetteur en fonctionnement normal, au cours d'un cycle de radiofréquence correspondant à l'amplitude maximale de l'enveloppe de modulation.

MOD 3144/95

Peak envelope power (of a radio transmitter) :
The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope under normal operating conditions.

MOD 3144/95

Potencia en la cresta de la envolvente (de un transmisor radioeléctrico): La media de la potencia suministrada por un transmisor en condiciones normales de funcionamiento, a la línea de alimentación de la antena durante un ciclo de radiofrecuencia, tomado en la cresta más elevada de la envolvente de funcionamiento.

MOD 3145/96

Puissance moyenne (d'un émetteur radioélectrique) :
Moyenne de la puissance fournie à la ligne d'alimentation de l'antenne par un émetteur en fonctionnement normal, évaluée pendant un intervalle de temps relativement long par rapport à la période de la composante de plus basse fréquence de la modulation.

MOD 3145/96

radio
Mean power (of a transmitter) : The average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.

MOD 3145/96

Potencia media (de un transmisor radioeléctrico): La media de la potencia suministrada por un transmisor en condiciones normales de funcionamiento, a la línea de alimentación de la antena, evaluada durante un intervalo de tiempo suficientemente largo comparado con el periodo correspondiente a la frecuencia más baja que existe realmente como componente de modulación.

MOD 3146/97

Puissance de la porteuse (d'un émetteur radioélectrique) :
Moyenne de la puissance fournie à la ligne d'alimentation de l'antenne par un
émetteur au cours d'un cycle de radiofréquence en l'absence de modulation.

MOD 3146/97

radio
Carrier power (of a transmitter) : The average power
supplied to the antenna transmission line by a transmitter during one radio
frequency cycle under the condition of no modulation.

MOD 3146/97

Potencia de la portadora (de un transmisor radioeléctrico):
La media de la potencia suministrada por un transmisor radioeléctrico a la
línea de alimentación de la antena durante un ciclo de radiofrecuencia en
ausencia de modulación.

MOD 3149/99

dans la direction du maximum de rayonnement.

Gain d'une antenne : Rapport généralement exprimé en décibel, entre la puissance nécessaire à l'entrée d'une antenne de référence sans pertes et la puissance fournie à l'entrée de l'antenne donnée, pour que les deux antennes produisent dans une direction donnée le même champ ou la même puissance surfacique, à la même distance. Sauf En l'absence d'indication contraire, le chiffre donné pour le gain d'une antenne désigne le s'il s'agit du gain de l'antenne dans la direction du lobe principal maximum de rayonnement. Dans les services utilisant les modes de propagation par diffusion, il se peut que le gain total de l'antenne ne soit pas réalisable en pratique et que le gain apparent varie dans le temps. On peut éventuellement considérer le gain pour une polarisation spécifiée.

Suivant l'antenne de référence choisieSuivant le cas on distingue : $(G_{is}) :$

Gain isotrope ou absolu d'une antenne $+ (G_{is})$ Gain (G_{is}) d'une antenne dans une direction donnée lorsque L'antenne de référence est une antenne isotrope sans pertes isolée dans l'espace.

Gain relatif d'une antenne Gain par rapport à un doublet demi-onde (G_d) : Gain (G_d) d'une antenne dans une direction donnée lorsque L'antenne de référence est un doublet demi-onde sans pertes, isolé dans l'espace, et dont le plan équatorial contient la cette direction donnée.

 (G_v)

Gain par rapport à une antenne verticale courte : Gain (G_v) d'une antenne dans une direction donnée lorsque L'antenne de référence est une antenne verticale parfaite conducteur rectiligne beaucoup plus courte que le quart de la longueur d'onde, placée normal à la surface d'une terre plane plan parfaitement conductrice conducteur qui contient la direction donnée.

MOD 3149/99

Gain of an Antenna : The ratio, usually expressed in decibels, of the power required at the input of a loss free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power flux-density at the same distance. When not specified otherwise, the figure expressing the gain of an antenna is the gain refers to the gain in the direction of the maximum radiation main lobe. In gain of the antenna services using scattering modes of propagation the full gain of an antenna may not be realizable in practice and the apparent gain may vary with time. The gain may be considered for a specified polarization.

(direction of maximum radiation.)Depending on the choice of the reference antenna,a distinction is made between : $(G_{is}) :$

Isotropic or Absolute Gain of an Antenna $+ (G_{is})$ The gain (G_{is}) of an antenna in a given direction when the reference antenna is an isotropic loss-free antenna isolated in space.

Dipole (G_d)

Relative Gain of an Antenna Gain Relative to a Half-Wave Dipole (G_d) : The gain (G_d) of an antenna in a given direction when the reference antenna is a loss-free half-wave loss-free dipole isolated in space and the equatorial plane of which contains the given that direction.

Gain Relative to a Short Vertical Antenna $+ (G_v)$: The gain (G_v) of an antenna in a given direction when the reference antenna is a perfect vertical antenna linear conductor, much shorter than one quarter of the wavelength, placed on normal to the surface of a perfectly conducting plane earth which contains the given direction.

The gain is usually expressed in decibels.

(Salvo que se indique otra cosa,

en la dirección de máxima radiación,

MOD 3149/99

Ganancia de una antena: La relación generalmente expresada en decibelios, que debe existir entre la potencia necesaria a la entrada de una antena de referencia sin pérdidas y la potencia suministrada a la entrada de la antena en cuestión, para que ambas antenas produzcan, en una dirección dada, el mismo campo, o la misma densidad de flujo de potencia, a la misma distancia. ~~Salvo indicación en contrario, la cifra que expresa se trata de la ganancia de una antena se refiere a en la dirección del lóbulo principal de máxima radiación de la antena. En los servicios que utilizan los modos de propagación por dispersión, es posible que no se consiga en la práctica la ganancia total de una antena y que la ganancia aparente varíe con el tiempo. Eventualmente puede tomarse en consideración la ganancia para una polarización especificada.~~

(Según la antena de referencia elegida,

Según el caso se distingue entre:

Ganancia isótropa o absoluta ~~de una antena:~~ (G_{is}) :
~~Ganancia (G_{is}) (G_{is}) (G_a) de una antena en una dirección dada, si~~ La antena de referencia es una antena isótropa sin pérdidas aislada en el espacio.

Ganancia con relación a un dipolo de media onda ~~(G_d)~~ (G_d) :
~~relativa de una antena: Ganancia (G_d) de una antena en una dirección dada,~~
cuando ~~si~~ La antena de referencia es un dipolo de media onda sin pérdidas aislado en el espacio y cuyo plano ecuatorial contiene ~~la esa~~ dirección dada.

Ganancia con relación a una antena vertical corta ~~(G_v)~~ (G_v) :
~~Ganancia (G_v) de una antena en una dirección dada, cuando si~~ La antena de referencia es un conductor rectilíneo mucho menor que un cuarto de longitud de onda y perpendicular a una superficie perfectamente conductora que contiene la dirección dada.

SUP 3150/100

SUP 3151/101

SUP 3152/102

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/155-E

31 October 1979

Original : English

COMMITTEE 5

DRAFT

SEVENTH REPORT OF WORKING GROUP 5E TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 275 GHz and 400 GHz.

All of the proposals for this band were examined and the Working Group 5E decided unanimously to recommend to Committee 5 the Table shown in the Annex.

A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
275 - 400

Region 1	Region 2	Region 3
275 - 400	(Not allocated)	
	3816P	

Note : The 1979 WARC took action up to 400 GHz. Above 400 GHz, no action was taken.

ADD 3816P

The frequency band 275 GHz to 400 GHz is being used by Administrations for experimentation with and development of various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services.

Radio astronomy service : 278 - 280, 343 - 348 GHz,

Space research service (passive) and Earth exploration-satellite service (passive) : 275 - 277, 300 - 302, 324 - 326, 345 - 347, 363 - 365 and 379 - 381 GHz.

Future research (theoretical and experimental) in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive measurements from harmful interference.

**WORLD ADMINISTRATIVE
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(Geneva, 1979)

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COMMITTEE 5

DRAFT

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5E

TO THE CHAIRMAN OF COMMITTEE 5

1. Working Group 5E wishes to report that it has completed a review of all the proposals and Recommendations assigned to it for the bands above 40 GHz, as stated in Document No. 212(Rev.1), page 19.
2. Further follow-up work may result from the following:
 - a) the response from Working Group 5D to Document No. 391;
 - b) the response from Committee 4 to Document No. 379;
 - c) the decision of Committee 5 on a definition for Earth Exploration and for the term "ACTIVE";
 - d) a decision by Committee 5 on the frequencies and the standard texts for footnotes for ISM;
 - e) the review of the reports of Working Group 5E by Committee 5 and by the Plenary Meetings of the Conference.
3. Of the three Recommendations considered, Nos. Spa2 - 3, Spa2 - 4 and Spa2-5, the last two may now be suppressed. Action on Recommendation No. Spa2 - 3 will have to await the response from Committee 4 on the question of "except Aeronautical Mobile" as related to the intersatellite service, as noted in b) above.

Dr. A. W. ADEY
Chairman of Working Group 5E



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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1 November 1979

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WORKING GROUP 5D

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5D12

TO WORKING GROUP 5D

Working Group 5D12 examined the question of feeder links of satellites in the maritime mobile-satellite service. It decided unanimously to recommend to Working Group 5D that such links should not be mentioned in the Table of Frequency Allocations itself but should be dealt with in two footnotes, one for the direction space-to-Earth and the other for the direction Earth-to-space, with the following text :

"In the band $[x, y]$ MHz allocated to the fixed-satellite service, Administrations are urged to give preference to feeder links for the satellites of the maritime mobile service over other links of the fixed-satellite service".

In the direction space-to-Earth, the values of x and y should be fixed somewhere in the 4 GHz band to be allocated to the fixed-satellite service (space-to-Earth) and should be such that $y = x + 25$ (MHz).

In the direction Earth-to-space, the values of x and y should be fixed somewhere in the 6 GHz band to be allocated to the fixed-satellite service (Earth-to-space) and should be such that $y = x + 20$ (MHz).

Working Group 5D12 also recommends that it should remain possible for feeder links of satellites in the maritime mobile-satellite service to be in the other parts of the 4 and 6 GHz bands to be allocated to the fixed-satellite service.

Since the frequency bands to be allocated to the fixed-satellite service are not yet fully known, Working Group 5D12 was unable to propose any precise values for x and y , regarding which a few doubts subsist.

J.P. HOUSSIN

Chairman of Working Group 5D12



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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1 November 1979

Original : English

WORKING GROUP 5E

DRAFT

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5E TO THE CHAIRMAN OF WORKING GROUP 5A

Consideration of a number of proposals related to Earth Exploration and the related term "Active" has been deferred, or decisions have been reached only on a tentative basis, pending a decision in Working Group 5A on related definitions.

An early decision on this point is necessary to enable Working Group 5E to finalize its work.

Dr. A.W. ADEY
Chairman of Working Group 5E



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

LIST OF DOCUMENTS (351 - 400)*

Document No. DT/159-E

1 November 1979

Original : French
English
Spanish

No.	Origin	Title	Destination
351	C.4	Third report of Committee 4	PL
352	C.4	Third series of texts from Committee 4 to the Editorial Committee	C.9
353	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 7	C.7
354	WG 5BA2	Report of Sub-Group 5BA2 to Working Group 5BA	WG 5BA
355 (Rev.1)	WG 5BB	First report of Working Group 5BB to Committee 5 (Allocations)	C.5
356	AUS	Use of the geostationary satellite orbit - Regulatory principles	C.6
357	WG 6B	Third report of Working Group 6B to Committee 6	C.6
358	G	Proposals	C.4, 5, 6
359	IRQ	Draft Resolution relating to planning the radio-communication satellite services using the geostationary orbit	C.6, 7
360	WG 5D	Fifth report of Working Group 5D to Committee 5 (Allocations)	C.5
361 (Rev.1)	WG 5D	Sixth report of Working Group 5D to Committee 5 (Allocations)	C.5
362	WG 5D	Seventh report of Working Group 5D to Committee 5 (Allocations)	C.5
363	WG 5D	Eighth report of Working Group 5D to Committee 5 (Allocations)	C.5
364 + Corr.1	WG 5BA5	Report of Sub-Working Group 5BA5 to Working Group 5BA	WG 5BA
365	WG 4C	Fourth report of Working Group 4C to Committee 4	C.4
366	WG 4C	Fifth report of Working Group 4C to Committee 4	C.4

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr. 1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146



No.	Origin	Title	Destination
367	C.8	Summary record of the fourth meeting of Committee 8 (Restructure)	C.8
368	CHL/CLM/ EQA/NIG	Aspects of ITU technical cooperation assistance in maritime radiocommunications	C.7
369	C.6	Note by the Chairman of Committee 6 to the Chairman of Committee 4	C.4
370	C.6	Note by the Chairman of Committee 6 to the Chairman of Committee 4	C.4
371	C.6	Note by the Chairman of Committee 6 to the Chairman of Committee 4	C.4
372	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 4	C.4
373	C.6	Note by the Chairman of Committee 6 to the Chairman of Committee 4	C.4
374 + Add.1, Add.2	WG 5/ Ad Hoc-3	Standard texts to be used in footnotes relating to the frequency bands designated for ISM applications and draft Recommendation	C.5
375	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 9	C.9
376	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 6	C.6
377	C.8	Third report of Committee 8 (Restructure)	PL
378	C.8	Second series of texts from Committee 8 to the Editorial Committee	C.9
379	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 4	C.4
380	WG Ad Hoc 5BA4	Report of Ad Hoc Working Group 5BA4	WG 5BA
381	WG 5BA3	Report of Sub-Working Group 5BA3 to Working Group 5BA	WG 5BA
382	WG 5A	Sixth report of Working Group 5A to Committee 5	C.5
383	IRN	Proposal	C.5
384	WG 5C	Note to the Chairman of Working Group 5D from the Chairman of Working Group 5C	WG 5D
385	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5

No.	Origin	Title	Destination
386	WG 5C	Fifth report of Working Group 5C to Committee 5	C.5
387 (Rev.1) +Corr.1	KOR	Proposals	C.7
388	WG 5BA	First report of Working Group 5BA to Committee 5 (Allocations)	C.5
389	WG 5E7	Report from Sub-Working Group 5E7 to Working Group 5E	WG 5E
390	WG 5E	First report of Working Group 5E to Committee 5 (Allocations)	C.5
391	WG 5E	Note from the Chairman of Working Group 5E to the Chairman of Working Group 5D	WG 5D
392	WG 6B	Fourth report of Working Group 6B to Committee 6	C.6
393	MDG	Proposals	C.5
394	WG 5E	Second report of Working Group 5E to Committee 5 (Allocations)	C.5
395	WG 7B	First report of the Chairman of Working Group 7B to Committee 7	C.7
396	WG 4C	Ninth report of Working Group 4C to Committee 4	C.4
397	WG 6B	Resolution relating to the development of national radio frequency management	C.6
398	USA	Exceptional use of stations in distress situations	C.5
399 (Rev.1)	USA	Information paper - Radionavigation-Satellite Service at 150 and 400 MHz	C.5
400	CLM/COG/ EQA/GAB/ KEN/SOM/ UGA/ZAI	Draft Resolution on the use of the geostationary orbit	C.6

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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WORKING GROUP 5C

DRAFT

TENTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands 235 - 335.4 MHz and 335.4 - 401 MHz

1. Working Group 5C considered all proposals to the bands 235 - 335.4 MHz and 335.4 - 401 MHz. It was agreed by a majority to recommend the revised Tables appearing in Annexes 1 and 2 to this Report to Committee 5 for adoption.
2. Several delegations reserved their position on the lower limit in footnote 3618/308A. It was proposed that this should be 230 MHz, but in order not to conflict with the allocations to the aeronautical radionavigation service between 230 - 235 MHz it ought to be set at 235 MHz.
3. Although there was unanimous acknowledgement of the radio astronomy needs in the band 322 - 328.6 MHz, these needs could not be satisfied by a table allocation or by an appropriate footnote because there was no clear majority agreement on how this might be done. The two possibilities are therefore presented in parallel for a decision in Committee 5.
4. In relation to the proposed modification of footnote 3625/311A, the same situation emerged as outlined in Document No. 410, where reference was made to footnote 3592/285B. The final decision on the earlier footnote should also be applied to footnote 3625/311A.

K. OLMS

Chairman of Working Group 5C

Annexes: 2



ANNEX 1

MHz
235 - 335.4

REG. 1	REG. 2	REG. 3
235 - 267	FIXED MOBILE	
3495/201A 3572A 3614/305A	3618/308A	3619/309
267 - 272	FIXED MOBILE Space operation (space-to-earth)	
3618/308A		
272 - 273	SPACE OPERATION (space-to-earth) FIXED MOBILE	
3618/308A		
273 - 322	FIXED MOBILE	
3618/308A		
322 - 328.6	FIXED MOBILE [RADIO ASTRONOMY]	
[3622/310]		
328.6 - 335.4	AERONAUTICAL RADIONAVIGATION	
3624/311		

NOC 3495/201A

SUP 3612/304

SUP 3613/305

MOD 3614/305A

Additional allocation: in New Zealand, the band 235 - 239.5 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

MOD 3618/308A

Subject to agreement obtained under the procedure set forth in Article [], the bands [230/235] - 322 MHz and 335.4 - 399.9 MHz may be used by the mobile satellite service.

NOC 3619/309

SUP 3620/309A

SUP 3621/309B

[MOD 3622/310

Additional allocation: in India, [.... and], the band 322 - 328.6 MHz is also allocated to the radio astronomy service on a primary basis. In making assignments to stations of other services to which the bands 322 - 328.6 MHz are allocated, Administrations are urged to take all practical steps to protect radio astronomy observations from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A, and Article N []).

[SUP 3623/310A]

NOC 3624/311

ADD 3572A

See Document No. 409.

ANNEX 2

MHz

335.4 - 401

REG. 1	REG. 2	REG. 3
335.4 - 399.9	FIXED MOBILE	
3618/308A		
399.9 - 400.05	RADIONAVIGATION-SATELLITE	
3593/285C	<u>3625/311A</u>	
400.05 - 400.15	STANDARD FREQUENCY-SATELLITE	
3626/312B	3627/313	
400.15 - 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Space-to-Earth) SPACE RESEARCH (Space-to-Earth) Space operation (Space-to-Earth)	
3627/313		

NOC 3593/285C

MOD 3625/311A

Additional allocation: in Algeria, Argentina, Bangladesh, Bulgaria, Colombia, the Congo, Costa Rica, Egypt, El Salvador, Ecuador, Gabon, Greece, Guatemala, Guinea, Honduras, Iran, Iraq, Jordan, Kenya, Kuwait, Morocco, Pakistan, the Netherlands, Poland, Qatar, the Democratic People's Republic of Korea, Roumania, Syria, Czechoslovakia, Thailand, Tunisia, Turkey and

(MOD 3625/311A
continued)

Yugoslavia, the band 399.9 - 400.05 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis (see Recommendation No. SpA 8). Administrations are urged to protect radionavigation-satellite signals being received in coastal areas from harmful interference by other services operating in those areas.

NOC 3626/312B

MOD 3627/313

Additional allocation: in Saudi Arabia, Austria, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Hungary, Indonesia, Iran, Iraq, Israel, Kuwait, Liberia, Malaysia, Oman, Philippines, Poland, Qatar, Syria, the German Democratic Republic, Roumania, Singapore, Czechoslovakia, Thailand, Turkey, the USSR and Yugoslavia, the band 400.05 - 401 MHz is also allocated to the fixed and mobile services on a primary basis.

SUP 3628/314

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 4B

DRAFT

REPORT OF SUB-WORKING GROUP 4B7 to WORKING GROUP 4B

The attached Report concerning technical consideration on the new proposed Article N27A was unanimously approved by the Sub-Working Group.

The Italian delegation asked for the inclusion of the following statement :

"Italy believes that the determination of the technical characteristics to be applied to each country or the identification of countries to which particular values of these characteristics are to be applied are to be effectuated when applying the procedure of Article N27 and therefore they are not in the terms of reference of Sub-Group 4B7."

H. WILLENBERG

Chairman of Sub-Working Group 4B7

Annex : 1



A N N E X

REPORT OF SUB-WORKING GROUP 4B7 TO WORKING GROUP 4B

1. Introduction

Sub-Working Group 4B7 was asked by Working Group 4B to consider the technical basis for the proposed new Article N27A under the assumption that a total band of 800 MHz and 500 MHz respectively be available for the up-link of the broadcasting satellites provided for in the plan for Regions 1 and 3. The Sub-Working Group discussed the interference situation for 12.75, 14.5 and 17.3 GHz at the same orbital position and between satellites at adjacent orbital positions for the condition that the down-link operates as indicated in the Final Acts of the WARC-77 and the up-link frequencies are derived by a fixed frequency translation of the frequencies for the down-link.

The results of the interference calculation were compared with the requirements of the Administrations listed in paragraph 3.

2. Discussion of the interference situation2.1 Interference between satellites located at adjacent orbital positions

For the calculations, the following assumptions were adopted :

- $\frac{C}{I}$ equal to 45 dB for one entry (see Recommendation SAT 5)
- Receive reference diagram identical to transmit one, as given in Annex 8 of the Final Acts (WARC-BS 77).

The $\frac{C}{I}$ ratio is given by :

$$\frac{C}{I} = P_w - P_i + G(\phi/\phi_0) + G'$$

where :

P_w = e.i.r.p. of the wanted earth station

P_i = e.i.r.p. of the interfering earth station

$G(\phi/\phi_0)$ = relative gain of the satellite receiving antenna given by Annex 8 of the Final Acts

G' = relative gain of the interfering earth station given by CCIR Recommendation No. 465.

$$G' = G_{i \max} - 32 + 25 \log$$

where

$$= 5.8^\circ \text{ (adjacent orbital position with satellite station keeping tolerances)}$$

$$G' = G_{i \max} - 12.9 \text{ dB}$$

According to the principle of crossed beams (Final Acts, Annex 7, paragraph 3, page 89), adjacent orbital station will not serve adjacent service area. We then have to adopt a value of ϕ/ϕ_0 , which to satisfy nearly all cases would have to be based on a distribution curve. This is not available.

It may be assumed that in most cases $\phi/\phi_0 \geq 1$ and for $\phi/\phi_0 = 1$ $G(\phi/\phi_0) = 12.5$ dB is appropriate.

With the value of 12.5 dB for $G(\phi/\phi_0)$ we get $45 = (P_w - P_i) + 12.5 + G_i \text{ max} - 12.9$

If we assume that the e.i.r.p. values of the wanted and interfering signals are equal

$$G_i \text{ max} = 45.4 \text{ dB}$$

However, in the worst cases we can have a difference of e.i.r.p. of 12 dB if the earth stations are located in the beam centres. If not, 3 dB more has to be added in the case of satellite receiving antenna beamwidth being equal to the satellite transmit antenna beamwidth. If the beamwidth of the satellite receiving antenna is smaller than that of the satellite transmit antenna and the earth station is located at the edge of the coverage area of the satellite transmit antenna the value to be added would become greater than 3 dB.

With this we arrive at the following dimensions of the earth station antenna for a reference frequency of 12.75, 14.5 and 17.3 GHz [assumed $\gamma = 55\%$, $G(\phi/\phi_0) = 12.5$ dB] :

f (GHz)	Difference in e.i.r.p. (dB)	$G_i \text{ max}$ (dB)	D (m)
12.75	12	57.4	7.5
	15	60.4	10.6
14.5	12	57.4	6.6
	15	60.4	9.3
17.3	12	57.4	5.5
	15	60.4	7.8

Arriving at these values it was assumed that differences in up-link e.i.r.p. due to precipitation attenuation would be compensated by power control or other means.

2.2 Interference between satellites located at the same orbital position

Let us suppose that translation rule was adopted :

2.2.1 Co-channel interference

Critical interference may exist in the same channel between distant areas, above all from a large area towards a small one but in this case interference may be reduced by adjusting e.i.r.p.s. However, in the case of areas of similar size e.i.r.p. adjustment will not alleviate the interference problem.

2.2.2 Adjacent channels interference

The most critical case occurs between two adjacent countries using opposite polarizations according to the Plan.

$$\frac{C}{I} = 29 \text{ dB for a single entry is required.}$$

In the case where there is no difference in e.i.r.p's and earth stations are located at the beam centres then a value of 30 dB may be obtained. If there is no e.i.r.p. difference and the earth stations are not located at the beam centres a C/I of 27 dB results. These values reduce further with differences in e.i.r.p's. These values are based on a depolarization in the atmosphere of about 27 dB. More severe depolarization effects may further aggravate the interference situation.

Results of the studies on sandstorms have also to be considered.

3. Requirements of Administrations

3.1 Position of the transmitting earth station

Some Administrations find it desirable to have some flexibility in the choice of the siting of up-link earth stations at some point in the service area of the down-link or within a region which is covered by multiple beams. In some cases, it will even be necessary to use up-links from points outside the service area.

Some other Administrations in Region 1 expressed that they do not intend to make use of this flexibility and that the requirements can be satisfied by them by other means.

3.2 Earth transmitting antenna

Transportable and small fixed up-link earth stations providing direct connection to a broadcasting satellite are required in certain countries and their numbers can be expected to increase as the broadcasting-satellite service develops. An example of this application will arise in remote areas where terrestrial radio-relay systems are not available for connection to the main earth station.

Transportable and some fixed earth stations will use relatively small antennae.

Some Administrations in Region 1 do not intend to use small transportable earth stations to feed into a broadcasting satellite in their countries.

4. Conclusions

The proposal for a new N27A containing a constant frequency translation and a procedure for coordination for the same orbital position is feasible if the following coordination measures are agreed to by all ¹⁾ Administrations.

- 1) The earth station transmit antenna diameter size cannot be smaller than indicated in paragraph 2.1.
- 2) To avoid an increase of the earth station antenna diameter to higher values than indicated in the Table in paragraph 2.1 for 12 dB of e.i.r.p. differences and to avoid the deterioration according to paragraph 2.2.2, the earth station should be located near the centre of the beam.
- 3) Up-link power control or other measures have to be effected to compensate for aggravation of up-link e.i.r.p. differences (between wanted and interfering carriers) because of precipitation attenuation.
- 4) The beamwidth of the satellite receiving antenna has to be equal to or smaller than that of the satellite transmit antenna. The transmit antenna reference pattern of the WARC-77 Final Acts has to be met by the satellite receiving antenna.
- 5) E.i.r.p. adjustments would have to be carried out on a coordinated basis to optimize up-link C/I ratios. Adjustments of earth station e.i.r.p. between adjacent satellite positions may not be necessary if the increase in e.i.r.p. is reached by the use of higher performance antennae.

1) All measures might not necessarily apply to all countries but it is not possible / due to lack of information / at the moment to identify these countries.

Even with these measures there would be negative up-link margins in some cases²⁾ which would require consideration of other solutions. Depolarization higher than 27 dB may further aggravate the interference situation for adjacent channels in the case of colocated satellites.

With the constraints of equal up-link and down-link bandwidth and on the basis of available information at this Conference it has not been demonstrated that the constant frequency translation approach provides the optimum solution. However, the Sub-Working Group 4B7 is not in the position to comment on whether or not other methods would provide significantly better solutions taking into account the requirements of all Administrations.

2) It is not possible at the moment to identify these cases.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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2 November 1979

Original : EnglishWORKING GROUP 5DDRAFT

FIFTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5

Subject : Allocations to fixed-satellite service

1. The Working Group discussed in detail the report of the Chairman of ad hoc Group 5D1 to Working Group 5D on proposed new fixed-satellite allocations.
2. A large majority of delegations were of the opinion that the radio astronomy observations of the Formaldehyde line (4.83 GHz) and the radio astronomy service in the band 4.95 - 5 GHz should be protected.
3. The delegations of the countries listed below expressed their wish to allocate the band 4.5 - 4.8 GHz to the fixed-satellite service (space-to-Earth) and to draw the attention of the Committee 4 to the need of studying the sharing criteria of this band. The countries are :

Algeria, the German Democratic Republic, Saudi Arabia, Argentina, Austria, Brazil, Canada, Chile, Colombia, Congo, Cuba, Egypt, Finland, Gabon, Hungary, India, Japan, Jordan, Kenya, Mauritania, Niger, Oman, Poland, Qatar, Syria, Ukraine, Senegal, Singapore, Somalia, Sudan, Sweden, Switzerland, Tanzania, Czechoslovakia, Tunisia, USSR, Uruguay, Venezuela.
4. The delegations of the United States of America, Federal Republic of Germany, Australia, Austria, Belgium, Republic of Korea, Denmark, Greece, Iran, Italy, Norway, New Zealand, Papua New Guinea, Netherlands, United Kingdom, Thailand and Turkey were of the view that the allocation of the band 4.5 - 4.8 GHz to fixed-satellite service should be considered together with the band 3.4 - 3.7 GHz although it was already discussed at the ninth meeting of Working Group 5D (DT/87).
5. The delegation of the Federal Republic of Germany proposed the following allocations, footnote and resolution :

	<u>Frequency band</u>	<u>Region 1</u>	<u>Region 2</u>	<u>Region 3</u>
P-1	3.4 - 3.6 GHz :	NOC	NOC	NOC
P-2	3.6 - 3.7 GHz :	NOC	Radiolocation secondary	
P-3	4.4 - 4.7 GHz :	Delete fixed-satellite (Earth-to-space)		
P-4	4.5 - 4.8 GHz :	Add fixed-satellite (space-to-Earth)		
P-5	Footnote : In / countries 7			

the frequency band 4.5 - 4.8 GHz is not used for fixed-satellite service.

- P-6 Resolution : Administrations are urged to free the band 3.4 - 3.6 GHz from radiolocation in the future. Considering that 3.6 - 3.7 GHz can already be used for fixed-satellite service (space-to-Earth) on a world-wide basis, the whole band 3.4 - 3.7 GHz should be made available for fixed-satellite (space-to-Earth) on a world-wide basis.



6. A modification to the Federal Republic of Germany's proposal was suggested by India. This called for secondary status for radiolocation in the Table in the band 3.4 - 3.6 GHz with a footnote indicating primary status for radiolocation till a certain date. In the interim period steps should be taken to protect fixed-satellite service from interference due to radiolocation service.
7. The Working Group decided to form Drafting Group 5D8 from delegates of Argentina, France, India, Sudan, United Kingdom and United States of America to formulate the footnote and the draft Resolution based on the proposal of the Federal Republic of Germany and Indian delegation.
8. The delegations of the United Kingdom and Iran had reservation on the allocation of the band 4.5 - 4.8 GHz.
9. The delegation of the United States of America reserved in position on 4.5 - 4.8 GHz, pending a satisfactory resolution of the allocations at 3.4 - 3.7 GHz.
10. The reservations will be re-examined when Drafting Group 5D8 finishes its work and the proposed texts will be available.
11. The Working Group decided to allocate the band 2.5 - 2.69 GHz to the broadcasting-satellite and fixed-satellite services as follows :
- Region 1 : 2 500 - 2 690 MHz : broadcasting-satellite (NOC)
- Region 2 : 2 500 - 2 690 MHz : broadcasting-satellite (NOC)
 2 500 - 2 655 MHz : fixed-satellite (space-to-Earth)
 2 655 - 2 690 MHz : fixed-satellite (Earth-to-space) (NOC)
- Region 3 : 2 500 - 2 690 MHz : broadcasting-satellite (NOC)
 2 500 - 2 535 MHz : fixed-satellite (space-to-Earth) (NOC)
 2 655 - 2 690 MHz : fixed-satellite (Earth-to-space) (NOC)
12. Footnote 3725/364G will be modified according to the text concerning radio astronomy observations, provided by ad hoc Group 5D5, for the band 2 670 - 2 690 MHz, taking into account the proposal USA/45/158.
13. The proposals relating to fixed-satellite service (Earth-to-space) below 10 GHz, as summarized in the report of the Chairman of ad hoc Group 5D1 were considered and the Working Group was prepared to allocate the band 5.85 - 7.075 GHz to the fixed-satellite service (Earth-to-space). Compared with the existing Table of Allocations, the changes are as follows :

<u>Frequency band</u>	<u>Region 1</u>	<u>Region 2</u>	<u>Region 3</u>
5 850 - 5 925 MHz	NOC	ADD	NOC
5 925 - 6 425 MHz	NOC	NOC	NOC
6 425 - 7 075 MHz	ADD	ADD	ADD

14. The Working Group decided unanimously to allocate the band 10.7 - 11.7 GHz to fixed-satellite service (space-to-Earth) and the band 12.75 - 13.25 GHz to the fixed-satellite service (Earth-to-space).

15. The Working Group decided to form ad hoc Group 5D9 under the chairmanship of the delegate of Sudan from delegations of India, the United Kingdom, the United States of America and the Soviet Union to elaborate a compromised solution for fixed-satellite service (Earth-to-space) above 10 GHz.

Dr. B.S. RAO
Chairman of Working Group 5D

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

SIXTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5 (ALLOCATIONS)

Subject : Frequency bands 10 - 11.7 GHz as well as 13.25 - 14.3 GHz.

1. Frequency bands between 10 and 11.7 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Some Administrations proposed to allocate the band 10.68 - 10.7 GHz to the fixed and mobile services on a world-wide basis and to indicate these services in the Table. After a detailed discussion it was unanimously accepted not to include the fixed and mobile services in the Table but to maintain footnote MOD 3784/405B.

3. The Working Group decided to form a Drafting Group (5D10) from delegations of the Federal Republic of Germany, Canada, the United States of America, France, the Netherlands and the United Kingdom, to provide the modified text of the footnote 3782A (USA/45/219). The Chairman of this Drafting Group is Mr. E.J. Holliman, Box No. 878 (USA).

4. The Working Group decided to form a Drafting Group (5D11) under the chairmanship of Dr. L. Doherty (Canada, Box No. 1196) to find the most appropriate frequency band for Earth exploration-satellite and space research services near to or in the band 10.6 - 10.7 GHz, taking into account the proposals F/57B/291 and USA/45/221 as well.

5. Frequency bands between 13.25 and 14.3 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

6. The delegation of Algeria reserved the right to come back in Committee 5 to the allocation of the band 14 - 14.25 GHz to the fixed-satellite service (space-to-Earth) in Region 1.

7. The Working Group recommends that the attention of the Committee 4 should be drawn to the need of studying the sharing criteria between radionavigation and fixed-satellite services as well as radionavigation-satellite and fixed-satellite services in connection with the allocations in the bands 14 - 14.3 GHz and 14.3 - 14.4 GHz and with the footnotes 3795/408A and 3795A.

8. The Working Group decided to defer the discussion on the proposed new footnote 3788B (CAN/60B/489/Corr.1) (fixed-satellite and broadcasting-satellite uplink in the band 14 - 14.5 GHz).

9. The Working Group recommends, that Committee 4 be asked to determine the minimum restrictions on the fixed and mobile (except aeronautical mobile) services which are necessary for the successful operation of the passive space services and further, that Committee 4 be asked to either incorporate these restrictions in Article N25 or, at its discretion, to forward its conclusions to Committee 5 for inclusion in a footnote.



A N N E X 1

MHz
10 000 - 10 500
GHz
10.5 - 10.68

Allocation to Services		
Region 1	Region 2	Region 3
10 000 - 10 450	RADIOLOCATION Amateur 3779/401A 3780/402	
10 450 - 10 500	RADIOLOCATION Amateur Amateur-satellite 3780/402	
10.5 - 10.55 FIXED MOBILE Radiolocation	10.5 - 10.55 FIXED MOBILE RADIOLOCATION	
10.55 - 10.6	FIXED MOBILE except aeronautical mobile Radiolocation 3782A	
10.6 - 10.68	EARTH EXPLORATION-SATELLITE /-(Passive)/ FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH /-(Passive)/ Radiolocation 3531A	

GHz
10.68 - 11.7

Region 1	Region 2	Region 3
10.68 - 10.7	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) 3784/405B 3784B	
10.7 - 10.95	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	
10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) [(Earth-to-space)] [3784A 3784AA] MOBILE except aeronautical mobile	10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A 3784AA]	
11.2 - 11.7	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	

MOD 3779/401A

The band 9 975 - 10 025 MHz is also allocated to the meteorological-satellite service for use by weather radars on a secondary basis.

MOD 3780/402

Additional allocation : in Afghanistan, Algeria, the Federal Republic of Germany, Saudi Arabia, Austria, Bangladesh, Cameroon, China, the Republic of Korea, Ivory Coast, Spain, Finland, Gabon, Guatemala, India, Indonesia, Iran, Iraq, Israel, Jamaica, Japan, Malaysia, Malta, Mauritania, Nepal, Pakistan, Philippines, Senegal, Singapore, Sudan, Sweden, Thailand and Togo, the band 10 000 - 10 500 MHz is also allocated to the fixed and mobile services on a primary basis.

SUP 3782/404

SUP 3783/404A

[3782A]

[The Drafting Group 5D10 will provide the text of the footnote in the band [10.55 - 10.57] GHz.]

ADD 3531A

In making assignments to stations of other services to which the bands 10.6 - 10.68 GHz is allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service. (See Nos. 3280/116 and 3281/116A and Article N33A).

MOD 3784/405B

Additional allocation : Mongolia In Saudi Arabia, Austria, Bulgaria, Cameroon China, the Republic of Korea, Costa Rica, Cuba, Egypt, Hungary, Israel Iran, Iraq, Japan, Kuwait, Lebanon, Pakistan, Poland, the German Democratic Republic, Roumania, Czechoslovakia, Thailand, the USSR, Venezuela and Yugoslavia, the band 10.68 - 10.7 GHz is also allocated to the fixed service and mobile except aeronautical mobile service on a primary basis.

to the

ADD 3784B

All emissions in the band 10.68 - 10.7 GHz are prohibited, except for those under the provisions of No. 3784/405B. The use of passive sensors by other services is also authorized.

[ADD 3784A

G/53B/576 In the bands 10.7 - 11.7 GHz the fixed-satellite service in the Earth-to-space direction is intended solely for feeder links of the broadcasting-satellite service.]

[ADD 3784AA

F/57B/391A In the band 10.95 - 11.2 GHz the fixed-satellite service on the Earth-to-space path is provided in Region 1 solely for the connection with broadcasting-satellites; no space-to-Earth connection is authorized in the three Regions.]

A N N E X 2

GHz
13.25 - 14.3

Region 1	Region 2	Region 3
13.25 - 13.4	AERONAUTICAL RADIONAVIGATION 3791/406 3793/407A 3793A	
13.4 - 14	RADIOLOCATION Standard frequency-satellite <input type="checkbox"/> Earth-to-space <input type="checkbox"/> Space research 3675A 3793A 3794/408 3798/409	
14 - 14.25 FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> (Space-to-Earth) <input type="checkbox"/> <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	14 - 14.25 FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	
14.25 - 14.3	FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795B 3795C 3795D <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	

NOC 3791/406 The aeronautical radionavigation service in the band 13.25 - 13.4 GHz is limited to Doppler navigation aids.

MOD 3793/407A Subject to agreement obtained under the procedure set forth in Article N13A, the band 13.25 - 13.4 GHz may also be used in the space research service (Earth-to-space) on a secondary basis.

- ADD 3793A Additional allocation : in India and Pakistan, the
(IND/83/156) band 13.25 - 14 GHz is also allocated to the fixed service on a primary basis.
- SUP 3792/407 (In the band 13.25 - 13.5 GHz and in the band
14.175 - 14.3 GHz).
- MOD 3794/408 Additional allocation Israel: in Algeria, Saudi Arabia,
Bangladesh, Cameroon, Gabon, Iran, Iraq, Jordan, Kuwait, Mali, Morocco,
Mauritania, Pakistan, Senegal, Sweden, Singapore, Thailand and Tunisia, the
bands 13.4 - 14 GHz, 15.7 - 17.7 GHz and 33.4 - 36 GHz are also allocated
to the fixed and mobile services on a primary basis.
- MOD 3798/409 Additional allocation : in Austria, Bulgaria, Hungary,
Japan, Mongolia, Poland, the German Democratic Republic, Roumania,
the United Kingdom, Czechoslovakia and the USSR, the band 13.4 - 14 GHz is
also allocated to the radionavigation service on a primary basis.
- ADD 3675A In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz,
5 250 - 5 350 MHz, 8 550 - 8 650 MHz, 9 500 - 9 800 MHz and 13.4 - 14 GHz,
radiolocation stations installed on spacecraft may also be employed for the
Earth exploration-satellite and space research services on a secondary basis.
- SUP 3793/407A
- MOD 3795/408A The use of the bands 14 - 14.3 GHz and 14.3 - 14.4 GHz
by the radionavigation service and radionavigation-satellite service respectively,
shall be such as to provide sufficient protection to space stations of the
fixed-satellite service (see Recommendation No. Spa2 - 15, paragraph 2.14).
- ADD 3795C Additional allocation : in Algeria, Cameroon, China, Gabon,
Guatemala, India, Iran, Iraq, Israel, Japan, Jordan, Morocco, Mauritania,
Pakistan, Senegal, Singapore and Thailand, the band 14 - 14.3 GHz is also
allocated to the fixed service on a primary basis.
- ADD 3795B Additional allocation : in the Federal Republic of Germany,
Saudi Arabia, Austria, Denmark, France, Greece, Ireland, Iceland, Italy, Norway,
the United Kingdom, Sweden and Switzerland, the band 14.25 - 14.3 GHz is also
allocated to the fixed service on a primary basis.
- ADD 3795D Additional allocation : in Japan, Pakistan and
the United Kingdom, the band 14.25 - 14.3 GHz is also allocated to the
mobile except aeronautical mobile service on a primary basis.
- ADD 3795A Radionavigation devices operating on 1 January 1980
(G/53B/588) in the band 14 - 14.3 GHz, in accordance with Recommendation No. Spa2 - 15,
paragraph 2.14, may continue to do so.
- ADD 3789A No feeder links are authorized in the bands
(F/57B/402) 12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1 and
12.75 - 13.25 GHz in the three Regions.

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RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

SIXTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 10 - 11.7 GHz as well as 13.25 - 14.3 GHz.

1. Frequency bands between 10 and 11.7 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Some Administrations proposed to allocate the band 10.68 - 10.7 GHz to the fixed and mobile services on a world-wide basis and to indicate these services in the Table. After a detailed discussion it was unanimously accepted not to include the fixed and mobile services in the Table but to maintain footnote MOD 3784/405B.

3. The delegations of Iran and the United Kingdom reserved the right to come back to the allocation of the band 10.7 - 11.7 GHz to the mobile except aeronautical mobile service.

4. The Working Group decided to form a Drafting Group (5D10) from delegations of the Federal Republic of Germany, Canada, the United States of America, France, the Netherlands and the United Kingdom, to provide the modified text of the footnote 3782A (USA/45/219). The Chairman of this Drafting Group is Mr. E.J. Holliman, Box No. 878 (USA).

5. The Working Group decided to form a Drafting Group (5D11) under the chairmanship of Dr. L. Doherty (Canada, Box No. 1196) to find the most appropriate frequency band for Earth exploration-satellite and space research services near to or in the band 10.6 - 10.7 GHz, taking into account the proposals F/57B/291 and USA/45/221 as well.

6. Frequency bands between 13.25 and 14.3 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

7. The Working Group decided that the decision concerning fixed-satellite service in the band 13.4 - 14 GHz will be incorporated as necessary.

8. The delegation of Algeria reserved the right to come back in Committee 5 to the allocation of the band 14 - 14.25 GHz to the fixed-satellite service (space-to-Earth) in Region 1.

9. The Working Group recommends that the attention of the Committee 4 should be drawn to the need of studying the sharing criteria between radionavigation and fixed-satellite services as well as radionavigation-satellite and fixed-satellite services in connection with the allocations in the bands 14 - 14.3 GHz and 14.3 - 14.4 GHz and with the footnotes 3795/408A and 3795A.

10. The Working Group decided to defer the discussion on the proposed new footnote 3788B (CAN/60B/489/Corr.1) (fixed-satellite and broadcasting-satellite uplink in the band 14 - 14.5 GHz).

Annexes : 2



A N N E X 1

MHz
10 000 - 10 500
GHz
10.5 - 10.68

Allocation to Services		
Region 1	Region 2	Region 3
10 000 - 10 450	RADIOLOCATION Amateur 3779/401A 3780/402 3781/403	
10 450 - 10 500	RADIOLOCATION Amateur Amateur-satellite 3780/402	
10.5 - 10.55 FIXED MOBILE Radiolocation	10.5 - 10.55 FIXED MOBILE RADIOLOCATION	
10.55 - 10.6	FIXED MOBILE except aeronautical mobile Radiolocation / 3782A /	
10.6 - 10.68	/ EARTH EXPLORATION-SATELLITE / (Passive) / FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY / SPACE RESEARCH / (Passive) / Radiolocation / 3531A 3815/412J (CAN/60B/363) / / 3680A / / 3783B /	

GHz
10.68 - 11.7

Region 1	Region 2	Region 3
10.68 - 10.7	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY [SPACE RESEARCH (Passive)] [3783B] 3784/405B	
10.7 - 10.95	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	
10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) [(Earth-to-space)] [3784A 3784AA] MOBILE except aeronautical mobile	10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A 3784AA]	
11.2 - 11.7	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	

- MOD 3779/401A Additional allocation : The band 9 975 - 10 025 MHz is also allocated to the meteorological-satellite service for use by weather radars on a secondary basis.
- MOD 3780/402 Additional allocation : In Algeria, the Federal Republic of Germany, Saudi Arabia, Austria, Cameroon, China, Republic of Korea, Ivory Coast, Finland, Gabon, India, Indonesia, Iran, Iraq, Japan, Malaysia, Sudan, Sweden, Thailand, the band 10 000 - 10 500 MHz is also allocated to the fixed and mobile services on a primary basis.
- MOD 3781/403 Additional allocation : In Switzerland the band 10 000 - 10 250 MHz is also allocated to the fixed and mobile services on a primary basis.

SUP 3782/404

SUP 3783/404A

[3782A]

[The Drafting Group 5D4 will provide the text of the footnote in the band [10.55 - 10.57] GHz.]

[3531A + MOD 3815/412J + (CAN/60B/363)]

[The Drafting Group 5D5 will provide the text of the footnote in the band 10.6 - 10.68 GHz.]

[ADD 3680A

F/57B/291 In Regions 1, 2 and 3, the bands [1 370 - 1 400 MHz, 2 640 - 2 690 MHz, 4 950 - 4 990 MHz, 6 725 - 7 250 MHz], 10.6 - 10.68 GHz [and 15.20 - 15.35 GHz] are also allocated on a secondary basis to passive sensing in the space research, Earth radio exploration and Earth radio exploration-satellite services.]

[ADD 3783B

USA/45/221 In the bands 10.6 - 10.7 [and 18.6 - 18.8 GHz] the fixed and mobile services shall be limited to a maximum equivalent radiated power of +35 dBW and the power delivered to the antenna shall not exceed -3 dBW. These limits may be exceeded subject to agreement between the Administrations concerned and those having services operating in accordance with the Table, which may be affected.]

MOD 3784/405B

Additional allocation : In Saudi Arabia, Austria, Bulgaria, China, the Republic of Korea, Costa Rica, Cuba, Egypt, Hungary, Iran, Iraq, Japan, Kuwait, Lebanon, Pakistan, Poland, the German Democratic Republic, Roumania, Czechoslovakia, Thailand, the USSR, Venezuela and Yugoslavia, the band 10.68 - 10.7 GHz is also allocated to the fixed service and mobile except aeronautical mobile service on a primary basis.

[ADD 3784A

G/53B/576 In the bands 10.7 - 11.7 GHz the fixed-satellite service in the Earth-to-space direction is intended solely for feeder links of the broadcasting-satellite service.]

[ADD 3784AA

F/57B/391A In the band 10.95 - 11.2 GHz the fixed-satellite service on the Earth-to-space path is provided in Region 1 solely for the connection with broadcasting-satellites; no space-to-Earth connection is authorized in the three Regions.]

A N N E X 2

GHz
13.25 - 14.3

Region 1	Region 2	Region 3
13.25 - 13.4	AERONAUTICAL RADIONAVIGATION 3791/406 3793/407A 3793A	
13.4 - 14	RADIOLOCATION Standard frequency-satellite <input type="checkbox"/> Earth-to-space <input type="checkbox"/> Space research 3675A 3793A 3794/408 3798/409	
14 - 14.25 FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> (Space-to-Earth) <input type="checkbox"/> <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	14 - 14.25 FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	
14.25 - 14.3	FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795B 3795C 3795D <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	

NOC 3791/406 The aeronautical radionavigation service in the band 13.25 - 13.4 GHz is limited to Doppler navigation aids.

MOD 3793/407A Subject to agreement obtained under the procedure set forth in Article N13A, the band 13.25 - 13.4 GHz may also be used in the space research service (Earth-to-space) on a secondary basis.

- ADD 3793A Additional allocation : in India and Pakistan, the
(IND/83/156) band 13.25 - 14 GHz is also allocated to the fixed service on a primary basis.
- SUP 3792/407 (In the band 13.25 - 13.5 GHz and in the band
14.175 - 14.3 GHz).
- MOD 3794/408 Additional allocation : in Algeria, Saudi Arabia,
Bangladesh, Cameroon, Gabon, Iran, Iraq, Jordan, Kuwait, Mali, Morocco,
Mauritania, Pakistan, Senegal, Sweden, Singapore, Thailand and Tunisia, the
bands 13.4 - 14 GHz / 15.7 - 17.7 GHz and 33.4 - 36 GHz / are also allocated
to the fixed and mobile services on a primary basis.
- MOD 3798/409 Additional allocation : in Austria, Bulgaria, Hungary,
Japan, Mongolia, Poland, the German Democratic Republic, Roumania,
the United Kingdom, Czechoslovakia and the USSR, the band 13.4 - 14 GHz is
also allocated to the radionavigation service on a primary basis.
- ADD 3675A In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz,
5 250 - 5 350 MHz, 8 550 - 8 650 MHz, 9 500 - 9 800 MHz and 13.4 - 14 GHz,
radiolocation stations installed on spacecraft may also be employed for the
Earth exploration-satellite and space research services on a secondary basis.
- SUP 3793/407A
- MOD 3795/408A / The use of the bands 14 - 14.3 GHz / and 14.3 - 14.4 GHz /
by the radionavigation service and radionavigation-satellite service respectively,
shall be such as to provide sufficient protection to space stations of the
fixed-satellite service (see Recommendation No. Spa2 - 15, paragraph 2.14). /
- ADD 3795C Additional allocation : in Algeria, Cameroon, China,
Gabon, India, Iran, Iraq, Japan, Jordan, Morocco, Mauritania, Pakistan, Senegal,
Singapore and Thailand, the band 14 - 14.3 GHz is also allocated to the
fixed service on a primary basis.
- ADD 3795B Additional allocation : in the Federal Republic of Germany,
Saudi Arabia, Austria, Denmark, France, Greece, Ireland, Italy, Norway,
the United Kingdom, Sweden and Switzerland, the band 14.25 - 14.3 GHz is also
allocated to the fixed service on a primary basis.
- ADD 3795D Additional allocation : in Japan, Pakistan and
the United Kingdom, the band 14.25 - 14.3 GHz is also allocated to the
mobile except aeronautical mobile service on a primary basis.
- / ADD 3795A Radionavigation devices operating on 1 January 1980
(G/53B/588) in the band 14 - 14.3 GHz, in accordance with Recommendation No. Spa2 - 15,
paragraph 2.14, may continue to do so. /
- / ADD 3789A No feeder links are authorized in the bands
(F/57B/402) 12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1 and
12.75 - 13.25 GHz in the three Regions. /

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WORKING GROUP 5D

DRAFT

SIXTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5 (ALLOCATIONS)

Subject : Frequency bands 10 - 11.7 GHz as well as 13.25 - 14.3 GHz.

1. Frequency bands between 10 and 11.7 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Some Administrations proposed to allocate the band 10.68 - 10.7 GHz to the fixed and mobile services on a world-wide basis and to indicate these services in the Table. After a detailed discussion it was unanimously accepted not to include the fixed and mobile services in the Table but to maintain footnote MOD 3784/405B.

3. The delegations of Iran and the United Kingdom reserved the right to come back to the allocation of the band 10.7 - 11.7 GHz to the mobile except aeronautical mobile service.

4. The Working Group decided to form a Drafting Group (5D10) from delegations of the Federal Republic of Germany, Canada, the United States of America, France, the Netherlands and the United Kingdom, to provide the modified text of the footnote 3782A (USA/45/219). The Chairman of this Drafting Group is Mr. E.J. Holliman, Box No. 878 (USA).

5. The Working Group decided to form a Drafting Group (5D11) under the chairmanship of Dr. L. Doherty (Canada, Box No. 1196) to find the most appropriate frequency band for Earth exploration-satellite and space research services near to or in the band 10.6 - 10.7 GHz, taking into account the proposals F/57B/291 and USA/45/221 as well.

6. Frequency bands between 13.25 and 14.3 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

7. The Working Group decided that the decision concerning fixed-satellite service in the band 13.4 - 14 GHz will be incorporated as necessary.

8. The delegation of Algeria reserved the right to come back in Committee 5 to the allocation of the band 14 - 14.25 GHz to the fixed-satellite service (space-to-Earth) in Region 1.

9. The Working Group recommends that the attention of the Committee 4 should be drawn to the need of studying the sharing criteria between radionavigation and fixed-satellite services as well as radionavigation-satellite and fixed-satellite services in connection with the allocations in the bands 14 - 14.3 GHz and 14.3 - 14.4 GHz and with the footnotes 3795/408A and 3795A.

10. The Working Group decided to defer the discussion on the proposed new footnote 3788B (CAN/60B/489/Corr.1) (fixed-satellite and broadcasting-satellite uplink in the band 14 - 14.5 GHz).



A N N E X 1

MHz
10 000 - 10 500
GHz
10.5 - 10.68

Allocation to Services		
Region 1	Region 2	Region 3
10 000 - 10 450	RADIOLOCATION Amateur 3779/401A 3780/402 3781/403	
10 450 - 10 500	RADIOLOCATION Amateur Amateur-satellite 3780/402	
10.5 - 10.55 FIXED MOBILE Radiolocation	10.5 - 10.55 FIXED MOBILE RADIOLOCATION	
10.55 - 10.6	FIXED MOBILE except aeronautical mobile Radiolocation / 3782A /	
10.6 - 10.68	/ EARTH EXPLORATION-SATELLITE / (Passive) / FIXED - MOBILE except aeronautical mobile RADIO ASTRONOMY / SPACE RESEARCH / (Passive) / Radiolocation / 3531A 3815/412J (CAN/60B/363) / / 3680A / / 3783B /	

GHz
10.68 - 11.7

Region 1	Region 2	Region 3
10.68 - 10.7	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY [SPACE RESEARCH (Passive)] [3783B] 3784/405B	
10.7 - 10.95	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	
10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) [3784A 3784AA] MOBILE except aeronautical mobile	10.95 - 11.2 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A 3784AA]	
11.2 - 11.7	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile [3784A]	

MOD 3779/401A

Additional allocation : The band 9 975 - 10 025 MHz is also allocated to the meteorological-satellite service for use by weather radars on a secondary basis.

MOD 3780/402

Additional allocation : In Algeria, the Federal Republic of Germany, Saudi Arabia, Austria, Cameroon, China, Republic of Korea, Ivory Coast, Finland, Gabon, India, Indonesia, Iran, Iraq, Japan, Malaysia, Sudan, Sweden, Thailand, the band 10 000 - 10 500 MHz is also allocated to the fixed and mobile services on a primary basis.

MOD 3781/403

Additional allocation : In Switzerland the band 10 000 - 10 250 MHz is also allocated to the fixed and mobile services on a primary basis.

SUP 3782/404

SUP 3783/404A

[3782A] [The Drafting Group 5D4 will provide the text of the footnote in the band [10.55 - 10.57] GHz.]

[3531A + MOD 3815/412J + (CAN/60B/363)]

[The Drafting Group 5D5 will provide the text of the footnote in the band 10.6 - 10.68 GHz.]

[ADD 3680A F/57B/291 In Regions 1, 2 and 3, the bands [1 370 - 1 400 MHz, 2 640 - 2 690 MHz, 4 950 - 4 990 MHz, 6 725 - 7 250 MHz], 10.6 - 10.68 GHz [and 15.20 - 15.35 GHz] are also allocated on a secondary basis to passive sensing in the space research, Earth radio exploration and Earth radio exploration-satellite services.]

[ADD 3783B USA/45/221 In the bands 10.6 - 10.7 [and 18.6 - 18.8 GHz] the fixed and mobile services shall be limited to a maximum equivalent radiated power of +35 dBW and the power delivered to the antenna shall not exceed -3 dBW. These limits may be exceeded subject to agreement between the Administrations concerned and those having services operating in accordance with the Table, which may be affected.]

MOD 3784/405B Additional allocation : In Saudi Arabia, Austria, Bulgaria, China, the Republic of Korea, Costa Rica, Cuba, Egypt, Hungary, Iran, Iraq, Japan, Kuwait, Lebanon, Pakistan, Poland, the German Democratic Republic, Roumania, Czechoslovakia, Thailand, the USSR, Venezuela and Yugoslavia, the band 10.68 - 10.7 GHz is also allocated to the fixed service and mobile except aeronautical mobile service on a primary basis.

[ADD 3784A G/53B/576 In the bands 10.7 - 11.7 GHz the fixed-satellite service in the Earth-to-space direction is intended solely for feeder links of the broadcasting-satellite service.]

[ADD 3784AA F/57B/391A In the band 10.95 - 11.2 GHz the fixed-satellite service on the Earth-to-space path is provided in Region 1 solely for the connection with broadcasting-satellites; no space-to-Earth connection is authorized in the three Regions.]

A N N E X 2

GHz
13.25 - 14.3

Region 1	Region 2	Region 3
13.25 - 13.4	AERONAUTICAL RADIONAVIGATION 3791/406 3793/407A 3793A	
13.4 - 14	RADIOLOCATION Standard frequency-satellite <input type="checkbox"/> Earth-to-space <input type="checkbox"/> Space research 3675A 3793A 3794/408 3798/409	
14 - 14.25 FIXED-SATELLITE (Earth-to-space) (Space-to-Earth) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	14 - 14.25 FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795C <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	
14.25 - 14.3	FIXED-SATELLITE (Earth-to-space) <input type="checkbox"/> RADIONAVIGATION <input type="checkbox"/> <input type="checkbox"/> 3795/408A <input type="checkbox"/> Space research 3795B 3795C 3795D <input type="checkbox"/> 3795A <input type="checkbox"/> <input type="checkbox"/> 3789A <input type="checkbox"/>	

NOC 3791/406

The aeronautical radionavigation service in the band 13.25 - 13.4 GHz is limited to Doppler navigation aids.

MOD 3793/407A

Subject to agreement obtained under the procedure set forth in Article N13A, the band 13.25 - 13.4 GHz may also be used, on a secondary basis, for Earth-to-space transmissions in the space research service.

- ADD 3793A Additional allocation : in India and Pakistan, the
(IND/83/156) band 13.25 - 14 GHz is also allocated to the fixed service on a primary basis.
- SUP 3792/407 (In the band 13.25 - 13.5 GHz and in the band
14.175 - 14.3 GHz).
- MOD 3794/408 Additional allocation : in Algeria, Saudi Arabia,
Bangladesh, Cameroon, Gabon, Iran, Iraq, Jordan, Kuwait, Mali, Morocco,
Mauritania, Pakistan, Senegal, Sweden, Singapore, Thailand and Tunisia, the
bands 13.4 - 14 GHz / 15.7 - 17.7 GHz and 33.4 - 36 GHz / are also allocated
to the fixed and mobile services on a primary basis.
- MOD 3798/409 Additional allocation : in Austria, Bulgaria, Hungary,
Japan, Mongolia, Poland, the German Democratic Republic, Roumania,
the United Kingdom, Czechoslovakia and the USSR, the band 13.4 - 14 GHz is
also allocated to the radionavigation service on a primary basis.
- ADD 3675A In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz,
5 250 - 5 350 MHz, 8 550 - 8 650 MHz, 9 500 - 9 800 MHz and 13.4 - 14 GHz,
radiolocation stations installed on spacecraft may also be employed for the
Earth exploration-satellite and space research services on a secondary basis.
- SUP 3793/407A
- MOD 3795/408A / The use of the bands 14 - 14.3 GHz / and 14.3 - 14.4 GHz /
by the radionavigation service and radionavigation-satellite service respectively,
shall be such as to provide sufficient protection to space stations of the
fixed-satellite service (see Recommendation No. Spa2 - 15, paragraph 2.14). /
- ADD 3795C Additional allocation : in Algeria, Cameroon, China,
Gabon, India, Iran, Iraq, Japan, Jordan, Morocco, Mauritania, Pakistan, Senegal,
Singapore and Thailand, the band 14 - 14.3 GHz is also allocated to the
fixed service on a primary basis.
- ADD 3795B Additional allocation : in the Federal Republic of Germany,
Saudi Arabia, Austria, Denmark, France, Greece, Ireland, Italy, Norway,
the United Kingdom, Sweden and Switzerland, the band 14.25 - 14.3 GHz is also
allocated to the fixed service on a primary basis.
- ADD 3795D Additional allocation : in Japan, Pakistan and
the United Kingdom, the band 14.25 - 14.3 GHz is also allocated to the
mobile except aeronautical mobile service on a primary basis.
- / ADD 3795A Radionavigation devices operating on 1 January 1980
(G/53B/588) in the band 14 - 14.3 GHz, in accordance with Recommendation No. Spa2 - 15,
paragraph 2.14, may continue to do so. /
- / ADD 3789A No feeder links are authorized in the bands
(F/57B/402) 12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1 and
12.75 - 13.25 GHz in the three Regions. /
-

CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

(Genève, 1979)

Document N° DT/ 164-F/E/S

2 novembre, 1979

Original : français
anglais
espagnol

COMMISSION 5COMMITTEE 5COMISIÓN 5NOTE DU PRESIDENT DE LA COMMISSION 5NOTE FROM THE CHAIRMAN OF COMMITTEE 5NOTA DEL PRESIDENTE DE LA COMISIÓN 5

Programme des réunions de la Commission 5

3.11 - 10.11.1979

(Séances de commission ou groupe de travail)

Schedule of meetings of Committee 5

3.11 - 10.11.1979

(Committee meetings or Working Groups of Committees)

Programa de las sesiones de las reuniones de la Comisión 5

3.11 - 10.11.1979

(Reuniones de comisión o de grupos de trabajo)

Lundi Monday Lunes	5.11	5	I	5A 5BA 5C 5D	A/Varembé I II III/IV
Mardi Tuesday Martes	6.11	5A 5BB 5D	A/Varembé I II	5A 5BB 5C 5D	14-16 ¹⁵ A/Varembé I III/IV II
Mercredi Wednesday Miercoles	7.11	5A 5BA 5C 5D		5BB	
Jeudi Thursday Jueves	8.11	5A 5BB 5D			
Vendredi Friday Viernes	9.11	5A 5BB 5D 5E		5	
Samedi Saturday Sábado	10.11	5BB 5C 5D		-	

CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

(Genève, 1979)

Addendum N° 1 au ✓
Document N° DT/165-F/E/S
5 novembre 1979
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 anglais
 espagnol

GROUPE DE TRAVAIL 5A
WORKING GROUP 5A
GRUPO DE TRABAJO 5A

- ADD Assignation (d'une fréquence ou d'un canal radioélectrique):
Autorisation donnée par une administration, à une station radioélectrique,
d'utiliser une fréquence ou un canal radioélectrique déterminé selon des
conditions spécifiées..
- ADD Assignment (of a radio frequency or radio frequency channel):
Authorization given by an Administration to a radio station to use a radio
frequency or radio frequency channel under prescribed conditions.
- ADD Assignación (de una frecuencia o de un canal radioeléctrico):
Autorización que da una administración a una estación radioeléctrica para que
utilice una frecuencia o un canal radioeléctrico determinado en condiciones
especificadas..

V. QUINTAS
Président du Groupe de travail 5A



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/165-E

2 November 1979

Original : English

WORKING GROUP 5A

DRAFT

EIGHTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1. The Working Group 5A presents its eighth Report to Committee 5. The texts adopted by the Group for the approval of Committee 5 are shown in the Annex.
2. The following comments are also brought to the notice of Committee 5.
 - 2.1 In the definition of the term feeder link, square brackets around the word "specified" have been on the insistence of the delegate of Canada, who would prefer that the definition does not contain this word.
 - 2.2 The footnotes No. 3099.1 and No. 3106.1 are identical. A view was expressed in the Working Group according to which, since Committee 5 in Document No. 284 has adopted provision No. 3446A, then footnotes were not necessary. If the Committee 5 decides to retain these footnotes, Committee 9 would have to be invited to see if only one footnote could be adequate.
 - 2.3 Committee 7, which is examining Article N30 (Amateur service and amateur-satellite service) should be informed that Working Group 5A / and Committee 5 / have adopted the terms : amateur service and amateur-satellite service for inclusion in Article N1.
 - 2.4 Argentina and Nigeria reserved their position on the definition of fixed-satellite service (3102/84AG). These two delegations preferred the definition to remain as presently found in the Radio Regulations.
 - 2.5 The delegate of Canada reserved the right to express his point of view in Committee 5 concerning the definition of the term "mobile-satellite service" (3115/84AGA).
3. The definitions of the following terms still remain to be examined by the Working Group :
 - Earth exploration service;
 - Meteorological aids service;
 - Radiosonde;
 - Radio astronomy;
 - Radio astronomy service; and
 - Radio astronomy station.



4. While examining the Working Group's third Report (Document No. 284), the Committee had returned provision No. 3423/133 (European Broadcasting Area) to the Group for re-examination. The revised text, adopted unanimously, is included in the Annex.

5. Considering that Committee 4 has already defined the term "permissible interference", Committee 6 should be invited to advise on the necessity of the phrase "or interference in excess of the permissible, whichever is the case" in No. 3442/148 (Document No. 284 refers).

V. QUINTAS
Chairman of Working Group 5A

Annex : 1

A N N E X

ARTICLE N1

- MOD 3079/36 Maritime Mobile Service : A mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations (see No. 3082/39A); survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.
- NOC **3090/84AF** *Space System*: Any group of co-operating earth and/or space stations employing space radiocommunication for specific purposes.
- NOC **3091/84AFA** *Satellite System*: A space system using one or more artificial earth satellites.
- NOC **3092/84AFB** *Satellite Network*: A satellite system or a part of a satellite system, consisting of only one satellite and the co-operating earth stations.
- MOD 3093/84AFC Satellite Link : A radio link between a transmitting Earth station and a receiving Earth station through one satellite.
- A satellite link comprises one up-path up-link and one down-path down-link.
- MOD **3094/84AFD** *Multi-Satellite Link*: A radio link between a transmitting earth station and a receiving earth station through two or more satellites, without any intermediate earth station.
- ADD 3094A *Feeder Link* : A radio link from an Earth station at a / specified / fixed point to a space station, or vice versa, conveying information for a satellite service other than the fixed-satellite service.
- NOC **3098/84AZ** *Space Tracking*: Determination of the orbit, velocity or instantaneous position of an object in space by means of radiodetermination, excluding primary radar, for the purpose of following the movement of the object.
- / NOC / **3099/84ATD** *Space Research Service*: A radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.
- ADD 3099.1 1) When the suffixes / "(Active)" or / "(Passive)" are used in Article N7/5 to qualify the allocation of a frequency band to this service, that allocation may be employed only for active or passive sensors in accordance with the suffix.

NOC **3100/84ATE** *Space Operation Service:* A radiocommunication service concerned exclusively with the operation of spacecraft, in particular tracking, telemetry and telecommand.

These functions will normally be provided within the service in which the space station is operating.

NOC **3101/84ATF** *Inter-Satellite Service:* A radiocommunication service providing links between artificial earth satellites.

MOD **3102/84AG** Fixed-Satellite Service : A radiocommunication service :
- between Earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the inter-satellite service : this service may also include feeder links for other satellite services (see ADD 3094A).

NOC **3103/84AP** *Broadcasting-Satellite Service:* A radiocommunication service in which signals transmitted or re-transmitted by space stations are intended for direct reception¹ by the general public.

NOC **3103.1/84AP.1** ¹ In the broadcasting-satellite service, the term "direct reception" shall encompass both individual reception and community reception.

NOC **3104/84APA** *Individual reception* (in the broadcasting-satellite service): The reception of emissions from a space station in the broadcasting-satellite service by simple domestic installations and in particular those possessing small antennae.

NOC **3105/84APB** *Community reception* (in the broadcasting-satellite service): The reception of emissions from a space station in the broadcasting-satellite service by receiving equipment, which in some cases may be complex and have antennae larger than those used for individual reception, and intended for use:

- by a group of the general public at one location; *or*
- through a distribution system covering a limited area.

MOD 3106/84A5A *Earth Exploration-Satellite Service:* A radiocommunication service between earth stations and one or more space stations in which:

- information relating to the characteristics of the Earth and its natural phenomena is obtained from active or passive sensors on Earth satellites;
- similar information is collected from air-borne or earth-based platforms;
- such information may be distributed to earth stations within the system concerned;
- platform interrogation may be included.

This service may also include feeder links necessary for its operation (see 3094A).

ADD 3106.1 1)When the suffixes /"(Active)" or /"(Passive)" are used in Article N7/5 to qualify the allocation of a frequency band to this service, that allocation may be employed only for active or passive sensors in accordance with the suffix.

NOC 3107/84AT *Meteorological-Satellite Service:* An earth exploration-satellite service for meteorological purposes.

NOC 3108/84ATA *Amateur-Satellite Service:* A radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service.

MOD 3109/84ATB Standard Frequency and Time Signal-Satellite Service :
A radiocommunication service using space stations on Earth satellites for the same purposes as those of the standard frequency and time signal service.

SUP 3110/84ATC Time Signal-Satellite Service :

MOD 3111/84APC Radiodetermination-Satellite Service : A radiocommunication service involving the use for the purpose of radiodetermination and involving the use of one or more space stations.

MOD 3112/84AQ Radionavigation-Satellite Service : A radiodetermination-satellite service used for the same purpose as the of radionavigation service; in certain cases this service includes transmission or retransmission of supplementary information necessary for the operation of radionavigation systems. This service may also include feeder links necessary for its operation. (See ADD 3094A.)

3113/84AQA See Document No. 382.

NOC 3114/84AQB **Maritime Radionavigation-Satellite Service:** A radionavigation-satellite service in which mobile earth stations are located on board ships.

MOD 3115/84AGA **Mobile-Satellite Service:** A radiocommunication service:

- between mobile earth stations and one or more space stations; or between space stations used by this service:
- or between mobile earth stations by means of one or more space stations:
- ~~and if the system so requires, for connection between these space stations and one or more earth stations at specified fixed points.~~

This service may also include feeder links necessary for its operation. (See ADD 3094A)

ADD Mobile Earth Station : An Earth station in the mobile-satellite service intended to be used while in motion or during halts at unspecified points.

NOC 3117/84AGC **Maritime Mobile-Satellite Service:** A mobile-satellite service in which mobile earth stations are located on board ships. Survival craft stations and emergency position indicating radiobeacon stations may also participate in this service.

NOC 3118/84AGCA **Ship Earth Station:** A mobile earth station in the maritime mobile-satellite service located on board ship.

ADD Coast Earth Station : An Earth station in the maritime mobile-satellite service or in the fixed-satellite service located at specified points on land for connection with space station in maritime mobile-satellite service.

NOC 3119 84AGD **Land Mobile-Satellite Service:** A mobile-satellite service in which mobile earth stations are located on land.

ADD Allocation (of a frequency band) : Entry in the Table of Frequency Allocations of these Radio Regulations of a given frequency band for the purpose of its use by one or more named radio services under specified conditions. This term shall also be applied to the frequency band concerned.

ADD

Allotment (of a radio frequency or radio frequency channel : Entry of a designated frequency channel in an agreed plan, adopted by a competent Conference, for use by one or more Administrations for a radiocommunications service in one or more identified countries or geographical areas and under specified conditions.

ARTICLE N7

MOD 3423/133

The "European Broadcasting Area" is bounded on the West by the Western Boundary of Region 1, on the East by the meridian 40° East of Greenwich and on the South by the parallel 30° North so as to include the western part of the USSR, the northern part of Saudi Arabia and the part of countries bordering the Mediterranean. In addition, Iraq and Jordan are included in the European Broadcasting Area.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/166-E

3 November 1979

Original : English

WORKING GROUP 4C

DRAFT

NOTE BY THE CHAIRMAN OF WORKING GROUP 4C

Working Group 4C has agreed on the following note, which it requests the Chairman of Committee 4 to transmit to the Chairman of Committee 5 :

"NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF COMMITTEE 5

Subject : Your request in Document No. 423

Committee 4 has considered the question whether the limitation to 50W mean power currently specified in footnote 3507/211 and applying to stations of the fixed service operated in the band 6 200 to 6 525 kHz allocated exclusively to the maritime mobile service is adequate. The conclusions given below are based on the following two considerations :

- possibility of sharing with the maritime mobile service in general, and
- possibility of sharing with the maritime mobile service on the carrier frequency 6 215.5 kHz (channel 606 : 6 215.5 to 6 218.6 kHz; see Appendices 15 Mar 2 and 17 Rev.) which is designated to supplement the carrier frequency 2 182 kHz for distress and safety purposes and for call and reply in the area specified in No. 6678/1351F (see also footnote 3508/211A).

Committee 4 concludes :

1. that a limitation to 50W mean power for fixed stations is, in general, adequate for sharing with the maritime mobile service in the band 6 200 to 6 525 kHz, but

2. that the operation of fixed stations in the band 6 215.5 to 6 218.6 kHz should be excluded in order to give improved protection to the carrier frequency 6 215.5 kHz the use of which relates to the safety of life at sea.

/ If Committee 4 were posed a similar question concerning footnote 3504/209 the answer would be in principle the same as given in 1. and 2. above. _7"

The USSR delegation questioned the competence of Committee 4 as regards the conclusions relating to the carrier frequency 6 215.5 kHz.

E. GEORGE
Chairman of Working group 4C



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/167(Rev.1)-E

5 November 1979

Original : Spanish

WORKING GROUP 5BA

DRAFT

THIRD REPORT BY WORKING GROUP 5BA to COMMITTEE 5

1. Frequency band 415 - 495 kHz, Regions 2 and 3

1.1 After considering all the proposals relating to this band, the Working Group decided to recommend the adoption of the revised Table [and new footnote 3479A] shown in Annex 1.

1.2 It was also decided that footnote 3479/186 should apply to this band.

1.3 The use of the band 490 - 495 kHz by the service to which this band is allocated is subject to the provisions of Resolution No. [in Annex 2 to Document No. 402] provision 3479B (Annex 1) was adopted for this purpose.]

1.4 The allocations in this band for Region 1 will be dealt with in a later report.

2. Frequency band 495 - 505 kHz

2.1 After considering all the proposals relating to this band, the Working Group unanimously decided to recommend the adoption of the revised Table shown in Annex 1.

2.2 It was also decided to keep footnote 3480/187 in the Table.

2.3 The entry into force of the new guard band shown in the Table is subject to the provisions of the Resolution in Annex 2 to Document No. 402.

3. Band 505 - 1 606.5 kHz (1 605 in Region 2)

3.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnotes 3478/185, 3478A, 3479/186, 3481/188, 3483/190, 3484/191 and 3484A in Annex 1. It was further decided to recommend the deletion of footnote 3482/189.

3.2 The use of the band 505 - 510 kHz by the services to which it is allocated is subject to the provisions of the Resolution in Annex 2 to Document No. 402. [Provision 3479B was adopted for this purpose (see Annex 1).]

3.3 The delegation of Japan reserved the right to raise in Committee 5 the question of the inclusion of new footnote 3484A.

3.4 The delegations of Spain, Qatar, Yugoslavia, United Kingdom and Zaire reserved the right to raise in Committee 5 the question of the allocations in the band 505 - 526.5 in Region 1.



4. Frequency band 2 170 - 2 194 kHz

4.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnote MOD 3494/201 in Annex 2. It was also decided to retain footnote 3495/201A unchanged.

4.2 The Indian delegation reserved the right to raise in Committee 5 the question of the allocations in these bands.

4.3 The Working Group also adopted a draft Resolution on the future use of the band 2 170 - 2 194 kHz (see Annex 3).

5. Frequency band 2 850 - 3 230 kHz and 3 400 - 3 500 kHz

5.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnote 3499A in Annex 4. It further decided that footnotes 3495/201A (see Annex 2) and 3500/205A (see Annex 4) should apply to the band 2 850 - 3 025 kHz and that footnote 3496/202 should apply in band 3 200 - 3 230 kHz to the broadcasting service (see Annex 4).

L. COOK
Chairman of Working Group 5BA

A N N E X 1

kHz
415 - 1 606,5 (1 605 Reg. 2)

Region 1	Region 2	Region 3
415 - 495	415 - 495 MARITIME MOBILE [3479/186] [3479B]	415 - 495 MARITIME MOBILE [3479/186] [3479A] [3479B]
495 - 505	MOBILE (Distress and calling) [3480/187]	
505 - 526.5 MARITIME MOBILE [3479/186] /AERONAUTICAL RADIONAVIGATION/ [3479B] 3478/185 3478A	505 - 510 MARITIME MOBILE [3479B] [3479/186]	505 - 526.5 MARITIME MOBILE [3479/186] /AERONAUTICAL RADIONAVIGATION/ Aeronautical mobile Land mobile [3479B]
	510 - 525 MOBILE AERONAUTICAL RADIONAVIGATION 3481/188	
	525 - 535 BROADCASTING 3484/191 AERONAUTICAL RADIONAVIGATION	526.5 - 535 BROADCASTING Mobile 3484A
526.5 - 1 606.5 BROADCASTING 3483/190	535 - 1 605 BROADCASTING	535 - 1 606.5 BROADCASTING

- MOD 3478/185 In the band 515.5 - 526.5 kHz, Austria may continue to operate only those broadcasting stations listed in the Additional Protocol III to the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975. This operation is allowed until the entry into force of a revision of the Geneva Plan, 1975 and subject to not causing harmful interference to the other services to which this band is allocated.
- ADD 3478A In the United Kingdom, the band 519.5 - 526.5 kHz is also allocated to the broadcasting service for the transmission of public utility information. Stations of this service shall not cause harmful interference to the other services to which the band is allocated.
- MOD 3479/186 The use of the bands 415 - 495 kHz and 505 - 526.5 kHz (505 - 510 kHz in Region 2) to the maritime mobile service is limited to radiotelegraphy.
- ADD 3479A Additional allocation : In Australia, in the departments and territories of France in Region 3, in China, Japan and Papua New Guinea, the band 415 - 526.5 kHz is also allocated, on a permitted basis, to the aeronautical radionavigation service.
- ADD 3479B The use of the bands 490 - 495 kHz and 505 - 510 kHz by the services to which this band is allocated is subject to the provisions of Resolution / No. / / See Annex 2 to Document No. 402. /
- NOC 3480/187 The frequency 500 kHz is the international distress and calling frequency for radiotelegraphy. The conditions for its use are prescribed in Article N35/32.
- (MOD) 3481/188 In Region 2, in the band 510 - 525 kHz, the Administrations which operate stations of the aeronautical radionavigation service shall take all the technical steps necessary to avoid harmful interference to the maritime mobile service.
- SUP 3482/189
- MOD 3483/190 Alternative allocation : In Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Republic of South Africa, Swaziland, Zambia and Zimbabwe, the band 526.5 - 535 kHz is allocated to the mobile service.
- MOD 3484/191 In Region 2 the carrier power of broadcasting stations in the band 525 - 535 kHz, shall not exceed 1 kW during the day and 250 W at night.
- ADD 3484A Additional allocation : In China, the band 526.5 - 535 kHz is also allocated, on a secondary basis, to the aeronautical radionavigation service.

A N N E X 2

kHz
2 170 - 2 194

Region 1	Region 2	Region 3
2 170 - 2 173.5	MARITIME MOBILE	
2 173.5 - 2 190.5	MOBILE (Distress and calling)	
	201 201A	
2 190.5 - 2 194	MARITIME MOBILE	

MOD 3494/201

The frequency 2 182 kHz is the international distress and calling frequency for radiotelephony. The conditions for the use of the band ~~2-170---2-194-kHz~~ 2 173.5 - 2 190.5 kHz are prescribed in Article N35/35 and N57.

NOC 3495/201A

The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, [121.5 MHz, 156.8 MHz and 243 MHz] may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of + 3 kHz about the frequency.

A N N E X 3

DRAFT RESOLUTION

Relating to the future use
of the band 2 170 - 2 194 kHz

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the frequency 2 182 kHz is the international, distress frequency for radiotelephony;
- b) that, except for transmissions authorized on the carrier frequency 2 182 kHz all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden;
- c) that, in Region 1, the adjacent bands 2 170 - 2 173.5 kHz and 2 190.5 - 2 194 kHz are used, respectively, by coast stations calling ship stations (including selective calling), and by ship stations calling coast stations;

noting

- a) that this Conference has amended the Table of Frequency Allocations in order to reduce the guardband around the frequency 2 182 kHz to plus-minus 8.5 kHz and has allocated the bands 2 170 - 2 173.5 and 2 190.5 - 2 194 kHz exclusively to the maritime mobile service on a world-wide basis;
- b) that a need now exists to replan the entire band 2 170 - 2 194 kHz and to review regulatory provisions, with particular reference to Articles N35 and N57;

resolves that the next competent World Administrative Radio Conference be invited

- a) to examine the allocations within the band 2 170 - 2 194 kHz;
- b) to review the relevant technical and operational parameters with a view to further reducing the guardband around the frequency 2 182 kHz;
- c) to develop any necessary regulatory provisions;
- d) to develop from these considerations plans for the implementation of any new arrangement, and
- e) to determine the date of coming into force of such plans and provisions;

requests the Secretary-General to send a copy of this Resolution to the Secretary-General of the Intergovernmental Maritime Consultative Organization for study by the competent body and for making recommendations;

invites Administrations to study this matter and to submit proposals for consideration by the next competent World Administrative Radio Conference.

A N N E X 4

kHz
2 850 - 3 230

Region 1	Region 2	Region 3
2 850 - 3 025	AERONAUTICAL MOBILE (R) 3495/201A 3500/205A	
3 025 - 3 155	AERONAUTICAL MOBILE (OR)	
3 155 - 3 200	FIXED MOBILE except aeronautical mobile (R) 3499A	
3 200 - 3 230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 3496/202	

kHz
3 400 - 3 500

3 400 - 3 500	AERONAUTICAL MOBILE (R)
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- NOC 3495/201A (See Annex 2).
- ADD 3499A Alternative allocation : In Belgium, Cyprus, Spain, Greece, Italy, Liberia, Malta, Norway, the Netherlands, the United Kingdom, Sweden and Yugoslavia, the band 3 155 - 3 200 kHz is allocated on a primary basis to the maritime mobile service and on a permitted basis to the fixed and land mobile services.
- MOD 3496/202 For the conditions of use of the bands 3 200 - 3 230 kHz, ... by the broadcasting service see Nos. 3425/135, 3426/136 and 6215/423 to 6221/428.
- NOC 3500/205A The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Nos. 6640/1326C and 6646/1353B respectively, by stations of the maritime mobile service engaged in coordinated search and rescue operations.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/167-E

3 November 1979

Original : Spanish

WORKING GROUP 5BA

DRAFT

THIRD REPORT BY WORKING GROUP 5BA to COMMITTEE 5

1. Frequency band 415 - 495 kHz, Regions 2 and 3

1.1 After considering all the proposals relating to this band, the Working Group adopted the revised Table / and new footnote 3479A / shown in Annex 1.

1.2 It was also decided that footnote 3479/186 should apply to this band.

1.3 The use of the band 490 - 495 kHz by the maritime mobile service is subject to the provisions of Resolution No. / in Annex 2 to Document No. 402 / provision 3479B (Annex 1) was adopted for this purpose. /

1.4 The allocations in this band for Region 1 will be dealt with in a later report.

2. Frequency band 495 - 505 kHz

2.1 After considering all the proposals relating to this band, the Working Group unanimously adopted the revised Table shown in Annex 1.

2.2 It was also decided to keep footnote 3480/187 in the Table.

2.3 The entry into force of the new guard band shown in the Table is subject to the provisions of the Resolution in Annex 2 to Document No. 402.

3. Band 505 - 1 606.5 kHz (1 605 in Region 2)

3.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnotes 3478/185, 3478A, 3479/186, 3481/188, 3483/190, 3484/191 and 3484A in Annex 1. It was further decided to recommend the deletion of footnote 3482/189.

3.2 The use of the band 505 - 510 kHz by the services to which it is allocated is subject to the provisions of the Resolution in Annex 2 to Document No. 402. / Provision 3479B was adopted for this purpose (see Annex 1). /

3.3 The delegation of Japan reserved the right to raise in Committee 5 the question of the inclusion of new footnote 3484A.

3.4 The delegations of Spain, Qatar, Yugoslavia, United Kingdom and Zaire reserved the right to raise in Committee 5 the question of the allocations in the band 505 - 526.5 in Region 1.



4. Frequency band 2 170 - 2 194 kHz

4.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnote MOD 3494/201 in Annex 2. It was also decided to retain footnote 3495/201A unchanged.

4.2 The Indian delegation reserved the right to raise in Committee 5 the question of the allocations in these bands.

4.3 The Working Group also adopted a draft Resolution on the future use of the band 2 170 - 2 194 kHz (see Annex 3).

5. Frequency band 2 850 - 3 230 kHz and 3 400 - 3 500 kHz

5.1 After considering all the proposals relating to this band, the Working Group decided to recommend to Committee 5 the adoption of the revised Table and footnote 3499A in Annex 4. It further decided that footnotes 3495/201A (see Annex 2) and 3500/205A (see Annex 4) should apply to the band 2 850 - 3 025 kHz and that footnote 3496/202 should apply in band 3 200 - 3 230 kHz to the broadcasting service (see Annex 4).

L. COOK
Chairman of Working Group 5BA

A N N E X 1

kHz

415 - 1 606.5 (1 605 Reg. 2)

Region 1	Region 2	Region 3
415 - 495	415 - 495 MARITIME MOBILE [3479/186] [3479B]	415 - 495 MARITIME MOBILE [3479/186] [3479A] [3479B]
495 - 505	MOBILE (distress and calling) [3480/187]	
505 - 526.5 MARITIME MOBILE [3479/186] /AERONAUTICAL RADIONAVIGATION/ [3479B] 3478/185 3478A	505 - 510 MARITIME MOBILE [3479B] [3479/186] 510 - 525 MOBILE AERONAUTICAL RADIONAVIGATION 3481/188 525 - 535 BROADCASTING 3484/191 Aeronautical radionavigation	505 - 526.5 MARITIME MOBILE [3479/186] /AERONAUTICAL RADIONAVIGATION/ Aeronautical mobile Land mobile [3479B]
526.5 - 1 606.5 BROADCASTING	526.5 - 535 BROADCASTING Mobile 3484A	526.5 - 535 BROADCASTING Mobile 3484A
3483/190	535 - 1 605 BROADCASTING	535 - 1 606.5 BROADCASTING

- MOD 3478/185 In the band 515.5 - 526.5 kHz, Austria may operate only the broadcasting stations mentioned in Additional Protocol III to the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975. Such operation is permissible until the entry into force of a revision of the Geneva, 1975, Plan and provided it does not cause harmful interference to the other services to which this band is allocated.
- ADD 3478A In the United Kingdom, the band 519.5 - 526.5 kHz is also allocated to the broadcasting service for the transmission of information useful to the general public. The stations of this service shall not cause harmful interference to the other services to which this band is allocated.
- MOD 3479/186 The allocation of the bands 415 - 495 kHz and 505 - 526.5 kHz (505 - 510 kHz in Region 2) to the maritime mobile service is limited to broadcasting.
- ADD 3479A Additional allocation : In Australia, in the departments and territories of France in Region 3, in China, Japan and Papua New Guinea, the band 415 - 526.5 kHz is also allocated, on a permitted basis, to the aeronautical radionavigation service.
- ADD 3479B The use of the bands 490 - 495 kHz and 505 - 510 kHz by the services to which this band is allocated is subject to the provisions of Resolution / No. / / See Annex 2 to Document No. 402. /
- (MOD) 3481/188 In Region 2, in the band 505 - 510 kHz, the Administrations which operate stations of the aeronautical radionavigation service shall take all the technical steps necessary to avoid harmful interference to the maritime mobile service.
- SUP 3482/189
- MOD 3483/190 Alternative allocation : In Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Republic of South Africa, Swaziland and Zambia, the band 526.5 - 535 kHz is allocated to the mobile service.
- MOD 3484/191 In Region 2 the carrier power of broadcasting stations in the band 525 - 535 kHz, shall not exceed 1 kW during the day and 250 W at night.
- ADD 3484A Additional allocation : In China, the band 526.5 - 535 kHz is also allocated, on a secondary basis, to the aeronautical radionavigation service.

A N N E X 2

kHz
2 170 - 2 194

Region 1	Region 2	Region 3
2 170 - 2 173.5	MARITIME MOBILE	
2 173.5 - 2 190.5	MOBILE (distress and calling)	
	201 201A	
2 190.5 - 2 194	MARITIME MOBILE	

MOD 3494/201 The frequency 2 182 kHz is the international distress and calling frequency for radiotelephony. The conditions for the use of the band ~~2-170---2-194-kHz~~ 2 173.5 - 2 190.5 kHz are prescribed in Article N35/35 and N57.

NOC 3495/201A The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, / 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of + 3 kHz about the frequency.

A N N E X 3

DRAFT RESOLUTION

Relating to the future use
of the band 2 170 - 2 194 kHz

The World Administrative Radio Conference (Geneva, 1979),

considering

- a) that the frequency 2 182 kHz is the international, distress frequency for radiotelephony;
- b) that, except for transmissions authorized on the carrier frequency 2 182 kHz all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden;
- c) that, in Region 1, the adjacent bands 2 170 - 2 173.5 kHz and 2 190.5 - 2 194 kHz are used, respectively, by coast stations calling ship stations (including selective calling), and by ship stations calling coast stations, also in certain countries for ship-station telephony;

noting

- a) that this Conference has reduced the guardband around the frequency 2 182 kHz to plus-minus 8.5 kHz and has allocated the bands 2 170 - 2 173.5 and 2 190.5 - 2 194 kHz exclusively to the maritime mobile service on a world-wide basis;
- b) that a need now exists to replan the entire band 2 170 - 2 194 kHz and to review regulatory provisions, with particular reference to Articles N35 and N57;

resolves that the next competent World Administrative Radio Conference be invited

- a) to examine the allocations within the band 2 170 - 2 194 kHz;
- b) to review the relevant technical and operational parameters with a view to further reducing the guardband around the frequency 2 182 kHz;
- c) to develop any necessary regulatory provisions;
- d) to develop from these considerations plans for the implementation of any new arrangement, and
- e) to determine the date of coming into force of such plans and provisions;

requests the Secretary-General to send a copy of this Resolution to the Secretary-General of the Intergovernmental Maritime Consultative Organization to study and to make recommendations;

invites Administrations to study this matter and to submit proposals for consideration by the next competent World Administrative Radio Conference.

A N N E X 4

kHz
2 850 - 3 230

Región 1	Region 2	Region 3
2 850 - 3 025	AERONAUTICAL MOBILE (R) 3495/201A 3500/205A	
3 025 - 3 155	AERONAUTICAL MOBILE (OR)	
3 155 - 3 200	FIXED MOBILE except aeronautical mobile (R) 3499A	
3 200 - 3 230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 3496/202	

kHz
3 400 - 3 500

3 400 - 3 500	AERONAUTICAL MOBILE (R)
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NOC 3495/201A

(See Annex 2).

ADD 3499A

Alternative allocation : In Belgium, Cyprus, Spain, Greece, Italy, Liberia, Malta, Norway, the Netherlands, the United Kingdom, Sweden and Yugoslavia, the band 3 155 - 3 200 kHz is allocated on a primary basis to the maritime mobile service and on a permitted basis to the fixed and land mobile services.

NOC 3496/202

For the conditions of use of the bands 3 200 - 3 230 kHz, by the broadcasting service see Nos. 3425/135, 3426/136 and 6215/423 to 6221/428.

NOC 3500/205A

The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Nos. 6640/1326C and 6646/1353B respectively, by stations of the maritime mobile service engaged in coordinated search and rescue operations.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/168-E
2 November 1979
Original : English

WORKING GROUP 5C

DRAFT

ELEVENTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands 401 - 406 MHz and 406 - 420 MHz

1. Working Group 5C considered all proposals to the bands 401 - 406 MHz and 406 - 420 MHz. It was agreed by a majority to recommend the revised Table appearing in the Annex to this Report to Committee 5 for adoption.
2. A majority decision was taken to allocate the fixed service on a primary basis in the band 401 - 406 MHz. Objections were raised and several delegations reserved their position on this decision. Others reserved their position only in so far as the bands 401 - 403 MHz were concerned.
3. Papua New Guinea reserved its right to come back to its proposal (which was not supported) concerning the EPIRBs in the band 406 - 406.1 MHz.

K. OLMS
Chairman of Working Group 5C

Annex



ANNEX401-406 M Hz
.....

REG. 1	REG. 2	REG. 3
401 - 402 3628A 3628C	FIXED SPACE OPERATION (Space-to-Earth) METEOROLOGICAL AIDS Meteorological-Satellite (Earth-to-space) Mobile except aeronautical mobile Earth Exploration-Satellite (Earth-to-space)	
402 - 403 3628A 3628B 3629/315 3628C	FIXED METEOROLOGICAL AIDS Earth exploration-satellite (Earth-to-space) Meteorological-satellite (Earth-to-space) Mobile except aeronautical mobile	
403 - 406 3628A 3629/315 3633A	FIXED METEOROLOGICAL AIDS Mobile except aeronautical mobile	
406 - 406.1 3634/317A 3635/317B	MOBILE-SATELLITE (Earth-to-space)	
406.1 - 410 3633A 3531/233B	FIXED MOBILE RADIO ASTRONOMY	
410 - 420	FIXED MOBILE except aeronautical mobile	

MOD 3531/233B

In making assignments to stations of other services to which the bands $\left[\begin{array}{c} \text{ } \\ \text{ } \end{array} \right]$, 406.1 - 410 MHz and $\left[\begin{array}{c} \text{ } \\ \text{ } \end{array} \right]$ MHz are allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N $\left[\begin{array}{c} \text{ } \\ \text{ } \end{array} \right]$).

SUP 3628/314

ADD 3628A

Different category of service: in Israel, Malaysia and Thailand, the allocation of the bands 401 - 406 MHz to the mobile, except aeronautical mobile, service is on a primary basis. Stations of the mobile service shall not cause harmful interference to, or claim protection from, stations operating in accordance with the Table.

ADD 3628B

Different category of service: in Australia and Papua New Guinea, the allocation of the band 402 - 403 MHz to the mobile, except aeronautical mobile, service is on a primary basis.

ADD 3628C

Stations in the fixed and mobile services in the band 401 - 403 MHz shall not cause harmful interference to, or claim protection from, the meteorological aids service.

MOD 3629/315

Alternative allocation: in France and the French Overseas Departments in Regions 2 and 3, the band 402 - 406 MHz is allocated to the meteorological aids service on a primary basis.

SUP 3630/315A

SUP 3631/315B

SUP 3632/315C

ADD 3633A

Additional allocation: in Canada, the bands 405.5 - 406 MHz and 406.1 - 410 MHz are also allocated to the mobile satellite service (Earth-to-space), except the aeronautical mobile satellite service, on a primary basis, subject to agreement obtained under the procedure set forth in Article N $\left[\begin{array}{c} \text{ } \\ \text{ } \end{array} \right]$.

SUP 3633/316

NOC 3634/317A

MOD 3635/317B

Additional allocation: in Australia, Bulgaria, Cameroon, Chile, Ethiopia, Hungary, India, Iran, Iraq, Kenya, Kuwait, Liechtenstein, Malaysia, Uganda, the Philippines, Poland, Syria, the German Democratic Republic, Rwanda, Singapore, Switzerland, Tanzania, Thailand, Czechoslovakia, the USSR and Yugoslavia, the band 406 - 406.1 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/169-E

5 November 1979

Original : English

WORKING GROUP 7B

DRAFT

THIRD REPORT OF THE CHAIRMAN OF WORKING GROUP 7B TO COMMITTEE 7

1. The terms and definitions set out in the Annex were unanimously adopted by the Working Group except for the comments mentioned in the following paragraphs. Committee 7 is invited to consider and adopt these texts.

2. There was considerable support for a proposal to delete the term "maintenance space telemetering" which appears as No. 3096/84AX of the present Regulations. It appears that the term is little used and its functions may be adequately covered by the terms "space telemetering" (3095/84AW) and "space operation service" (3100/84ATE). However, before taking a positive decision on this matter, it was requested that the opinion of Committee 5 (Working Group 5C) should be sought since a somewhat similar, though not identical, term is used at present as a supplementary description in relation to the frequency band 400.15 - 401 MHz.

3. The three terms 3021A, 3021B and 3021C were adopted as shown in the Annex for the English language only. A fourth term, 3021D "suppressed carrier single sideband transmissions" was adopted in principle, subject to clarification of the precise wording.

A small drafting group, to be convened by the delegate of the USSR, was set up to consider this last text in English and to clarify the text of the four related definitions in the other languages.

4. The term 3006A "class of emission" was also adopted in English subject to clarification of the French text by the drafting group referred to in the preceding paragraph.

A.L. WITHAM
Chairman of Working Group 7B

Annex : 1



A N N E X

MOD	3017/15	Telemetering Telemetry: The use of telecommunication for automatically indicating or recording measurements at a distance from the measuring instrument.
MOD	3018/16	Radiotelemetering-Radiotelemetry: Telemetering Telemetry by means of radio waves.
ADD	3018A	Telecommand : The use of telecommunication for the transmission of signals to initiate, modify or terminate functions of the equipment at a distance.
MOD	3095/84AW Spa	Telemetry telemetry Space Telemetering: The use of telemetering for the transmission from a space station of results of measurements made in a spacecraft, including those relating to the functioning of the spacecraft.
MOD	3096/84AX Spa	Telemetry telemetry intrinsic Maintenance Space Telemetering: Space telemetering relating exclusively to the electrical and mechanical condition of a spacecraft and its equipment together with the condition of the environment of the spacecraft.
NOC	3097/84AY Spa	Space Telecommand: The use of radiocommunication for the transmission of signals to a space station to initiate, modify or terminate functions of the equipment on a space object, including the space station.
NOC	3019/4	Simplex Operation: Operating method in which transmission is made possible alternately in each direction, for example, by means of manual control. ¹
NOC	3020/5	Duplex Operation: Operating method in which transmission is possible simultaneously in both directions. ¹
NOC	3021/6	Semi-duplex Operation: Operating method which is simplex at one end of the circuit and duplex at the other. ¹
NOC	3022/26	Tropospheric Scatter: The propagation of radio waves by scattering as a result of irregularities or discontinuities in the physical properties of the troposphere.
NOC	3023/27	Ionospheric Scatter: The propagation of radio waves by scattering as a result of irregularities or discontinuities in the ionization of the ionosphere.
ADD	3021A	Single-sideband transmission : An amplitude modulated transmission with one sideband.
ADD	3021B	Full carrier single-sideband transmission : A single-sideband transmission without suppression of the carrier.

3019.1 4.1
3020.1 5.1
3021.1 6.1

¹ In general, duplex and semi-duplex operation require two frequencies in radiocommunication: simplex may use either one or two.

ADD 3021C

Reduced carrier single-sideband transmission : A single-sideband transmission in which the degree of carrier suppression could enable it to be reconstituted and to be used for reception.

ADD 3006A

Class of emission : The set of characteristics of an emission, i.e. type of modulation, modulating signal, type of information to be transmitted, and also (if appropriate) any additional signal characteristics, designated by standard symbols.

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

SEVENTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Approval of draft reports and allocations in frequency bands
1 700 - 1 710 MHz and 17.7 - 19.7 GHz

The Working Group approved the ninth, tenth, eleventh, twelfth and thirteenth reports of Working Group 5D to Committee 5 with modifications.

The Working Group discussed the report of the Chairman of ad hoc Group 5D6 to Working Group 5D (DL/146) and decided to form Drafting Group 5D12, to summarize the proposals of the delegations of Australia and the United States of America and the proposals contained in Document No. DL/146, under Chairmanship of Mr. Houssin (F), from the delegations of the following countries : the Federal Republic of Germany, Argentina, Australia, Brazil, Canada, the United States of America, Italy, Japan, United Kingdom and the USSR.

1. Frequency band between 1 700 and 1 710 MHz

All proposals relating to this band were considered and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Frequency bands between 17.7 and 19.7 GHz

All proposals relating to these bands were considered and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

The delegation of the United States of America reserved the right to come back in Committee 5 to the allocation of passive services in the band 18.6 - 18.8 GHz.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

MHz
1 700 - 1 710

Region 1	Region 2	Region 3
1 700 - 1 710 FIXED METEOROLOGICAL-SATELLITE (Space-to-Earth) Mobile except aeronautical mobile 3650/324B 3679A 3701A	1 700 - 1 710 FIXED METEOROLOGICAL-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile 3701C 3650/324B 3679A 3701A	

ADD 3701C

Additional allocation : in India and Japan, the band 1 700 - 1 710 MHz is also allocated to the space research service on a primary basis.

MOD 3650/324B

Earth radio exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 1 460 - 470 MHz and 1 690 - ~~1 700~~ 1 710 MHz for space-to-Earth transmissions

on condition that no harmful interference is caused to stations operating in accordance with the Table.

ADD 3679A

In the bands 1 400 - 1 727 MHz, 1 101 - 120 GHz and 197 - 220 GHz 7, passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

ADD 3701A

In Brazil, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Guyana, India, Iran, Papua New Guinea, Tanzania and Venezuela the band 1 700 - 1 900 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed and land mobile services.

SUP 3701/354D

A N N E X 2

GHz
17.7 - 19.7

Region 1	Region 2	Region 3
17.7 - 18.6	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE 3799A	
18.6 - 18.8 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile Earth exploration- satellite (Passive) Space research (Passive)	18.6 - 18.8 EARTH EXPLORATION- SATELLITE (Passive) FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (Passive)	18.6 - 18.8 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile Earth exploration- satellite (Passive) Space research (Passive)
18.8 - 19.7	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE	

3799A

The frequency band ~~X~~18.1 to 18.3 GHz ~~X~~ is also allocated to the meteorological-satellite service (Space-to-Earth) on a primary basis and is limited for use by geostationary satellites only.

WORLD ADMINISTRATIVE
RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

SEVENTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Approval of draft reports and allocations in frequency bands
1 700 - 1 710 MHz and 17.7 - 19.7 GHz

The Working Group approved the ninth, tenth, eleventh, twelfth and thirteenth reports of Working Group 5D to Committee 5 with modifications.

The Working Group discussed the report of the Chairman of ad hoc Group 5D6 to Working Group 5D (DL/146) and decided to form Drafting Group 5D12, to summarize the proposals of the delegations of Australia and the United States of America and the proposals contained in Document No. DL/146, under Chairmanship of Mr. Houssin (F), from the delegations of the following countries : the Federal Republic of Germany, Argentina, Australia, Brazil, Canada, the United States of America, Italy, Japan, United Kingdom and the USSR.

1. Frequency band between 1 700 and 1 710 MHz

All proposals relating to this band were considered and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. Frequency bands between 17.7 and 19.7 GHz

All proposals relating to these bands were considered and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

The delegation of the United States of America reserved the right to come back in Committee 5 to the allocation of passive services in the band 18.6 - 18.8 GHz.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

MHz
1 700 - 1 710

Region 1	Region 2	Region 3
1 700 - 1 710 FIXED METEOROLOGICAL- SATELLITE (Space-to-Earth) Mobile except aeronautical mobile 3650/324B 3679A 3701A	1 700 - 1 710 FIXED METEOROLOGICAL-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile 3701AAA 3650/324B 3679A 3701A	

ADD 3701AAA

Additional allocation : In India and Japan, the band 1 700 - 1 710 MHz is also allocated to the space research service on a primary basis.

MOD 3650/324B

Earth radio exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 1 460 - 470 MHz and 1 690 - ~~1-700~~ 1 710 MHz for space-to-Earth transmissions

on condition that no harmful interference is caused to stations operating in accordance with the Table.

ADD 3679A

In the bands 1 400 - 1 727 MHz, 101 - 120 GHz, and 197 - 220 GHz, passive research is being conducted by some countries in a programme for the search for space signals of artificial origin.

ADD 3701A

In Brazil, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Guyana, India, Iran, Papua New Guinea, Tanzania and Venezuela the band 1 700 - 1 900 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed and land mobile services.

SUP 3701/354D

A N N E X 2

GHz
17.7 - 19.7

Region 1	Region 2	Region 3
17.7 - 18.6	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE 3799A	
18.6 - 18.8 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile Earth exploration- satellite (Passive) Space research (Passive)	18.6 - 18.8 EARTH EXPLORATION- SATELLITE (Passive) FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (Passive)	18.6 - 18.8 FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE except aeronautical mobile Earth exploration- satellite (Passive) Space research (Passive)
18.8 - 19.7	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE	

3799A

The frequency band $\overline{18.1 \text{ to } 18.3 \text{ GHz}}$ is also allocated to the meteorological-satellite service (Space-to-Earth) on a primary basis and is limited for use by geostationary satellites only.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

EIGHTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 19.7 and 22 GHz

1. Frequency bands between 19.7 and 22 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex.

2. The delegation of the United Kingdom reserved the right to come back to the allocations in the bands 19.7 - 21.2 GHz and to footnote MOD 3800/409E in Committee 5.

Dr. B.S. RAO
Chairman of Working Group 5D

Annex : 1



A N N E X

GHz
19.7 - 22

Region 1	Region 2	Region 3
19.7 - 20.2	FIXED-SATELLITE (Space-to-Earth) Mobile-satellite (Space-to-Earth) 3800M	
20.2 - 21.2	FIXED-SATELLITE (Space-to-Earth) MOBILE-SATELLITE (Space-to-Earth) Standard frequency-satellite (Space-to-Earth) 3800M	
21.2 - 21.4	EARTH EXPLORATION-SATELLITE (Passive) FIXED MOBILE SPACE RESEARCH (Passive)	
21.4 - 22	FIXED MOBILE	

ADD 3800M

Additional allocation : in Afghanistan, Algeria,
Saudi Arabia, Austria, Bahrain, Brazil, Cameroon, China, Congo,
the Republic of Korea, the United Arab Emirates, Gabon, India, Indonesia, Iran,
Iraq, Japan, Kuwait, Malaysia, Mali, Mauritania, Nepal, Pakistan, Qatar,
Singapore, Sudan, Chad and Thailand, 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.

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

EIGHTEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 19.7 and 22 GHz

1. Frequency bands between 19.7 and 22 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex.

2. The delegation of the United Kingdom reserved the right to come back to the allocations in the bands 19.7 - 21.2 GHz and to footnote MOD 3800/409E in Committee 5.

Dr. B.S. RAO
Chairman of Working Group 5D

Annex : 1



A N N E X

GHz
19.7 - 22

Region 1	Region 2	Region 3
19.7 - 20.2	FIXED-SATELLITE (Space-to-Earth) Mobile-satellite (Space-to-Earth) 3800/409E	
20.2 - 21.2	FIXED-SATELLITE (Space-to-Earth) MOBILE-SATELLITE (Space-to-Earth) Standard frequency-satellite (Space-to-Earth) 3800/409E	
21.2 - 21.4	EARTH EXPLORATION-SATELLITE (Passive) FIXED MOBILE SPACE RESEARCH (Passive)	
21.4 - 22	FIXED MOBILE	

MOD 3800/409E

Additional allocation : In Afghanistan, Algeria, Saudi Arabia, Austria, Bahrain, Brazil, Cameroon, China, Congo, Republic of Korea, United Arab Emirates, Gabon, India, Indonesia, Iran, Iraq, Japan, Kuwait, Malaysia, Mali, Mauritania, Nepal, Pakistan, Qatar, Singapore, Sudan, Chad and Thailand, the bands 19.7 - 21.2 GHz and 29.5 - 31 GHz are 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.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/172-E

5 November 1979

Original : English

WORKING GROUP 4B

DRAFT

FOURTH REPORT OF WORKING GROUP 4B TO COMMITTEE 4

Subject : Article 26

1. All proposals relating to this Article were examined and the Working Group agreed unanimously to recommend to Committee 4 that the revised text in the Annex be adopted.
2. Square brackets have been inserted around the names of the space services and specific frequency bands where these particulars depend on decisions in Committee 5. After that Committee has concluded its discussions, the appropriate services and frequency bands may then be inserted.
3. The additional footnote agreed for Article N25 to cover the possible limits concerned with inter-regional interference are also applicable to Nos. 6045, 6057, 6066 and 6078 in Article N26 and have therefore been included.

E.R. CRAIG
Chairman of Working Group 4B

Annex : 1



A N N E X

ARTICLE N26

**Space Radiocommunication Services sharing Frequency Bands
with Terrestrial Radiocommunication Services above 1 GHz**

Section I. Choice of Sites and Frequencies

- NOC **6037** 470E § 1. Sites and frequencies for earth stations, operating in frequency bands shared with equal rights between terrestrial radiocommunication and space radiocommunication services, shall be selected having regard to the relevant Recommendations of the C.C.I.R. with respect to geographical separation from terrestrial stations.
- Spa2

Section II. Power Limits

- NOC **6038** 470F § 2. (1) Earth stations.
- Spa2
- NOC **6039** 470G (2) The equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station operating in frequency bands between 1 and 15 GHz shall not exceed the following limits except as provided in Nos. **6044/470H** or **6042/470GC**:
- Spa2

+40 dBW in any 4 kHz band for $\theta \leq 0^\circ$

+40 + 3 θ dBW in any 4 kHz band for $0^\circ < \theta \leq 5^\circ$

where θ is the angle of elevation of the horizon viewed from the centre of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

- NOC **6040** 470GA (3) The equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station operating in frequency bands above 15 GHz shall not exceed the following limits except as provided in Nos. **6044/470H** or **6043/470GD**:
- Spa2

+64 dBW in any 1 MHz band for $\theta \leq 0^\circ$

+64 + 3 θ dBW in any 1 MHz band for $0^\circ < \theta \leq 5^\circ$

where θ is as defined in No. **6039/470G**.

- NOC **6041** 470GB (4) For angles of elevation of the horizon greater than 5° there shall be no restriction as to the equivalent isotropically radiated power transmitted by an earth station towards the horizon.
- Spa2

- NOC **6042** 470GC (5) As an exception to the limits given in No. **6039/470G**, the equivalent isotropically radiated power towards the horizon for an earth station in the space research service (deep-space) shall not exceed +55 dBW in any 4 kHz band.
- Spa2

CHAP. NVIII — RR N26-2

NOC **6043** 470GD (6) As an exception to the limits given in No. **6040/470GA**, the equivalent isotropically radiated power towards the horizon for an earth station in the space research service (deep-space) shall not exceed +79 dBW in any 1 MHz band.
Spa2

NOC **6044** 470H (7) The limits given in Nos. **6039/470G**, **6040/470GA**, **6042/470GC** and **6043/470GD**, as applicable, may be exceeded by not more than 10 dB. However, when the resulting co-ordination area extends into the territory of another country, such increase shall be subject to agreement by the administration of that country.
Spa2

[MOD] **6045** 470J (8) The limits given in No. **6039/470G** apply in the following frequency bands allocated to transmission by earth stations in the fixed-satellite service and earth exploration-satellite service, and in particular the meteorological-satellite service, where these bands are shared with equal rights with the fixed or mobile service:¹
Spa2

2 655 - 2 690 MHz (Regions 2 and 3)
4 400 - 4 700 MHz
5 800 - 5 850 MHz (for the countries mentioned in No. **3759/390**)
5 850 - 5 925 MHz (Regions 1 and 3)
5 925 - 6 425 MHz
7 900 - 7 975 MHz
7 975 - 8 025 MHz (for the countries mentioned in No. **3766/392H**)
8 025 - 8 400 MHz
10.95 - 11.20 GHz (Region 1)
12.50 - 12.75 GHz (Regions 2 and 3 and for the countries mentioned in No. **3788/405BD**)
14.175 - 14.300 GHz (for the countries mentioned in No. **3792/407**)
14.4 - 14.5 GHz

[MOD] **6046** 470JA (9) The limits given in No. **6040/470GA** apply in the following frequency band allocated to transmission by earth stations in the fixed-satellite service where this is shared with equal rights with the fixed or mobile service:
Spa2

[27.5 - 29.5 GHz]

ADD 6045.1 ¹ The equality of right to operate when a band of frequencies is allocated in different Regions to different services of the same category is established in 3282/117. Therefore limits concerned with inter-regional interference which may appear in CCIR Recommendations should, as far as practicable, be observed by Administrations.

Section III. Minimum Angle of Elevation

NOC 6047 470K § 3. (1) Earth stations.
Spa2

NOC **6048** 470L
Spa2

(2) Earth station antennae shall not be employed for transmission at elevation angles of less than 3° measured from the horizontal plane to the direction of maximum radiation, except when agreed to by administrations concerned or those whose services may be affected. In case of reception by an earth station, the above value shall be used for co-ordination purposes if the operating angle of elevation is less than that value.

NOC	6049 470LA Spa2	(3) As an exception to No. 6048/470L, earth station antennae in the space research service (near-earth) shall not be employed for transmission at elevation angles of less than 5°, and earth station antennae in the space research service (deep-space) shall not be employed for transmission at elevation angles of less than 10°, both angles being those measured from the horizontal plane to the direction of maximum radiation. In case of reception by an earth station, the above values shall be used for co-ordination purposes if the operating angle of elevation is less than those values.
-----	--------------------	---

Section IV. Limits of Power Flux Density from Space Stations

§ 4. (1) Power flux density limits between [1 690 MHz and 1 700 MHz]

, including emissions from a reflecting

MOD **6051 470NA** a) The power flux density at the Earth's surface produced by emissions from a
Spa2 space station or reflected from a passive satellite, for all conditions and for all
methods of modulation shall not exceed -133 dBW/m^2 in any 1.5 MHz
band. This limit relates to the power flux density which would be obtained
under assumed free-space propagation conditions.

6052 470NB
Spa2

b) The limit given in No. **6051/470NA** applies in the frequency band listed in No. **6053/470NC** which is allocated to transmission by space stations in the Earth exploration-satellite service and in particular the meteorological-satellite service where this band is shared with equal rights with the meteorological aids service.

[MOD] **6053 470NC** [1 690 - 1 700 MHz]
Spa2

[MOD]

6054 470ND
Spa2

(2) Power flux density limits between [1 670 MHz and 2 535 MHz]

, including emissions from a reflecting

MOD

6055 470NE
Spa2

a) The power flux density at the Earth's surface produced by emissions from a space station or reflected from a passive satellite, for all conditions and for all methods of modulation shall not exceed the following values:

—154 dBW/m² in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

—154 + 0.5 (δ - 5) dBW/m² in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane;

—144 dBW/m² in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.

NOC

6056 470NF
Spa2

b) The limits given in No. 6055/470NE apply in the frequency bands listed in No. 6057/470NG which are allocated to transmission by space stations in the following space radiocommunication services:

- earth exploration-satellite service and in particular meteorological-satellite service (space-to-Earth)
- space research service (space-to-Earth)
- fixed-satellite service (space-to-Earth)

where these bands are shared with equal rights with the fixed or mobile service:

6057 470NG
Spa2

1 670 - 1 690 MHz
1 690 - 1 700 MHz (for the countries mentioned in No. 3698/354A)
1 700 - 1 710 MHz
1 770 - 1 790 MHz (for the countries mentioned in No. 3704/356AA)
2 200 - 2 290 MHz
2 290 - 2 300 MHz
2 500 - 2 535 MHz

1

NOC

6058 470NGA
Spa2

c) The power flux density values given in No. 6055/470NE are derived on the basis of protecting the fixed service using line-of-sight techniques. Where a fixed service using tropospheric scatter operates in the bands listed in No. 6057/470NG and where there is insufficient frequency separation, there must be sufficient angular separation between the direction to the space station and the direction of maximum radiation of the antenna of the receiving station of the fixed service using tropospheric scatter to ensure that the interference power at the receiver input of the station of the fixed service does not exceed -168 dBW in any 4 kHz band.

ADD

6057.1

¹ See No. 6045.1

[MOD]	6059 470NH Spa2	(3) Power flux density limits between [2 500 MHz and 2 690 MHz]
NOC	6060 470NI Spa2	<p>a) The power flux density at the Earth's surface produced by emissions from a space station in the broadcasting-satellite service for all conditions and for all methods of modulation shall not exceed the following values:</p> <p>–152 dBW/m² in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;</p> <p>–152 + 0.75 (δ – 5) dBW/m² in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane:</p> <p>–137 dBW/m² in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.</p> <p>These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.</p>
[MOD]	6061 470NJ Spa2	<p>b) The limits given in No. 6060/470NI apply in the frequency band:</p> <p>[2 500 - 2 690 MHz]</p> <p>which is shared by the [broadcasting-satellite service with the fixed or mobile service.]</p>
NOC	6062 470NK Spa2	<p>c) The power flux density values given in No. 6060/470NI are derived on the basis of protecting the fixed service using line-of-sight techniques. Where a fixed service using tropospheric scatter operates in the band mentioned in No. 6061/470NJ and where there is insufficient frequency separation, there must be sufficient angular separation between the direction to the space station and the direction of maximum radiation of the antenna of the receiving station of the fixed service using tropospheric scatter to ensure that the interference power at the receiver input of the station of the fixed service does not exceed –168 dBW in any 4 kHz band.</p>

(4) Power flux density limits between [3 400 MHz and 7 750 MHz]

/ MOD / 6063 470NL
Spa2

, including emissions from a reflecting

MOD 6064 470NM
Spa2

- a) The power flux density at the Earth's surface produced by emissions from a space station ~~or reflected from a passive satellite~~, for all conditions and for all methods of modulation shall not exceed the following values:

—152 dBW/m² in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

—152 + 0.5 (δ – 5) dBW/m² in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane;

—142 dBW/m² in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.

/ MOD / 6065 470NN
Spa2

- b) The limits given in No. 6064/470NM apply in the frequency bands listed in No. 6066/470NO which are allocated to transmission by space stations in the following space radiocommunication services:

- fixed-satellite service (space-to-Earth)
- meteorological-satellite service (space-to-Earth)

where these bands are shared with equal rights with the fixed or mobile service:

/ MOD / 6066 470NO
Spa2

- 3 400 - 4 200 MHz
- 7 250 - 7 300 MHz (for the countries mentioned in No. 3765/392G)
- 7 300 - 7 750 MHz

(5) Power flux density limits between [8 025 MHz and 11.7 GHz]

/ MOD / 6067 470NP
Spa2

, including emissions from a reflecting

MOD 6068 470NQ
Spa2

- a) The power flux density at the Earth's surface produced by emissions from a space station ~~or reflected from a passive satellite~~, for all conditions and for all methods of modulation shall not exceed the following values:

—150 dBW/m² in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

—150 + 0.5 (δ – 5) dBW/m² in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane;

—140 dBW/m² in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.

/ MOD /	6069 470NR Spa2	<p>b) The limits given in No. 6068/470NQ apply in the frequency bands listed in No. 6070/470NS which are allocated to transmission by space stations in the following space radiocommunication services:</p> <div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> — earth exploration-satellite service (space-to-Earth) — space research service (space-to-Earth) — fixed-satellite service (space-to-Earth) </div> <p>where these bands are shared with equal rights with the fixed or mobile service:</p>
/ MOD /	6070 470NS Spa2	<div> <div>8 025 - 8 400 MHz</div> <div>8 400 - 8 500 MHz</div> <div>10.95 - 11.20 GHz</div> <div>11.45 - 11.70 GHz</div> </div>
/ MOD /	6071 470NT Spa2	<p>(6) Power flux density limits between <u>12.50 GHz and 12.75 GHz</u> <div style="border: 1px solid black; padding: 2px;">, including emissions from a reflecting</div></p>
MOD	6072 470NU Spa2	<p>a) The power flux density at the Earth's surface produced by emissions from a space station or reflected from a passive satellite, for all conditions and for all methods of modulation shall not exceed the following values:</p> <ul style="list-style-type: none"> —148 dBW/m² in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane; —148 + 0.5 (δ – 5) dBW/m² in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane; —138 dBW/m² in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane. <p>These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.</p>
/ MOD /	6073 470NV Spa2	<p>b) The limits given in No. 6072/470NU apply in the frequency band indicated in No. 6074/470NW which is allocated to the <u>fixed-satellite service</u> for transmission by space stations where this band is shared with equal rights with the fixed or mobile service:</p>
/ MOD /	6074 470NW Spa2	<div>12.50 - 12.75 GHz (Region 3 and for the countries mentioned in No. 3788/405BD).</div>
/ MOD /	6075 470NX Spa2	<p>(7) Power flux density limits between <u>17.7 GHz and 22.0 GHz</u> <div style="border: 1px solid black; padding: 2px;">, including emissions from a reflecting</div></p>
MOD	6076 470NY Spa2	<p>a) The power flux density at the Earth's surface produced by emissions from a space station or reflected from a passive satellite, for all conditions and for all methods of modulation shall not exceed the following values:</p> <ul style="list-style-type: none"> —115 dBW/m² in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane; —115 + 0.5 (δ – 5) dBW/m² in any 1 MHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane;

-105 dBW/m² in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux density which would be obtained under assumed free-space propagation conditions.

b) The limits given in No. 6076/470NY apply in the frequency bands listed in No. 6078/470NZA which are allocated to transmission by space stations in the following space radiocommunication services:

- fixed-satellite service (space-to-Earth)
- earth exploration-satellite service (space-to-Earth)

where these bands are shared with equal rights with the fixed or mobile service:

/MOD/ 6078 470NZA
Spa2

[17.7 - 19.7 GHz
21.2 - 22.0 GHz] 3

/MOD/ 6079 470NZA
Spa2

(8) The limits given in Nos. 6051/470NA, 6055/470NE, 6060/470NI, 6064/470NM, 6068/470NQ, 6072/470NU and 6076/470NY may be exceeded on the territory of any country the administration of which has so agreed.

ADD 6078.1 3 See No. 6045.1

ADD 6079E Power flux-density limits between
/ 38.5 GHz and 40.5 GHz.

ADD 6079F The power flux-density at the Earth's surface produced by emissions from a space station, including emissions from a reflecting satellite, for all conditions and for all methods of modulation shall not exceed the values given in 6076.¹⁾

ADD 6079F.1 The provisions of 6079F shall apply until such time as the CCIR has made a Recommendation as to the values of power flux-density limit which should apply in the frequency band specified in 6079H, at which time all systems shall meet those power flux-density limits recommended by CCIR.

ADD 6079G The limits given in 6079F apply in the frequency band given in 6079H which is allocated to transmission by space stations in the / fixed-satellite service / where this band is shared with equal rights with the fixed or mobile services.

ADD 6079H / 38.5 - 40.5 GHz /

6080
to
6104 NOT allocated.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/173-E

5 November 1979

Original : French

English

Spanish

WORKING GROUP 6A

WORKING GROUP 6A3

Note by the Chairman of Working Group 6A

IFRB Circular-letter No. 411 dated 27 April 1978, entitled

"Meeting of Experts to assist the IFRB in the study of possible changes to the provisions of Appendices 1, 1A and 1B to the Radio Regulations in relation to the use of computer methods in notification and recording procedures"

is reproduced in the attached Annex for ease of reference and possible assistance in the work being conducted by Working Group 6A3.

J.K. BJÖRNSJÖ

Chairman of Working Group 6A

Annex : 1





INTERNATIONAL
FREQUENCY REGISTRATION BOARD
I.F.R.B.

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27 April 1978

I.F.R.B. Circular-letter No. 411

Subject : Meeting of Experts to assist the I.F.R.B. in the study of possible changes to the provisions of Appendices 1, 1A and 1B to the Radio Regulations in relation to the use of computer methods in notification and recording procedures

Reference : I.F.R.B. Circular-letter No. 394 dated 19 September 1977

To the Director-General

Dear Sir,

On behalf of the International Frequency Registration Board, I wish to inform you of the results of the above Meeting of Experts.

2. It will be recalled that the Administrative Council, in its Resolution No. 737 (1974), decided that a study should be undertaken relating to the operation of the I.T.U. Secretariats from the point of view of organization and methods. Experts from Canada, the Federal Republic of Germany and Sweden studied this question from November 1974 to March 1975 and their Report is contained in Administrative Council document No. 4858.

3. The Report contained a recommendation concerning the I.F.R.B. Specialized Secretariat to the effect that a study should be made of increased use of the computer with a view to eliminating to a large extent routine work and minimising manual processing within the framework of the existing Radio Regulations.

4. In this connection, the Report contained, among others:

- proposals No. 28 and No. 30, relating to the reorganization of the International Frequency Registration Board Specialized Secretariat from four departments into two (now named Regulatory Department and Engineering Department) by the merging of the Common Affairs Department with the Notification Department and the merging of the Planning and Technical Departments;

./...

Prière d'adresser toute correspondance officielle à
Please address all official correspondence to
Toda correspondencia oficial debe dirigirse a

Monsieur le Président de l'I.F.R.B.
The Chairman of the I.F.R.B.
Señor Presidente de la I.F.R.B.
Union internationale des télécommunications
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Suisse - Switzerland - Suiza

- proposal No. 25, relating to the computerization of notification processing routines in the Notification Department of the I.F.R.B.;
- proposal No. 26, relating to the computerization of administrative routines in the Technical Department of the I.F.R.B.

5. The reorganization pursuant to proposals No. 28 and No. 30 was implemented during 1976 and 1977.

6. With respect to proposal No. 26, decisions have been taken by the Council to provide the I.F.R.B. with the necessary computer facilities with a view to reviewing the computer programmes and procedures used in the technical examination. Concerning proposal No. 25, a proposal resulted from the Administrative Council study of the Report, as follows:

"to...

initiate an analysis with the purpose to carry out as much of the notification processing routine as economically possible by means of data processing techniques. The development should be started as soon as possible to provide a clear picture of the decisions which the General Radio Conference in 1979 should adopt in order to ensure satisfactory efficiency in the processing of notices."

7. In relation to the suggestion made in the Report that a Meeting of Experts should be convened to assist the I.F.R.B. in carrying out the necessary studies, the I.F.R.B. commented that:

- the group should be made up of experts, from Administrations, experienced in regulatory procedures (Articles 9, 9A and 10), frequency management by conventional means and/or frequency management by computer;
- the findings of this group should be available in time to enable Administrations to prepare their proposals for the 1979 Conference.

8. Resulting from discussions during the session in 1977, the Administrative Council called for experts from the Member countries represented in Council to assist the I.F.R.B. in a meeting having "a duration of about four weeks, the work being restricted to Appendices 1, 1A and 1B".

9. The experts designated by the Administrations of the Federal Republic of Germany, the United Kingdom and the United States of America have worked together with the I.F.R.B. from 31 October to 26 November 1977. Experts designated by the Administration of Iran joined this group.

10. At the end of their work the experts presented the Board with a communication embodying all the areas which they had considered it necessary to examine with a view to making constructive suggestions. Consequently, this communication is not limited to the contents of Appendices 1 and 1A but covers also a possible restructuring of the portions of Articles 9 and 9A of the Radio

./...

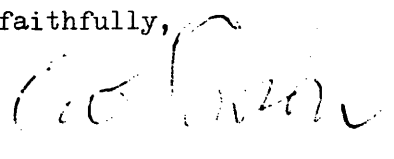
Regulations dealing with coordination procedures and contained in the new Article N11 (see the proposals for the Rearrangement of the Radio Regulations endorsed in principle by the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, by Resolution No. Sat-10); the experts have in fact considered that such a restructuring would be useful for a possible revision of Appendices 1A and 1B or of any other equivalent Appendix. In addition, the communication by the experts contains suggestions on a possible consequential revision of the columns in List I - International Frequency List (Appendix 9 to the Radio Regulations).

11. The communication by the experts covers:

- Review of Appendix 1 to the Radio Regulations;
- Contents of Notices relating to coordination or notification for Space Services;
- Standard numbering of characteristics, Standard Form of Notification and the future of the International Frequency List;
- Recommendations relating to applications of automatic data processing in the notification process;
- Structural consolidation of the texts of the advance publication, updating of Plans, coordination and notification procedures in relation to Appendices 1, 1A and 1B;
- Other actions to facilitate automation in the I.F.R.B.

12. In conclusion, as the views of the I.F.R.B. are generally in line with those of the experts on fundamental issues and, in the interests of economy, the I.F.R.B. has decided not to issue a separate report and to comment on the communication by the experts in the form of footnotes where necessary and appropriate. The resultant document is reproduced in the Annex to the present circular-letter.

Yours faithfully,


C.W. Sowton
Chairman

Annex

COMITE INTERNATIONAL
D'ENREGISTREMENT DES FREQUENCES
I.F.R.B.



JUNTA INTERNACIONAL
DE REGISTRO DE FRECUENCIAS
I.F.R.B.

INTERNATIONAL
FREQUENCY REGISTRATION BOARD
I.F.R.B.

TO MEMBERS OF THE BOARD

22 November 1977

MEETING OF EXPERTS WITH THE BOARD

1. Because of the limited time available, it has not been possible either to explore fully all the ideas and suggestions raised in discussion, to prove their feasibility, or to prepare a report which could have been agreed by the Board and the experts for distribution to Administrations as a report on the results of the Meeting. However, in order to preserve for future consideration some of the useful ideas that have come out of the Meeting and at the same time to leave the Board entirely free to prepare its own report for Administrations, we have thought it better to submit to the Board our report on the outcome.

2. In so doing, we wish to acknowledge with gratitude the assistance given throughout the series of meetings extending over a period of four weeks by Mr. A. Berrada, the Member of the Board who chaired the meetings, and by all those members of the staff of the I.F.R.B. who contributed so freely and ably to the discussions.

D. Schmeling *A.M. Corrado* *M.P. Davies*
L.P. Petak

D. Schmeling
Federal Republic of Germany

A.M. Corrado
L.P. Petak
United States of America

M.P. Davies
United Kingdom

	<u>Contents</u>	<u>Page</u>
SECTION I	- Review of Appendix 1 to the Radio Regulations (Terrestrial Services only)	2
SECTION II	- Contents of notices relating to coordination or notification for Space Services	17
SECTION III	- Standard numbering of characteristics; standard Form of Notification and the future of the International Frequency List	26
SECTION IV	- Recommendations relating to applications of automatic data processing in the notification process	32
SECTION V	- Structural consolidation of the texts of the advance publication, up-dating of Plans, coordination and notification procedures in relation to Appendices 1, 1A and 1B	42
SECTION VI	- Other actions to facilitate automation in the I.F.R.B.	53

SECTION I

REVIEW OF APPENDIX 1 TO THE RADIO REGULATIONS
(Terrestrial Services Only)*)

1. Meetings with the Board and their Staff, together with a review of a discussion paper by the Board and some of the ideas therein, have helped focus attention on those areas of work in which the Board could probably make most progress towards satisfying the Administrative Council on Proposals 25 and 26 of the O & M Experts' Report. This work, if pursued to conclusions, could also lay a firm foundation for action by the WARC 1979, whose acceptance of the conclusions would in any event be a pre-requisite to their implementation.
2. To re-state the objectives suggested for the Meeting, in reviewing the contents and structure of Appendices 1, 1A and 1B, the aim should be:
 - a) To eliminate obsolete items;
 - b) To eliminate unnecessary redundancy between items;
 - c) To add essential new items;
 - d) To satisfy essential engineering requirements;
 - e) To ensure suitability for automatic data processing;
 - f) To simplify the texts wherever possible;
 - g) To re-structure - if this will further promote understanding.
3. Against this background, three further aims have to be borne in mind in view of the consequential effects of making significant changes. These are:
 - a) To make minimum essential changes;
 - b) To consider always the end product of List I (the I.F.L.);
 - c) To seek to satisfy the aim of minimizing the manual handling of notices by the I.F.R.B., consistent with the Board's obligations to administrations under the Radio Regulations.
4. With these aims in mind, some of which are of course mutually conflicting, it is evident that much of the uncertainty and misunderstanding (which imposes upon the Board an excessive workload in manually checking and trying to "improve" notices) could be resolved by adopting a new standard list of items (characteristics) which are required in notices sent to the Board relating to terrestrial services, regardless of whether the notices are acts of "notification" or "co-ordination".***) In pursuit of this idea the list at Annex 1 is suggested as the source for all items specified in Appendix 1, Section A (relating to No. 486), Section B (relating to No. 487), Section C (relating to No. 490) and a new Section D (relating to notices concerning radio astronomy - at present found in Appendix 1A, Section F). A check-list of existing items in Appendix 1 and Appendix 1A, Section F is given at Annex 2.

*) I.F.R.B. Comment No. 1 - Although Section I is entitled "Review of Appendix 1 to the Radio Regulations (Terrestrial Services Only)", it is to be noted that the contents in part cover all Terrestrial and Space Radiocommunication Services.

**) I.F.R.B. Comment No. 2 - The Board has reservations on the suggested use of the same Frequency Assignment Standard Notice Form for the act of co-ordination or for bringing a Plan up to date as well as for the act of notification for recording in the Master Register. The Board would prefer to retain the present terminology where the "Notice" is used exclusively for the act of notification for recording in the Master Register. The act of co-ordination is an act between Administrations concerned; while it is recognized that a minimum amount of information is mandatory, additional information and the form of presenting the information should be left to the choice of Administrations. Moreover, in the case of co-ordination under RR 639AJ, for example, the information required for co-ordination may cover four sections of Appendix 1A while the procedure for notification for recording involves only one section at a time.

5. Before considering in detail the items included in this list, and those that have been omitted from it, there are several other essential changes to notices that must be dealt with. Every notice sent to the Board should contain in its heading the following items of information:*)

- a) The identity of the administration submitting the notice: this should be given in the form of the three letter code from Table No. 1 of the Preface to the I.F.L.;
- b) An identifier to show whether it relates to a terrestrial or a space assignment, by using a new standard abbreviation, e.g. "T" or "S";
- c) An identifier to show whether it relates to a transmit ("E") or receive ("R") assignment. The submission to and acceptance by the Board of receive assignments has, over the years, been extended and may well increase further. Thus this preliminary transmit/receive identification would be essential;
- d) An identifier to show whether the notice relates to an entirely new assignment, to modifications ¹⁾ to an existing recorded assignment (in the I.F.L.) or to a deletion ²⁾ of an existing recorded assignment. Further, since a proportion of notices returned by the Board to the originating administrations are resubmitted, and since it is essential to identify these very early in their processing, an additional identifier is required. The composite effects of these suggested changes would be to introduce a set of identifying abbreviations, thus:
"NEW - MOD - DEL - RES" in the heading of notices;
- e) Finally, notices must indicate whether they relate to acts of "notification" or "co-ordination" using possibly symbols "N" or "C".**)

Note 1: Modifications: A change in an existing assignment (not such as to increase its potential for interference which might change the Board's finding thereon) but such as to reduce its potential for interference could result in up-grading the Board's findings for other recorded assignments. An obligatory system of re-examination will be necessary, requiring Regulatory authorization that goes beyond the provisions of No. 612, but still leaving to the Board their discretion to review findings in accordance with, for example, No. 612.

Note 2: Deletions: The same applies even more so in the case of deletions, but in both cases a standard means of uniquely identifying existing recorded assignments is required, e.g. specifying a minimum essential set of characteristics or introducing a unique identifying number for each recorded assignment that could be published in the I.F.L. and used in all correspondence.

*) I.F.R.B. Comment No. 3 - It should be noted that sub-paras. 5a) - 5e) inclusive may be understood as applying to all Services (Terrestrial and Space Radiocommunication).

**) I.F.R.B. Comment No. 4 - Need for identifiers "C" for "co-ordination" or "N" for "notification", see I.F.R.B. Comment No. 2.

6. The cumulative value of the suggestions above is that in the efforts of the Board to improve their use of the I.T.U. computer they could, given the identifiers suggested for the heading of every notice, automatically identify and sort (without human intervention) notices in the following ways:

- a) By submitting administration;
- b) By terrestrial (including radio astronomy) or space;
- c) By transmit or receive;
- d) By new or modification or deletion or resubmission;
- e) By notification or co-ordination.

7. The concept of basic characteristics in notices has proved useful in determining what is and what is not essential in preparing a "complete" notice for the Board, and the penalty for omitting a basic characteristic is that the notice is "incomplete" and cannot as a general rule be handled by the Board. Investigation confirmed that this concept remains vital to the discharge of the Board's functions and must be retained.

8. Considering next the items ¹⁾ (characteristics) that at present are included in Appendix 1 but have been omitted from the composite list at Annex 1 to the Section, each is discussed below:

a. Column 5b - Length of Circuit

In most cases this item appears to be redundant. The data is often not given, and when given, is too often inaccurate. In any case, to ensure accuracy, where necessary the Board prefers to derive the figure for its own purposes. This is a good practice and needs reinforcement by increasing the "terminal" data in new notices. Thus, the item could be removed. If it is argued that in some cases the path-length is an important element of interference calculations, it is true, however this will usually arise between administrations engaged in an act of co-ordination, and there is no need to retain this item of information in Appendix 1 or in the I.F.L. In a very few cases relating to tropospheric scatter propagation, where the length of circuit is essential to the Board's functions, it can be derived from other information in the notice. Column 5b of the I.F.L. would then be open for other purposes.*)

b. Column 11 - Megacycle Order

Investigation confirmed that this is an obsolete item and should be abandoned. This column of the I.F.L. would then be open for other purposes, and bearing in mind the need to separate out some of the contents of the composite Column 13, Column 11 could be used for co-ordination under Article 9 in appropriate cases.

Note 1: Each of the items is identified by the column of the I.F.L. in which it appears today. This has been shown, in discussion, to be the simplest way of relating any changes suggested in Appendix 1 to Appendix 9 and thus to List I, i.e. the International Frequency List.

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*) I.F.R.B. Comment No. 5 - The "length of circuit"/"service range" is a basic characteristic for assignments to stations in the Mobile Service. These items are considered in sub-paras. 9e to 9k hereafter.

9. Against the background discussions above, each of the items (characteristics) included in the list at Annex 1 to this Section is discussed below ¹⁾. It is again important to note that each item is identified by the column of the I.F.L. in which it would appear:

a. Column 1a - Assigned Frequency

This is a basic characteristic in all notices, ²⁾ omission of which must render a notice incomplete. In the absence of an I.F.L. register number to identify each entry, this item would be one of the three or four that would be required to uniquely identify any entry. This set of items will be essential in notices concerning modification to or complete deletions of existing recorded assignments.

b. Column 1b - Assigned Frequency Band

1. This is a newly proposed item to be regarded as a basic characteristic in notices above 28 MHz. Hitherto the I.F.L. has not shown this piece of information although the I.F.R.B. derives and uses it. The concept of identifying the spectral location and width of an assignment by means of the assigned frequency and the assigned frequency band symmetrically disposed about the assigned frequency is, although simplistic, a valuable one which should be preserved and thus it needs the addition of this item in notices and in the I.F.L. The term "assigned frequency band" is of course defined in No. 89, although this makes use of another term defined in No. 91 and this in turn uses a third term defined in No. 90.

Note 1: The question of Appendix 2 has not been addressed since it relates only to the Article 10 procedure for HF broadcasting in that service's exclusive bands between 5950 and 26,100 kHz and because we have doubts over the competence of the WARC 1979 to consider a single-service matter. In any event the function of Appendix 2 is so far different from that of Appendix 1 that there is little point in trying to embody it in a new Appendix 1.

Note 2: The only possible case of difficulty that can be foreseen over "assigned frequency" is that of a notice concerning radio astronomy, but here the rule has already been adequately defined in the existing Appendix 1A, Section F, Item 1, namely, to give in lieu of "assigned frequency" the centre of the observed frequency band.

2. Having discussed "reference frequency" as an alternative to the "assigned frequency band", the latter is preferable, and later a refinement is proposed to the work of C.C.I.R. IWP 1/1 to positively indicate in asymmetric emissions whether the upper or lower sideband is used. In any event, given the above additional items of data the Board would - in its functions under the Radio Regulations - have no use for reference frequency.*)

3. Notices concerning TV assignments for video and sound channels separately should show in Column 6 the symbols TS or TV from Appendix 10, thus in these cases there should be no need to give a reference frequency. An alternative line of action in such cases would be, where a TV channel is taken into use in accordance with a Plan, simply to give the identity of that Plan and the channel number in Column 13a. But this must be left to a conference decision.**)

*) I.F.R.B. Comment No. 6 - The assigned frequency band cannot be considered as an alternative to the reference frequency. The Board finds that the notification of the reference frequency (carrier frequency) is essential, in particular for single-sideband emission (e.g. see RR 444A and RR 445A), independent sideband emissions and vestigial sideband emissions (BT TV), (see I.F.R.B. Comment No. 13).

**) I.F.R.B. Comment No. 7 - BT TV and BT TS assignments: at present, for assignments to stations in Regions 2 and 3, the Board makes one recording in the Master Register on the assigned frequency, while for assignments to stations in Region 1, consequential to Appendix 1, Section E, paragraph 4, the Board makes two separate entries, one for BT TV and another for BT TS each with a cross-reference to the carrier frequency of related TS or TV emission as the case may be. The Board would prefer provisions common to all three Regions, i.e. one notice (and consequently one entry in the Master Register and the IFL) on the assigned frequency of the total occupied bandwidth with the carrier frequencies for TV and TS shown in either a new Column 1b or in the Remarks Column.

c. Column 2c - Date of Putting into Use

This is a basic characteristic in every notice, omission of which must render a notice incomplete.

d. Column 3 - Callsign (Identification)

Above 28 MHz this item is unnecessary, and in many cases it cannot be given; the same MAY apply to many other cases below 28 MHz, however, administrations for their own purposes (e.g. licensing, recording, monitoring and resolution of cases of interference) find callsigns so valuable that they will probably wish to retain them, even in selected notices to the Board. While callsigns are not of value in the Board's functions, their retention or otherwise in Appendix 1 is thus open to question. They cannot therefore be regarded as a basic characteristic, and certainly their omission from a notice cannot render it incomplete. If any change was to be made there would be a need for a consequential change to Article 19; No. 735 (even including 735.1) has long needed up-dating, and use could be made of a formula on the lines of: "If in the operation of a station a callsign is normally employed it should be given in Column 3. The inclusion of this information is at the discretion of the notifying administration".

e. Columns 4 and 5 - Transmitter/Receiver Station/Site/Area data

General Comment

With the suggested identifier "E" or "R" to be applied to each notice, and with the Board having increasing cases of "R" notices to process, there is a fundamental requirement for harmony and reciprocity of information given in Columns 4 and 5. By this it is meant that in the case of an "E" notice demanding inclusion of transmitter station/site/area data, that of the corresponding receiver site (in appropriate cases) should also be given; while in the case of an "R" notice demanding the inclusion of receiving station/site/area data, that of the corresponding transmitter site should also be given. This approach, and the need to formalize and limit the means of expressing areas of use, have been followed as guides in the comments below on these columns.

f. Column 4a - Name of the Transmitting Station

This is a basic characteristic in three cases: first is the classical case of an "E" notice concerning a single transmit point under No. 486 where the Board protects existing receive assignments; second is the case of an "R" notice concerning a land or coast station receiving transmissions from mobiles under No. 487 where the Board seeks to protect land station reception and an "R" is shown in this column (to avoid ambiguity with "R" in the heading of the notice an "M", for mobiles, should be introduced here to replace "R"); third is the case of an "E" notice concerning typical mobile station transmissions (above 28 MHz) under No. 490, which the Board examines only in respect of its conformity with No. 501. In the first case give the station name, in the second place an "M" in lieu of "R" as hitherto, and in the third give the generic name of the mobile system and quote 490.

g. Column 4b - Country^{*)} in Which the Station(s) is (are) Located

This is a basic characteristic in three cases: first is the case of a single transmitter under No. 486; second is an 'R' notice concerning a land station with mobiles under No. 487, if all the mobiles are in the same country. In both cases the country designator can be used. But if under No. 487 the mobiles operate outside the limits of one country then the area concerned must be defined in 4c and/or 4d. The same problem arises in the third case of mobiles under No. 490.

h. Column 4c - Longitude and Latitude of the Antenna Site(s)

1. Concerning the position to be given, since in many cases stations (particularly at HF) employ antenna farms which may be some distance from the station site itself, that the antenna site location should be specified.

2. Concerning a suggestion that location data should be given not in degrees and minutes of arc but in degrees to the second decimal place, since virtually all maps and charts (regardless of their projection) are calibrated in degrees and minutes of arc, and since the world is thoroughly conversant with degrees and minutes of arc, this system should continue. The computer requirement for decimalisation of this data can in any event be met by conversion programmes and would in this way avoid a difficult - and largely unnecessary - transition between the old and the new.

3. Concerning the means of expressing areas, it is possible to be too flexible and thus generate uncertainty but at the same time some flexibility is needed to cater for the foreseeable cases. Increasing computerisation requires new rules for designating areas, possibly on the following lines:

- a. By reference in 4d to a country designator (using the three letter code of Table No. 1 of the Preface to the I.F.L.);
- b. By reference in 4d to an area that has been precisely and formally defined in one of the documents of the I.T.U., e.g. MWARA____, RDARA____, VOLMET____, CIRAF____, MARITIME ZONE____ etc.;
- c. By reference to a nominal circular service area, the centre of which would be given in 4c and the radius in km in 4d;
- d. Possibly, also by reference in 4d to an area solely of national concern which has been defined in terms of a polygon of 'x' (perhaps a maximum of 6) points and previously notified to the Board for permanent inclusion in their library of areas (which would of course be open to all).

i. Column 4d - Area(s) of Transmission

This is a basic characteristic that has been discussed above. One point, however, it is essential that only one area of transmission should be given in a single notice - more than two areas would require individual notices for each.

*) I.F.R.B. Comment No. 8 - This is understood to mean "Country or geographical area", see Table No. 1 of the Preface to the International Frequency List.

j. Column 5a - Name(s) of the Receiving Station(s)

This is a basic characteristic. In the case of a fixed station under No. 486 the names of receiving stations must be specified for future consideration by the Board in relation to subsequent notices. However, considerations of space available suggest that a number (perhaps 6) be specified as the maximum to be given on a single notice. In a case that exceeds six receiving stations, area definition would probably be more descriptive of the situation, particularly when such areas lie in different azimuthal directions from the transmit location. In the case of a single receiving site under No. 487, where an 'R' (or 'M' as now suggested) has been given in Column 4a, the name of that site must be given. In the case of No. 490, for which only an 'E' notice can be sent, the receiving site or area (only one area per notice) should be given.

k. Column 5b - Country^{*)} in which the Station(s) is (are) Located
Column 5c - Longitude and Latitude of the Antenna Site(s)
Column 5d - Area(s) of Reception

These are in a general sense the reciprocal of the items contained in Columns 4b, c and d and do not at this stage require further elaboration.

l. Column 6 - Class of Station and Nature of Service

This is a basic requirement and it is one requiring some attention, following two related lines of action:

- a. A logical structuring and some expansion of the symbols contained in this column which are to be found in Appendix 10. This Appendix, apparently intended mainly for use in service documents under Article 20 other than the I.F.L., does not even meet today's requirements. It may be that Appendix 10 should be revised and expanded for use in notices and the I.F.L., with all other service document symbols being transferred to a new Appendix;
- b. The development of simple rules for the use of symbols in Column 6, for example a hierarchical set of two pairs of symbols should in most cases be adequate:

1st pair	-	designate the class of station;
2nd pair	-	designate any other special functions.
- c. In this context Administrations should be invited to consider whether it is any longer necessary - for the Board's functions - to preserve the distinctions between CO/CP, CR, CV, or whether they can be abandoned.**)

*) I.F.R.B. Comment No. 9 - See I.F.R.B. Comment No. 8

**) I.F.R.B. Comment No. 10 - The adoption of this suggestion would necessitate changes to the Board's technical standards, for example, CP now has a higher protection ratio and a higher minimum required field strength than the other natures of service mentioned.

m. Column 7 - Classification and Designation of Emissions

1. This is a basic characteristic and here it is necessary to consider the recent C.C.I.R. work done by IWP 1/1 in developing a draft recommendation in accordance with ARC 1959 Recommendation No. 8. The first four symbols of the coding they have suggested could be improved, so that in this alphanumeric group the necessary bandwidth would be expressed in self-evident form, with the decimal point being replaced by a frequency 'range' identifier that is not subject to change of location within the group as in the IWP draft:

Necessary	25 Hz	IWP 1/1	H025	Suggested:	25H0
bandwidth:	400 Hz	Report:	H400		400H
	2.4 kHz		02K4		2K40
	6 kHz		K006		6K00
	12.5 kHz		12K5		12K5
	36 kHz		K036		36K0
	1.25 MHz		1M25		1M25
	6.25 MHz		6M25		6M25
	27 MHz		M027		27M0
	250 MHz		M250		250M
	5.6 GHz		05G6		5G60

2. It can be argued that in the IWP 1/1 method there would be an advantage since (see centre column above) the frequency 'range' identifier - which is a letter 'H' or 'K' or 'M' or 'G' - cannot occur in the right-hand column, thus, this column in the IWP 1/1 report would always contain a figure. This, being adjacent to the fifth column containing a letter, would avoid mis-reading. So far as automation is concerned this argument has no weight. But since most of the Administrations still employ manual methods of filling in notices, it is still arguable that the self-evident system of using the frequency 'range' identifier (see suggested column above) always in lieu of the decimal point would be preferable. *)

3. Next, reverting to the matter of reference frequencies that are used in most cases only to indicate the sideband in use, here it seems that a simple extension of the IWP 1/1 draft recommendation could provide this indication without the need for a separate identifier and without intruding upon the logic of the IWP system itself, thus the following changes in the IWP 1/1 report could obviate the need for reference frequency in most cases: **)

MOD	5.2.2.1.	SSB	full carrier - upper sideband	H
ADD	5.2.2.2.	SSB	full carrier - lower sideband	<u>E</u>
MOD	5.2.3.1.	SSB	reduced carrier - upper sideband	R
ADD	5.2.3.2.	SSB	reduced carrier - lower sideband	<u>S</u>
MOD	5.2.4.1.	SSB	suppressed carrier - upper sideband	J
ADD	5.2.4.2.	SSB	suppressed carrier - lower sideband	<u>T</u>

Note: None of the letters E, S or T are used elsewhere for this symbol.

*) I.F.R.B. Comment No. 11 - The C.C.I.R. Study Group 1 has adopted the method of bandwidth designation as shown in the column above headed "Suggested".

**) I.F.R.B. Comment No. 12 - The C.C.I.R. Study Group 1 rejected all proposals to designate upper or lower sideband, preferring the retention of reference frequency.

4. One final point: referring to the comments in the foot-note related to Column 1a, it would be more appropriate, in notices referring to radio astronomy, to quote the "observed bandwidth" - using the C.C.I.R. work mentioned above - in this column rather than in Column 1b.

n. Column 8 - Power (in kW)

Although there is some pressure for the expression of power in dB rather than in kW, nevertheless those who complete notices are so used to giving a figure in kW (often taken from equipment catalogues) that to change to dB would probably generate unnecessary confusion. In any event, since this is a basic characteristic in all notices, it should be given in the simplest and most useful form as the maximum peak power supplied to the antenna input. This is of course an interaction between this data and that to be given in Column 9 relating to antenna gain which should always be given in relation to an isotropic antenna.

o. Column 9 - Antenna Characteristics

General Comments

1. Recognizing the imperatives that demand the provision of more and more information for the Board to discharge its duties in an increasingly crowded and complicated spectrum, there is still a danger in seeking too much. Administrations, if not convinced of the need, may well wind up giving less. It seems unlikely that all Administrations, in 'E' notices requiring transmit antenna characteristics, would agree also to give the receive antenna characteristics. Nor in the case of 'R' notices would Administrations be likely to agree to give the transmit antenna data.

2. Thus, while some antenna data is a fundamental requirement in all cases, there is a need to formulate practicable rules that stand a reasonable chance of being accepted and implemented in practice. In respect of the sub-columns of Column 9 listed below the following are suggested:*)

- 9a - Azimuth of maximum Directivity
- 9b - Elevation angle of maximum Directivity
- 9c - Beamwidth (3 dB) in azimuth¹⁾
- 9d - Beamwidth (3 dB) in elevation¹⁾
- 9e - Polarization
- 9f - Effective Height of Antenna²⁾
- 9g - Maximum (isotropic) antenna gain.

Note 1: As a useful act of standardisation and simplification, it should be sufficient for the functions of the Board, in all notices, to give beamwidths to the 3dB width only.

Note 2: For the functions of the Board it should be adequate to give only this figure rather than the elevation of the site and the effective height of the antenna above ground.

*) I.F.R.B. Comment No. 13 - The Board considers that instead of one sub-column concerning altitude or effective height of antenna above mean sea level (9f) three sub-columns are required, 9e bis for LF/MF BC, 9e ter for VHF/UHF BC as defined in the European VHF/UHF Broadcasting Plan, Stockholm, 1961 and in the African VHF/UHF Broadcasting Plan, Geneva, 1963, and 9f for earth stations (Appendix 1A, Sections B and C). Also, Annex 1 to Section III of the present document contains three additional sub-columns 9h, 9i and 9j. The list should therefore read:

- 9a - Azimuth of maximum directivity
- 9b - Elevation angle of maximum directivity
- 9c - Beamwidth (3 dB) in azimuth
- 9d - Beamwidth (3 dB) in elevation
- 9e - Polarization
- 9e bis - Height of antenna (metres) for a simple vertical antenna (LF/MF BC)
- 9e ter - Maximum effective height of antenna (VHF/UHF BC)
- 9f - Altitude (metres) of antenna above mean sea level (Ap. 1A, Sects. B & C)
- 9g - Maximum (isotropic) antenna gain
- 9h - Azimuth of limited radiation sector
- 9i - Maximum agreed radiation in 9h sector
- 9j - Type of antenna C.C.I.R.

It may be noted that it is proposed to have the antenna gain relative to an isotropic antenna for all services in all bands.

- Rule 1. For notices concerning non-directional antennae:
Insert in Column 9a 'ND';
- Rule 2. For notices concerning assignments below 28 MHz excluding those relating to LF/MF Broadcasting:
Complete Columns 9a, 9c, 9g;
- Rule 3. For notices relating to No. 490:
Complete Column 9g only;
- Rule 4. For notices relating to LF/MF Broadcasting:
Complete Columns 9a, 9b, 9c, 9g; *)
- Rule 5. For notices relating to VHF/UHF FM/TV Broadcasting:
Complete Columns 9a, 9c, 9e, 9f, 9g; **)
- Rule 6. For notices relating to the shared terrestrial/space bands:
Complete Columns 9, 9b, 9e, 9g;
- Rule 7. For notices relating to radio astronomy:
Complete Columns 9b, 9g¹⁾;
- Rule 8. For notices relating to all other cases:
Complete Column 9g only.

3. The engineering imperatives towards giving more data than are suggested in the previous paragraphs could be satisfied, in the small proportion of cases of need, by the fact that such cases will usually arise when Administrations (and maybe the Board) are engaged in acts of co-ordination. In such cases, and in probably any other case where refined technical data is essential to resolving uncertainties over interference potential, the Administrations involved are free to ask for it. Similarly, it is implicit in the Radio Regulations that the Board may also take this line. No doubt the realities of the situation will urge Administrations to co-operate. Given that further technical data is exchanged between those involved in such problems, it need not and should not as a general rule be published in the I.F.L.

4. It should in any event, in a notice to the Board relating to the use of complex antennae, always be open to an Administration to make reference to the C.C.I.R. catalogue of standard antenna characteristics, thus obviating the need for the inclusion of non-standard data which cannot easily be accommodated by automated processing.

p. Column 10 - Maximum Hours of Use of the Assignment²⁾

At first glance this characteristic appears in many cases to be obsolete or even entirely redundant. It is, however, of increasing importance in some cases (e.g. notices concerning certain coast station telephony assignments) and the column must be retained for this characteristic. There is, however, a need for the W.A.R.C. 1979 to specify with some precision those cases in which this is a basic characteristic OR those cases in which it is not.

Note 1: This omits non-essential data in Appendix 1A, Section F.

Note 2: Change of name is considered more useful than "Hours of Operation".

*) I.F.R.B. Comment No. 14 - Reference to sub-column 9b should be deleted but reference to sub-column 9e bis should be included (see I.F.R.B. Comment No.13).

**) I.F.R.B. Comment No. 15 - Reference to sub-column 9f should be deleted and reference to sub-column 9e ter should be included (see I.F.R.B. Comment No. 13).

q. Column 11 - Co-ordination under Article 9*)

This is a suggested new basic characteristic in all cases where co-ordination of a terrestrial assignment vis-à-vis an earth station, under No. 492A, is a Regulatory pre-requisite to the sending of a notice to the Board. Data to be given relates to the identity of Administrations with which co-ordination has been successful.

r. Column 12a - Operating Administration or Company
Column 12b - Administration responsible for the Station

While it might have appeared useful to have had some of this information removed, a perusal of the I.F.L. and the Preface thereto (recently revised) shows that Administrations need and use these columns. The columns cannot in any way be regarded as of fundamental importance and their omission should not lead to an incomplete notice. Some formula is required so we suggest: This information may be provided at the discretion of the notifying Administration, and is not a basic characteristic.

s. Column 13a - Formal Plans (I.T.U. or registered with the I.F.R.B.)
Column 13b - Multilateral or Bilateral Agreements among Administrations*)

1. For cogent reasons it is necessary, as far as possible, to preserve the existing column structure and contents of the I.F.L., particularly those columns holding items that are common to the generality of terrestrial and space assignments.

2. There is, however, a pressing need to separate out and formalise some of the unstructured and confusing contents of Column 13, and this in the terrestrial case is reflected in the suggested transfer of some of this material into Columns 11, 13a and 13b and by proposing a new Column 14 solely for the "status" of an assignment.

3. The suggested contents of Columns 13a and 13b will be evident from their titles, thus a notice concerning an assignment made in accordance with (say) Appendix 25 or in accordance with (say) Stockholm 1961 (even if varied under the Article 4 procedure of such an agreement) should refer to that Plan in Column 13a. In Column 13b would be an indication of any other relevant international agreement of different status from that envisaged for Column 13a. In both cases the 'channel' of the Plan involved in that assignment should be identified in Column 13a or 13b, as appropriate.

t. Column 14 - Status of the Assignment*)

This is a new proposal for an additional column, not of course to be included in Appendix 1 but to be included in Appendix 9 and thus in the I.F.L. In some ways this piece of information is the most important in the event of an actual case of harmful interference; thus, it would be more useful if brought out of the composite Column 13 and shown separately. Obviously if highlighted in this way it will attract much more attention, and to realise the value from this suggestion some effort should be put into eliminating some of the more highly qualified findings of the Board and, if possible, evolving a set of self-evident expressions of the findings.

*) I.F.R.B. Comment No. 16 - See page 14

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- *) I.F.R.B. Comment No. 16 - To avoid modifying the present columns in the Master Register and the I.F.L., the Board is of the view that it would be preferable to retain Columns 13a, 13b and 13c for the Findings by the I.F.R.B. and appropriate Remarks as at present. These columns would not appear in the Form of Notice. Since it is suggested no longer to indicate the "Megahertz order of the other frequencies normally utilized for the same circuit" in Column 11, this column may be used to accommodate information on successful co-ordination and conformity with an Agreement, an Appendix, a Resolution etc., for example by the use of agreed symbols, see hereunder.
1. CPHG - European LF/MF Broadcasting Plan, Copenhagen, 1948
 2. CPHG - European Maritime Plan (415 - 525 kHz), Copenhagen, 1948
 3. GE60 - Special Agreement (68 - 73 MHz, 76 - 87.5 MHz), Geneva, 1960
 4. ST61 - European VHF/UHF BC Agreement, Stockholm, 1961
 5. BR62 - Radionavigation (582 - 606 MHz), Brussels, 1962
 6. AF63 - African VHF/UHF BC Agreement, Geneva, 1963
 7. AF66 - African LF/MF BC Agreement, Geneva, 1966
 8. MU76 - Arrangement for Rhine radiotelephone service, Munich, 1976
(previously Brussels 1957/1970 - BRS)
 9. GE75 - Regional LF/MF BC Agreement (Regions 1 and 3), Geneva, 1975
 10. GE77 - Final Acts BC-Sat (12 GHz) Conference, Geneva, 1977 (Article 4)
 11. RR124/... - Use of the frequency co-ordinated with the Administration(s) designated by the symbol(s) following the Remark RR124/...
 12. RR543 - HF Coast radiotelephone stations RR639DY Appendix 25 Mar2

The last sentence of this paragraph relates to the simplification of the symbols used by the I.F.R.B. to designate its Findings. The study of such a simplification is complex because it necessitates at times the study of individual cases; it has already been the subject of I.F.R.B. Circular-letter No. 304 of 18 April 1974 and will be pursued in the light of the decisions of the 1979 Conference.

Annex 1 to Section I*)

SUGGESTED ELEMENTS OF AN APPENDIX 1 TO CATER FOR DIFFERENT NOTICES
RELATING TO ALL TERRESTRIAL SERVICES (INCLUDING RADIO ASTRONOMY)

Heading: Code letters for submitting administration - - -

Transmit/Receive: E/R. Terrestrial/Space: T/S. Notification/Coordination: N/C.

NEW assignment / MODification / DEletion / RESubmission

Col. 1a	Assigned frequency
Col. 1b	Assigned frequency band
Col. 2c	Date of putting into use
Col. 3	Call sign (identification) (only below 28 MHz and optional)
Col. 4a	Name of the transmitting station
Col. 4b	Country or geographical area in which the station is located
Col. 4c	Longitude and latitude of the antenna site
Col. 4d	Area of transmission
Col. 5a	Name(s) of the receiving station(s)
Col. 5b	Country or geographical area in which the station(s) is (are) located
Col. 5c	Longitude and latitude of the antenna site(s)
Col. 5d	Area(s) of reception
Col. 6	Class of station and nature of service
Col. 7	Classification and designation of emissions
Col. 8	Power (kW)
Col. 9*)	Antenna characteristics:
Col. 9a	Azimuth of maximum directivity
Col. 9b	Elevation angle of maximum directivity
Col. 9c	Beamwidth (3 dB) in azimuth
Col. 9d	Beamwidth (3 dB) in elevation
Col. 9e	Polarization
Col. 9f	Effective height of antenna above mean sea level
Col. 9g	Maximum (isotropic) antenna gain
Col. 10	Maximum hours of operation
Col. 11*)	Coordination, Article 9
Col. 12a	Operating administration or company
Col. 12b	Administration responsible for the station
Col. 13a*)	Formal plans (made by or registered with the I.T.U.)
Col. 13b*)	Multilateral or bilateral agreements among administrations
Col. 14	Status of the registration (to include I.F.R.B. finding) Not for inclusion in any notice to the Board

*) I.F.R.B. Comment No. 17 - See I.F.R.B. Comment No. 2 concerning the use of the same notice form for the act of coordination as well as for the act of notification for recording in the Master Register, I.F.R.B. Comment No. 13 concerning Column 9 and I.F.R.B. Comment No. 16 concerning Columns 11 and 13.

Annex 2 to Section I
CHECK LIST FOR TERRESTRIAL SERVICES *)

Entries in the Table (e.g., 1a) refer to Item Nos. in each notice presently prescribed by RR
Entries in circles (e.g., ①) refer to footnotes listed below

NEW STANDARD FORM OF NOTICE (Check List)		FIXED/AERO FIXED			RADIONAVIGATION RADIOLOCATION STD FREQUENCY MET. AIDS AND MOBILE (Inc. AERO, MM, LAND)			BC-SOUND OUTSIDE HF EXCLUSIVE			BC-TV			RADIO ASTRON.		
Col. No.	Characteristics	486	487	490	486	487	490	486	487	490	486	487	490	486	487	490
1a	Assigned frequency	1	-	-	1	1	1	1	-	-	1	-	-	-	1a ④	-
1b	Assigned frequency band	①	-	-	①	①	①	①	-	-	①	-	-	-	-	-
2c	Date of putting into use	2c	-	-	2c	2c	2c	2c	-	-	2c	-	-	-	2a ⑤	-
3	Call sign (below 28 MHz)	3	-	-	3	-	-	3	-	-	-	-	-	-	-	-
4a	Name of 'E' station	4a	-	-	4a	"M"	-	4a	-	-	4a	-	-	-	"R" ⑥	-
4b	Country in which located	4b	-	-	4b	4b	4b	4b	-	-	4b	-	-	-	-	-
4c	Long/Lat of antenna site	4c	-	-	4c	4c	4b	4c	-	-	4c	-	-	-	-	-
4d	Area of transmission	-	-	-	-	4c	4b	-	-	-	-	-	-	-	-	-
5a	Name of 'R' station(s)	5a	-	-	5a	5a	5a	-	-	-	-	-	-	-	3b	-
5b	Country in which located	5a	-	-	5a	5a	5a	5a	-	-	5a	-	-	-	3c	-
5c	Long/Lat of antenna site	5a	-	-	5a	5a	5a	5a	-	-	5a	-	-	-	3d	-
5d	Area of reception	5a	-	-	5a	-	5a	5a	-	-	5a	-	-	-	-	-
6	Class of station, etc.	6	-	-	6	6	6	6	-	-	6	-	-	-	3a, 8 ⑦	-
7	Emission statement	7	-	-	7	7	7	7	-	-	7	-	-	-	4 ⑧	-
8	Power (peak to AE input)	8	-	-	8	8	8	8	-	-	8	-	-	-	-	-
9a	Az. of max. directivity	9a	-	-	9a	-	-	9a	-	-	9a	-	-	-	5a ⑨	-
9b	El. of max. directivity	②	-	-	②	-	-	③	-	-	-	-	-	-	5e ⑩	-
9c	Az. beamwidth (3 dB)	9b	-	-	9b	-	-	9b	-	-	9b	-	-	-	5a ⑪	-
9d	El. beamwidth (3 dB)	-	-	-	-	-	-	-	-	-	-	-	-	-	7 ⑫	-
9e	Polarization	②	-	-	②	-	-	③	-	-	③	-	-	-	5b ⑬	-
9f	H-eff of antenna (AMSL)	-	-	-	-	-	-	-	-	-	③	-	-	-	5c ⑭	-
9g	Maximum antenna gain	9c	-	-	9c	-	9c	9c	-	-	9c	-	-	-	-	-
10	Hrs. of use of assignment	10	-	-	10	10	10	10	-	-	10	-	-	-	6	-
11	Coordination, Art. 9 or 9A	SI	-	-	SI	SI	SI	SI	-	-	SI	-	-	-	-	-
12a	Op. Admin. or company	12a	-	-	12a	12a	12a	12a	-	-	12a	-	-	-	9	-
12b	Administration responsible	12b	-	-	12b	12b	12b	12b	-	-	12b	-	-	-	-	-
13a	Formal Plans (ITU)	-	-	-	SI	SI	SI	SI	-	-	SI	-	-	-	-	-
13b	Bi/Multilateral agreements	SI	-	-	SI	SI	SI	SI	-	-	SI	-	-	-	-	-
14	Status/Findings of Board															

- | | | |
|--|---|---|
| SI = supplementary information | ⑥ = not required but "R" is proposed for consistency | ⑩ = provide angular coverage in elevation |
| ① = new requirement above 28 MHz | ⑦ = for the letters "RA" use the first 2 symbols in Col. 6; for class of observations use capability for nature of service (may require revision of App 10) | ⑪ = antenna type using C.C.I.R. catalogue |
| ② = new requirement in shared terrestrial/space bands | ⑧ = provide observed bandwidth using IWP 1/1, section 1 code | ⑫ = receiving system noise temperature (°K) |
| ③ = required for LF/MF Bc and Bc above 28 MHz | ⑨ = provide range of azimuths for angular coverage in azimuth | ⑬ = antenna dimensions (to be formalized) |
| ④ = centre of the observed frequency band | | ⑭ = antenna effective area |
| ⑤ = the date in Item 2b, App 1A Section F, appears to be redundant | | |

*) I.F.R.B. Comment No. 18 - See I.F.R.B. Comment No. 17. It should be noted that assignments above 28 MHz may be notified according to RR490 (typical station). It should also be noted that the Radio Astronomy Service is governed by Article 9A and Section F of Appendix 1A and that Section B of Appendix 1 (RR487) does not cover the technical characteristics of the Radio Astronomy Service. See also I.F.R.B. Comment No. 13 concerning Column 9.

SECTION II

CONTENTS OF NOTICES RELATING TO CO-ORDINATION OR
NOTIFICATION FOR SPACE SERVICES*)

1. Following the Board's examinations of notices with respect to No. 501*) (and others related to the "status" of the assignments vis-à-vis the Radio Regulations), the Board has various other obligations, of which the following three, being most relevant in this context, are chosen for comment:

- a) In cases where coordination, in its widest sense, is a pre-requisite in some form to the sending of a notice, to verify that this has been completed;
- b) In certain other cases, usually but not always in the "unplanned" bands, to conduct technical examinations as prescribed and to reach findings thereon;
- c) To enter (or not) assignments in the MIFR and thus in the IFL.

2. The eleven cases of coordination,**) possibly with more to come from future conferences, are:

<u>Date</u>	<u>Source</u>	<u>Subject</u>
1961	Article 4, Stockholm Agreement	TV Bands I, III, IV, V & FM Band II, EBA, Reg.1
1963	Article 4, Africa Agreement	VHF/UHF Broadcasting, ABA, Reg.1
1971	RR 492A	Terrestrial Tx: earth station Rx
1971	RR 639AJ	Space/earth stations: space/earth stations
1971	RR 639AN	Earth stations: terrestrial services
1971	RES No. Spa2 - 3	BC-Sat/terrestrial; BC-Sat/space systems
1974	RR 639DY (MM Final Acts)	Changes in MM tph channels, Appendix 25
1975	Article 4, LF/MF Regional Conf.	Broadcasting channels LF/MF, Regions 1 & 3
1977	Article 4, BC-Sat, Final Acts (3 cases)	11.7-12.5 GHz (Reg.1), 11.7-12.2 GHz (Reg.2/3)

*) I.F.R.B. Comment No. 19 - Although the subject of Section II addresses Space Radiocommunication Services, it should be understood that most of the Section covers all Services (Terrestrial and Space Radiocommunication). Reference to RR501 is understood to mean RR501 for Terrestrial Radiocommunication Services and RR639BM for Space Radiocommunication Services (para. 5.2 of Resolution No. Spa2 - 3 for the Broadcasting-Satellite Service).

**) I.F.R.B. Comment No. 20 - In reality the eleven cases listed are either coordination procedures properly so-called or procedures for bringing up to date frequency assignment or allotment plans. The coordination procedures include: RR492A; RR639AJ; RR639AN; Resolution No. Spa2 - 3 Sections A and B; and Final Acts of the Broadcasting-Satellite (12 GHz) Conference, Geneva, 1977, Article 6 and Article 7, while examples of procedures for bringing Plans up to date are listed in I.F.R.B. Comment No. 16 at items 1, 2, 3, 4, 6, 7, 9, 10 and 12.

3. Considering both the diversity of information required for these different acts of coordination and the fact that in most cases the form of the data is already clearly specified; considering also the end product of these acts of coordination which is EITHER an up-date of an existing plan OR an assurance that the coordination has been effected, OR BOTH, the following observations are made:

- a) There is no reasonable prospect of producing a single consolidated Appendix that could cover all such cases, even if it was designed solely for the act of coordination;¹⁾
- b) In any event, the form of the data to be submitted in the above cases should not without good cause be changed;
- c) Much of the more detailed information used in coordination in the unplanned bands need not be listed in the IFL so long as there is another place for it to be on public record, e.g., a special "space" volume of the IFL employing a double facing-page presentation;
- d) In some terrestrial cases and in the Bc-Sat case, the end product of coordination is an up-dating by the Board of a plan which is itself sufficient public record of the outcome without necessarily putting all the coordination data used in the IFL; ^{*})
- e) Given the above, the notice sent to the Board could, in all the foreseen terrestrial cases, be limited to the items in the expanded form of notice explained in Section I;
- f) Additional provision would however be required to cater for all foreseeable space cases, both in respect of a notice to the Board (after coordination) and the IFL presentation.

Note 1: Although outside this context, each such act of coordination could usefully be made the subject of a different Appendix with (in view of points a and b above) its own annexed list of essential items of data to be forwarded to other administrations and/or to the Board. Thus, an act of consolidating all the various forms of coordination in a single Article would do much to simplify the work of the Board. Such an Article would of course make reference to the appendices, in which each act of coordination would be fully prescribed, and to the annexes thereto specifying the data to be used in each case of coordination. As an editorial simplification, particularly to help the Board, a system of numbering these items of data taken from a common list has been developed. Parts I and II of a standard form of notice would provide the foundation for such a list. (See Section III of this report for the standard list of numbered items and Section V for a draft of a single Article).

^{*}) I.F.R.B. Comment No. 21 - The Board is of the view that any supplementary basic characteristics used by a Conference in engineering a frequency assignment plan should be included in the notice and in the Master Register and the IFL because the Finding by the I.F.R.B. and the resultant status of the assignment depends on these data as much as on the other basic characteristics.

4. From these considerations, the following conclusions are drawn:

- a) The existing prescriptions of the data to be sent for each case where "pre-coordination" is necessary should remain unchanged, but for their own purposes of management with a developed ADP system the Board will need a suite of programmes individually drawn for each case;
- b) It has been verified that the expanded Columns 1-14 will be adequate for all terrestrial cases, i.e., whether or not coordination has been required, and that Columns 11, 13a and 13b will provide adequately for references to these completed acts of coordination;*)
- c) If Columns 1-14 were made Part I of a standard form of notice to cover all the terrestrial cases, then a Part II could be added which, together with Part I, could cover all space cases;
- d) The IFL, as it now is, would suffer minimum essential change but a special volume of the IFL would be required to list all the data of Parts I and II dealing only with space assignments. (In this case List VIIIA might become redundant but should at least be reviewed for data content);
- e) The two elements of this approach (i.e. a Part II to the revised standard form of notice to the Board for space cases to associate with Part I, and a new "space" volume of the IFL) would be preferable to an Appendix 1, 1A 1N, and a differentiated line structure for the IFL to deal with terrestrial and space assignments. Indeed, this extra volume would then become an unavoidable requirement;
- f) The format of a standard notice, comprising Parts I and II has been developed - with an eye to the extension of Appendix 9 - to deal with all space cases, and to prove the feasibility of this two-prong approach. See Section III of this report.

5. This approach has the effect of reducing the number of additional items to be presented in Part II of the notice and thus brings within the bounds of possibility the prospect of presenting, on two facing pages of the IFL, a virtually complete picture of any space assignment.

6. Another advantage of this approach is that reading the single-page volume of the IFL containing space assignments would give a fairly full picture of such assignments, and it would be necessary to refer to the special space volume of the IFL only when a fuller picture was required.

*) See I.F.R.B. Comment No. 16 concerning the suggestion to use Column 11 for information on coordination etc., and the retention of Column 13 for the Findings by the I.F.R.B. and appropriate Remarks as at present.

7. The idea that the special space volume of the IFL should also contain all the graphical data provided for coordination/notification seems likely to be defeated by practical limitations. In some cases the data could be converted to alphanumeric format, e.g., Appendix 1A, Section C, Items 8c and 8d (radiation diagram and horizon elevation angles throughout the azimuthal plane). This may therefore need further exploration, particularly in the difficult case of satellite "footprints".

8. In any case it would be preferable, and perfectly legitimate from the viewpoint of accountability and accessibility, in such cases only to make reference - in appropriate columns of Part II - to the data sent to the Board in acts of coordination and notification, all of which are already prescribed by the Radio Regulations and associated documentation (e.g., the Bc-Sat, 1977, Final Acts). The two pertinent cases are:

a) Where graphical information used in an act of coordination (and published in a special section of the weekly circular) has not changed at the time of notification, the notifying administration should make a cross reference in its notice to the relevant circular and section which would then be carried into the IFL;

b) Where such information has changed between coordination and notification (but not so as to require re-coordination) this revised information must be included in the notice and published in Part IA of the weekly circular. In such cases the Board should itself insert in the notice, when published, cross reference to the weekly circular in which the notice is published, thus carrying the references into the IFL.

9. Against this background, the table in Annex 1 shows the suggested contents of Part II of a revised form of notice, listing only the additional items. This table should be read in conjunction with the table previously listed for terrestrial stations. For convenience in Annex 2 is a check list of the columns of Parts I and II showing the cases used to test this concept (taken from Appendix 1A, Sections B, C, D, E and the Bc-Sat Final Acts, Annex 2). Annex 3 shows in simplified form the rules likely to be required to make the combined Parts I and II fully applicable to all foreseeable space notices. These happen to be in "column" order to facilitate drafting and checking, but for ease of understanding they need to be placed in "service" order when converted into the formal language of the Radio Regulations.

Annex 1 to Section II

COLUMN CONTENTS OF PART II OF STANDARD NOTICE*)

- Column 15a Identity of the space system using the geostationary orbit
b Mutual visibility arc
c Service arc
d Reasons if c is less than b (to be formalized)
e Longitudinal (angular) tolerance of the satellite
f Latitudinal (inclination angle) tolerance
- Column 16a Identity of the space system NOT using the geostationary orbit
b Angular inclination in the equatorial plane
c Orbital period
d Apogee (kms)
e Perigee (kms)
f Number of satellites in the system
- Column 17a For multiple carriers list each one by centre frequency
b For each carrier give the entire emission statement (IWP 1/1)
c For each carrier give peak power to antenna input
d For each carrier give maximum power density
- Column 18a Asymmetrical polar diagram to be described (to be formalized)
b Refer to I.F.R.B. record of measured radiation (diagram)
c Refer to I.F.R.B. record of elevation angles (graph)
d Refer to I.F.R.B. record of geostationary gain contours on earth (map)
e Refer to I.F.R.B. record of non-geostationary main beam gain contours (map)
f Pointing accuracy of space station antenna
g Coordinates of main beam centre, intersection with Earth (Bc-Sat Only)
h Change of gain from centre to edge of service area (Bc-Sat Only)
- Column 19a Polarization (circular) give sense
b Polarization (linear) give plane and reference
c Worst case ratio in the 3 db beamwidth
- Column 20a Lowest equivalent satellite link noise temperature (°k)
b Receiver system noise temperature (°k)
- Column 21 Modulation characteristics for each carrier (see Col. 17a)
a Carrier modulated by FDM telephony
b Carrier modulated by a TV signal
c Carrier phase-shift modulated (PCM/PSK)
d Carrier amplitude modulated
e All other types of modulation
f Energy dispersal
- Column 22 Special Bc-Sat modulation characteristics (to be formalized)
- Column 23a Rain climatic zone (Bc-Sat only)
b Minimum operating elevation angle in service area (see Col. 5d)

*) I.F.R.B. Comment No. 22 - It will be necessary to consider in more detail establishing full concordance of information in Annexes 1, 2 and 3 to Section II of the present document with related texts elsewhere in the document and the practical application of the related provisions of the Radio Regulations.

Annex 2 to Section II

CHECK LIST OF THE COLUMNS OF PARTS I AND II OF A REVISED
FORM OF NOTICE*)

'E' refers to transmit stations

'R' refers to receive stations

G or Geo refers to geostationary; whereas NG or N-Geo refers to non-geostationary

PART I

NEW STANDARD FORM OF NOTICE		Earth Stations				Space Stations				B-Sats
Col No.	Characteristics	'E'		'R'		'E'		'R'		'E'
		Geo	N-Geo	Geo	N-Geo	Geo	N-Geo	Geo	N-Geo	Geo
1a	Assigned frequency	1	1	1	1	1	1	1	1	3
1b	Assigned frequency band	2	2	2	2	2	2	2	2	4
2c	Date of putting into use	3a	3a	3a	3a	3a	3a	3a	3a	4
3	Callsign (below 28 MHz)	-	-	-	-	-	-	-	-	-
4a	Name of 'E' station (s)	4a	4a	5	5	4 (13)	4	6	6	5
4b	Country in which located	4b	4b	-	-	-	-	6	6	-
4c	Long/Lat of Antenna site	4c	4c	5	(4)	5a (13)	-	(17)	(17)	2
4d	Area of transmission	-	(1)	-	-	-	-	6	6	-
5a	Name of 'R' station(s)	5 (2)	5 (3)	4a	4a	6 (15)	6 (15)	4 (16)	4	16 (20)
5b	Country in which located	-	-	4b	4b	6 (15)	6 (15)	-	-	-
5c	Long/Lat of Antenna site	5 (2)	-	4c	4c	-	-	5a (16)	-	-
5d	Area of reception	-	-	-	(5)	6 (15)	6 (15)	-	-	6
6	Class of station, etc	6 (6)	6 (6)	6 (6)	6 (6)	7	7	7	7	9
7	Emission statement	7a (7)	7a (7)	7a (7)	7a (7)	8a (7)	8a (7)	8a (7)	8a (7)	10
8	Power (peak to AE input)	8a (8)	8a (8)	-	-	9a (8)	9a (8)	-	-	11 (18)
**)	9a	9f (9)	9f (9)	8f (9)	8f (9)	-	-	-	-	-
	9b	9e	9e	8e	8e	-	-	-	-	-
	9c	9b (10)	9b (10)	8b (10)	8b (10)	-	-	-	-	12b (19)
	9d	-	-	-	-	-	-	-	-	12c (19)
	9e	9g (11)	9g (11)	-	-	10c (11)	10c (11)	9c (11)	9c (11)	12g (11)
	9f	9h	9h	8g	8g	-	-	-	-	-
	9g	9a	9a	8a	8a	-	-	-	-	-
10	Hrs of use of Assignment	11	11	10	10	12	12	11	11	17
***)	11	12	12	11	11	13	-	12	-	-
	12a	14	14	13	13	15	15	14	14	21
	12b	-	-	-	-	-	-	-	-	1
***)	13a	-	-	-	-	-	-	-	-	3, 18 (21)
	13b	13	13	12	12	14	14	13	13	19 (21)
***)	14	Not for new Standard Form of Notice (Appendix 9(IFL) only)								

Entries in the Table (e.g. '10c') refer to item Nos. in each Notice prescribed by Radio Regulations.

Entries in circles (e.g. (7)) refer to 'Suggested Basic Rules' for application to space notices, see Annex 3 which follows.

*) See I.F.R.B. Comment No. 22.

**) See I.F.R.B. Comment No. 13 concerning Column 9.

***) See I.F.R.B. Comment No. 16 concerning the suggestion to use Column 11 for information on coordination etc., and the retention of Column 13 for the Findings by the I.F.R.B. as appropriate Remarks as at present.

Annex 2 to Section II (cont.)

'E' refers to transmit stations

'R' refers to receive stations

G or Geo refers to geostationary; whereas NG or N-Geo refers to non-geostationary

PART II

NEW STANDARD FORM OF NOTICE		Earth Stations				Space Stations				B-Sats
Col	Characteristics	'E'		'R'		'E'		'R'		'E'
No.		Geo	N-Geo	Geo	N-Geo	Geo	N-Geo	Geo	N-Geo	Geo
15a	Identity of Space system(G)	5	-	5	-	4	-	4	-	5
15b	Mutual visibility arc	-	-	-	-	5a1	-	5a1	-	-
15c	Service arc	-	-	-	-	5a2	-	5a2	-	-
15d	Reasons if <u>c</u> is less than <u>b</u>	-	-	-	-	5a3	-	5a3	-	-
15e	Long.(angular) tolerance	-	-	-	-	5a (13)	-	5a (16)	-	13
15f	Lat. (angular) tolerance	-	-	-	-	5a (13)	-	5a (16)	-	13
16a	Identity of Space system(NG)	-	5	-	5	-	4	-	4	-
16b	Angular inclination of orbit	-	5	-	5	-	5b	-	5b	-
16c	Orbital period	-	5	-	5	-	5b	-	5b	-
16d	Apogee	-	5	-	5	-	5b	-	5b	-
16e	Perigee	-	5	-	5	-	5b	-	5b	-
16f	No.of satellites in system	-	5	-	5	-	5b	-	5b	-
17a	Multiple carriers, list all	7b (7)	7b (7)	7b (7)	7b (7)	8b (7)	8b (7)	8b (7)	8b (7)	-
17b	For each, emission statement	7c (7)	7c (7)	7c (7)	7c (7)	8c (7)	8c (7)	8c (7)	8c (7)	-
17c	For each, Pp to antenna input	8a (8)	8a (8)	-	-	9a (8)	9a (8)	-	-	-
17d	For each, Max.power density	8b (8)	8b (8)	-	-	9b (8)	9b (8)	-	-	-
18a	Assymetric polar diagram, etc	9b (10)	9b (10)	8b (10)	8b (10)	-	-	-	-	12d (14)
18b	IFRB record of radiation	9c (22)	9c (22)	8c (22)	8c (22)	-	-	-	-	-
18c	As above: elevation angles	9d (22)	9d (22)	8d (22)	8d (22)	-	-	-	-	-
18d	As above: (G) gain contours	-	-	-	-	10a (22)	-	9a (22)	-	-
18e	As above: (NG) gain contours	-	-	-	-	-	10b (22)	-	9b (22)	-
18f	Antenna pointing accuracy (G)	-	-	-	-	10d	-	9d	-	12f
18g	Earth coordinates of X/Y centre	-	-	-	-	-	-	-	-	7
18h	Change of gain, service area	-	-	-	-	-	-	-	-	12e
19a	Polarisation-C: sense	9g (11)	9g (11)	-	-	10c (11)	10c (11)	9c (11)	9c (11)	12 9/11
19b	Polarisation-L: plane and ref.	9g (11)	9g (11)	-	-	10c (11)	10c (11)	9c (11)	9c (11)	
19c	Worst case axial ratio (3 dB)	-	-	-	-	10c	10c	9c	9c	
20a	Satellite LINK noise temp.	-	-	9d (12)	9d (12)	-	-	-	-	-
20b	Receiver system noise temp.	-	-	9	9	-	-	10	10	-
21a	Carrier mod- FDM telephony	10a	10a	-	-	11a	11a	-	-	-
21b	Carrier mod-by a TV signal	10b	10b	-	-	11b	11b	-	-	-
21c	Carrier phase-shift mod.	10c	10c	-	-	11c	11c	-	-	-
21d	Carrier amplitude mod.	10d	10d	-	-	11d	11d	-	-	-
21e	Other types of modulation	10e	10e	-	-	11e	11e	-	-	-
21f	Energy dispersal	10f	10f	-	-	11f	11f	-	-	-
22	B-Sat mod.characteristics	-	-	-	-	-	-	-	-	8
23a	Rain climatic zone	-	-	-	-	-	-	-	-	15
23b	Min.op.El.angle in svc.area	-	-	-	-	-	-	-	-	14

Entries in the Table (e.g.'10c')refer to item Nos. in each Notice prescribed by Radio Regulations. Entries in circles (e.g. ⑦) refer to 'Suggested Basic Rules' for application to space notices, see Annex 3 which follows.

Annex 3 to Section II

SUGGESTED BASIC RULES FOR APPLICATION OF PARTS I AND II
TO SPACE NOTICES (refer to Annex 2)*)

1. In case of earth station (E), use 4d to define area of operation of mobile earth stations (E).
2. In case of earth station (E) working with active geostationary satellite, use 5a for space station (R) identity and 5c for its longitudinal orbital location.
3. In case of earth station (E) working with non-geostationary satellite, use 5a for satellite or system identity and 16b-f for its orbital parameters.
4. In case of earth station (E or R) working with PASSIVE¹⁾ system, give corresponding earth station (R or E) data in 5a-d or 4a-d as appropriate. (OBSERVATION: The 1979 WARC may conclude that, for PASSIVE systems, accommodation in the Radio Regulations is no longer required.)
5. In case of earth stations (R) use 5d to define area of operation of mobile earth stations (R).
6. In case of earth stations (E or R) working with PASSIVE systems, use 6 for a symbol (to be included in Appendix 10) identifying them as working with a PASSIVE¹⁾ system.
7. In all cases of earth or space stations (E or R) using multiple carriers, use 7 to state number of carriers and list them in 17a with related emissions in 17b.
8. In case of earth and space stations (E) using only one carrier, use 8 for peak power to antenna input; but if multiple carriers, use 8 for total peak power to antenna input, then use 17c for maximum peak power and 17d for maximum power density of each carrier listed in 17a.
9. In case of earth stations (E or R) operating over an azimuthal range, use 9a to indicate limits.
10. In case of earth station (E or R) with circular beam, use 9c for angular diameter at 3 dB, but if beam is irregular use 18a to describe.
11. In all cases of earth stations (E) and space stations (E or R) and Bc-Sats, use 9e for basic polarization (LH/RH/V/H) and use 19abc to amplify as necessary.
12. Reserved
13. In case of space station (E) on geostationary satellite, use 4a for satellite identity and 4c for its longitudinal location, with 15e,f for its longitudinal/latitudinal tolerances.
14. In case of space station (E or R) on non-geostationary satellite, use 16b-f for orbital data.
15. In case of space station (E), use 5a,b or d to give a locality name, country code or other indication of service area.

1) Except in these cases, all others are related to ACTIVE space systems.

*) See I.F.R.B. Comment No. 22

Annex 3 to Section II (cont.)

16. In case of space station (R) on geostationary satellite, use 5a for satellite identity and 5c for its longitudinal position, with 15e,f for its longitudinal/latitudinal tolerances.
17. In case of space station (R), use 4a,b or d to give a locality name, country code or other indication of location of related earth station(s) (E).
18. In Bc-Sat case only, use 8 for power supplied to antenna.
19. In Bc-Sat case only, use 9c,d to define angular width of major and minor axes of ellipse on earth's surface and use 18a to state angle of inclination of major axis.
20. In Bc-Sat case only, use 5a to show whether for communal or individual reception.
21. In Bc-Sat case only, use 13a^{*)} to refer to Bc-Sat Plan/Channel No. and 13b to indicate coordination giving agreement to use channel not in accordance with the Adopted Plans.
22. In all cases of earth or space stations (E or R) where graphical data has been sent to and published by the I.F.R.B., use 18b,c,d,e as appropriate to give corresponding weekly circular references.

*) See I.F.R.B. Comment No. 16 concerning the use of Column 13.

SECTION III

STANDARD NUMBERING OF CHARACTERISTICS, STANDARD FORM OF NOTIFICATION AND THE FUTURE OF THE INTERNATIONAL FREQUENCY LIST *)

1. To follow up the proposal made earlier that, to help the Board's increased use of computerisation, all items of information (characteristics) whenever used in any notice to the Board should be numbered from a standard list; in Annex 1 is the list compiled from documentary sources relating to Publication, Coordination and Notification. As future conferences find it necessary to include NEW items of data, they should be added to the appropriate part of this list, and in all references to notices to be sent to the Board such conferences must use this standard numbering. The construction of this list, in its essentials, has been keyed to the numbering of columns in the International Frequency List where many, but by no means all, items of information are eventually published.

2. To follow up the proposal made earlier that there should be a standard form of notice **), Part I of which would of itself cater for all terrestrial notices, while Parts I and II together would cater for all space notices for coordination or notification: in Annex 2 is a proposed layout of such a notice. Note that this includes in its heading the identities Terrestrial/Space (T/R), Transmit/Receive (E/R), NEW/MODification/DELetion/RESubmission, Coordination/Notification (C/N) and the three-letter identification of the submitting administration.

*) I.F.R.B. Comment No. 23 - Following the Meeting of Experts, the original version of the Annexes to Section III were considered by the Board and, in consultation with the experts, some adjustments have been made to these annexes.

**) I.F.R.B. Comment No. 24 - I.F.R.B. Comment No. 2 also pertains to the proposed Standard Form of Notice and is pertinent to Section III, Annex 2. The Board is of the view that there is a need to make a clear distinction between the frequency assignment notice to be sent to the I.F.R.B. with a view to recording an assignment in the Master Register and the communication of information for co-ordination purposes or for bringing up to date an adopted frequency allotment or assignment plan. The principle of having the Standard Form of Notice in two parts is certainly sound, however the second part should not be conceived to contain all the characteristics required for the various acts of co-ordination and bringing up to date frequency allotment or assignment plans etc., but rather to contain the characteristics specific to a given service; for example, one could foresee a Part two for services using space techniques and a different Part two for LF/MF broadcasting and another for VHF/UHF/SHF sound broadcasting and television and so on.

3. The arrangement of the designed Standard Form (Annex 2) *) corresponds closely to the numbering and selection of items of data mentioned in other Sections of the report. It comprises the following groups of characteristics:

- a) administrative and frequency coordination information;
- b) basic characteristics for all services;
- c) additional characteristics for all services (if required);
- d) additional characteristics for space services.

4. The designed notification form will encourage administrations to enter the required characteristics in formatted boxes, and the form is arranged to facilitate the direct punching of data onto cards or tape without the need for prior transcription; this will help to reduce the manual process in the present transformation procedure of unformatted notices within the Regulatory Department. To ensure uniformity in the processing of assignment notices and to take account of a number of special considerations concerning the operation of the various types of services, it will be helpful to prepare a guide in the form of "Working Instructions for completion of the Standard Form of Notices for Recording of Frequency Assignments". This should be a document or pamphlet outside the Radio Regulations themselves.

5. Finally, to follow up the proposal made earlier that the IFL should have a standard (or normal) volume as hitherto with minimum essential change, and a special space volume with a facing-page presentation to cater for Columns 1 - 23, in Annex 3 *) is the suggested format of such a volume in two parts, Annex 3a - left hand, Annex 3b - right hand.

*) I.F.R.B. Comment No. 25 - It is noted that Annex 2 to Section III contains a proposed layout of a Frequency Assignment Standard Notice and Annex 3 to Section III a suggested Layout of the International Frequency List (IFL) including a format of a special space volume of the IFL in two parts. It follows that these annexes may be further developed when decisions have been taken by Administrations on the detailed contents of the Form of Notice and the IFL which may be proposed to the WARC 1979.

Annex 1 to Section III

MASTER LIST OF ALL CHARACTERISTICS TO BE USED TO IDENTIFY ITEMS CONTAINED IN NOTICES RELATING TO ADVANCE PUBLICATION, COORDINATION OR NOTIFICATION (ALL CASES)*)

Heading: Submitting administration. Terrestrial/Space: T/S
Type of Notice: Transmit/Receive: E/R
NEW/MOD/DEL/RES¹) Coordination/Notification: C/N

1) In case of resubmitted notice (Notification) give date of return by the Board of the original notice

Item No.	Characteristics
1a	Assigned frequency (Proposed)
1a.1	Alternative freq. (Proposed) ^a Carrier ^b Assigned
1a.2	Freq. to be replaced (Proposed) ^a Carrier ^b Assigned
1b	Assigned frequency band (Proposed)
1c.1	Frequency range: transmit (E)
1c.2	Frequency range: receive (R)
2c	Date of putting into use
3	Callsign (below 28 MHz)
4a	Name of 'E' station(s)
4b	Country in which located
4c	Long/Lat of antenna site
4d	Area of transmission
5a	Name of 'R' station(s)
5b	Country in which located
5c	Long/Lat of antenna site
5d	Area of reception
6	Class of station, etc.
7	Emission statement
8	Power (peak to AE input)
9a	Az. of max. directivity (or ND)
9b	El. of max. directivity
9c	Az. beamwidth (3 dB)
9d	El. beamwidth (3 dB)
9e	Polarization
9f	H-eff of antenna (AMSL)
9g	Maximum antenna gain (towards 9a)
9h	Az. of limited radiation sector
9i	Max. agreed radiation in 9h sector
9j	Type of antenna C.C.I.R.
10	Hrs of use of assignment
10a	Estimated peak traffic hours
10b	Estimated daily traffic volume

**) 9a

***) 11

***) 13a

***) 14

Item No.	Characteristics
15a	Identity of space system (G)
15a.1	Identity of satellite network (G)
15a.2	Identity of related networks (G)
15b	Mutual visibility arc
15c	Service arc
15d	Reasons if ^c is less than ^b
15e	Long. (angular) tolerance
15f	Lat. (angular) tolerance
16a	Identity of space system (NG)
16a.1	Identity of satellite network (NG)
16a.2	Identity of related networks (NG)
16b	Angular inclination of orbit
16c	Orbital period
16d	Apogee (kms)
16e	Perigee (kms)
16f	No. of satellites in system
17a	Multiple carriers, list all
17b	For each, emission statement
17c	For each, Pp to antenna input
17d	For each, max. power density
17e	Energy dispersal
17f	Per service area, max. power density
18a	Asymmetric polar diagram, etc.
18b	Diagram of measured radiation
18c	Graph of elevation angles
18d	Map of (G) gain contours on earth
18e	Map of (NG) gain contours on earth
18f	Antenna pointing accuracy (G)
18g	Earth coordinates of X/Y centre
18h	Change of gain, service area (γ G)
18i	Diagram, location of terrestrial stn
18j	Space stn: AE Rx/transponder links
19a	Polarization-C: sense
19b	Polarization-L: plane and ref.
19c	Worst case axial ratio (3 dB)
20a	Satellite LINK noise temperature
20b	Receiving system noise temperature
20c	Transmission gain of satellite
21a	Carrier mod-FDM telephony
21b	Carrier mod-by a TV signal
21c	Carrier phase-shift mod.
21d	Carrier amplitude mod.
21e	Other types of modulation
22	Bc-Sat mod. characteristics
23a	Rain climatic zone
23b	Min.op.el.angle in svc. area

*) See I.F.R.B. Comment No. 24

**) See I.F.R.B. Comment No. 13 concerning Column 9

***) See I.F.R.B. Comment No. 16 concerning the suggestion to use Column 11 for information on coordination etc., and the retention of Column 13 for the Findings by the I.F.R.B. as appropriate Remarks as at present.

12a) Operating Admin. or Company	12b) Postal and telegraphic Address:
_____	_____

[illegible]

1c) Carrier Frequency	1d) Reference Frequency	9h) Type of Antenna Reference No.	11a) Notification under Radio Reg. Number:	11b) Countries with which the Assignment is co-ordinated:	13a) Notification due to a Formal Plan (Agreement and Channel):	13b) Notification due to a bilateral Agreement

[illegible]

** See I.F.R.B. Comments No. 2, No. 16 and No. 24 indicating preference for the use of the term "Notice" exclusively for notification for recording in the Master Register.

Lay-out of the International Frequency List - Part I

Assigned frequency	Assigned frequency band	Date 2a 2b 2d	Date of putting into use	Call sign	Name of transmitting station	Country	Geographical coordinates Long./Lat.	Area of transmission	Name of receiving station	Country	Geographical coordinates Long./Lat.	Area of reception
1a	1b	2a/b/d	2c	3	4a	4b	4c	4d	5a	5b	5c	5d
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
10	10	20	30	40	50	60	70	80	90	100	110	120

Class of station	Description of emission	Power	Azimuth of maximum directivity	Elevation angle	Beamwidth in azimuth	Beamwidth in elevation	Polarization	Effective antenna height	Gain	Assigned maximum hours (GMT)	Affected coordination	Operating administration	Affected formal plans	Affected administrations' agreements	Status of the registration Results of examination and investigations by the I.F.R.B.
6	7	8	9a	9b	9c	9d	9e	9f	9g	10	11	12a/b	13a	13b	14a/b/c
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
130	140	150	160	170	180	190	200	210	220	230	240				

*) I.F.R.B. Comment No. 25 - It is noted that Annex 2 to Section III contains a proposed layout of a Frequency Assignment Standard Notice and Annex 3 to Section III a suggested Layout of the International Frequency List (IFL) including a format of a special space volume of the IFL in two parts. It follows that these annexes may be further developed when decisions have been taken by Administrations on the detailed contents of the Form of Notice and the IFL which may be proposed to the WARC 1979.

Assigned frequency					Assigned frequency band					Carrier frequency					Space system identity					Class of station					Description of emission					Power					Gain					Gain discrimination					Nominal geographical longitude					Longitudinal tolerance					Visible arc					Service arc									
1n					1b					1c					15a/16a					6					7					8					9a					22					15b					15c					15d					15e									
0					10					20					30					40					50					60					70					80					90					100					110														

[illegible]

*) I.F.R.B. Comment No. 25 - It is noted that Annex 2 to Section III contains a proposed layout of a Frequency Assignment Standard Notice and Annex 3 to Section III a suggested Layout of the International Frequency List (IFL) including a format of a special space volume of the IFL in two parts. It follows that these annexes may be further developed when decisions have been taken by Administrations on the detailed contents of the Form of Notice and the IFL which may be proposed to the WARC 1979.

SECTION IV

RECOMMENDATIONS RELATING TO APPLICATIONS OF AUTOMATIC DATA PROCESSING IN THE NOTIFICATION PROCESS *)

INTRODUCTION

1. The suggestions which have been presented in the first two sections have been concerned with the relevance, form and organization of the data items required for the notification of a frequency assignment. Another aspect needing consideration concerns the manipulation of these data, as well as others, in the processing, examination and recording which results finally in the Master Register and the International Frequency List. The following paragraphs present opinions and suggestions in this regard.

2. The present recording processes have evolved from the results of a number of conferences which developed and extended the basic notification procedure and introduced several allotment plans and co-ordination procedures. It is likely that the future will produce additional procedures and plans to regulate the use of, and recording of, frequency assignments. Since these conferences usually entail a series of compromises, the regulatory procedures which they produce are often quite complex. The cumulative impact is a growing body of regulatory obligations placed on the Board which are certainly not designed for automation. There are instances in the process where human intervention is necessary, and it seems certain that this situation will always exist. The problem then is to design the recording process to minimize the amount of human intervention required and to make such intervention as productive as possible for those involved. This problem can be analysed by studying two subjects; 1) the form and content of the data involved, and 2) the manipulation of the data involved.

3. A proper analysis and design requires a comprehensive and thorough treatment which is well beyond the scope of a four-week effort. However, before the Board could take full advantage of automatic procedures in order to increase the efficiency of its operation and to ease the burdens imposed on its staff by the ever-increasing workload, it must undertake such a complete effort. If the Board was obliged to implement automatic procedures on a selective basis without a comprehensive system plan, then it would evolve a hybrid manual-automatic system which would soon be overwhelmed not only by an increasing workload, but also by further procedures likely to be introduced as the result of future conferences. A comprehensive plan could organize information on a macro scale and re-arrange processes in such a manner that future additions could be conveniently accommodated by the Board. There would, in short, be scope for growth.

4. The two subjects mentioned above (data and associated manipulations) are discussed below with the intent of assisting the Board in easing the extension of automatic processing into its operations and with the intent of assisting the Board in specifying the objectives of a complete systems analysis and design.

*) I.F.R.B. Comment No. 26 - The Board subscribes to the broad principles on which this Section is based and is of the view that an overall systems analysis is necessary to take full advantage of an integrated computer system. Such an analysis would have to take into account as far as possible any change which might be necessitated as a result of the decisions of future conferences. The Board is presently studying ways and means of carrying out such a systems analysis. However, some extended compatible use of the computer may be achieved in certain areas before the systems analysis is fully completed. With this in mind, the Board is also proceeding with the extended use of the computer without making major changes in the present system.

DATA

5. The data utilized by the Board in the notification process arising from Appendices 1 and 1A to the Radio Regulations can be grouped into three general categories: a) the annual flow of about 50,000¹⁾ notice forms which must be subject to the administrative, technical examination, and recording processes required by the Radio Regulations, b) those background data used for the checking of submitted information and used in technical studies, and c) that which is mainly archival information.

6. The data of the first category are presently defined in Appendices 1 and 1A. A review of these appendices showed that in some cases they define data elements whose use is obsolete and that in other cases they fail to define data elements that are essential to the functions of the Board. The organization of these elements is confusing in that the numbering system applied to them is not consistent through cases and through appendices. Finally, the regulations for submitting the required information are not always clear and never specify an input format designed for automatic processing. The suggestions presented in Sections I, II, III of this report will result in the form of the basic notification data being such that they can be readily assimilated into an automatic process.

7. The form in which those basic data are stored by the Board is critical to the convenience with which it can be manipulated. Later, the storage of the data for documentary purposes will be discussed; here the storage for working purposes is discussed. At present, the working file, the International Frequency List, contains about 1.2 million records of 243 characters each and is stored on 19 reels of magnetic tape. A tape file of this size is difficult to manipulate; and even though the three block system used by the Board does give some convenience to the manipulation, it is likely that the transaction rate of 50,000 notices per year will eventually overwhelm the operational procedures of the system utilizing tape storage. The file should be transformed to disc storage. It could presently fit into two of the 144 million byte capacity discs now available at the I.T.U. computer. If the present disc hardware were upgraded to a higher capacity, the file could probably be made to fit into one disc. The disc storage would provide direct access to a record of data; this means that a particular piece of data could be retrieved in a matter of milliseconds (compare that to the possibility that may take minutes, of sequentially stepping through a reel of tape in order to obtain the same piece of data).

8. In Figure 1a a possible configuration of the I.F.L. as stored on disc is shown; in Figure 1b the possible configuration of several cross-reference files (known in "computer language" as inverted lists) is shown which would provide an index to the main file. Such a system of files could be queried in order to determine quickly if an assignment exists; to determine the recorded assignments which exist within a frequency range; to determine which assignments are affected by the subject assignment, etc., etc. Note that, in order to permit such an organization, each frequency assignment must be identified uniquely (the identifier could be a combination of letters and digits). When the main file is updated in some way, then the reference files must also be updated.

1) Plus a further body of about 16,000 forms per year arising from operation of the Article 10 procedure in the form of Appendix 2.

Since so much of the recording process is concerned with the dates of actions performed within the process, the updating of the files must be strictly controlled. This should be accomplished by performing the update in a "batch" mode where the entire transaction occurs in one operation at one specific time (utilizing some bulk storage form such as tape or cards to store the transaction information) rather than an "interactive" mode where transactions can occur at a number of times (utilizing some sort of "on-line" terminal). The tape (or cards) used in the "batch" mode update could then be retained as an historical record of the transaction; and at appropriate times, the disc files could be copied to tape in order to preserve a master file.

9. The data of the second category contain background information arising from many sources, for example, information from formal allotment plans and coordination procedures, technical information arising from operation of the advance publication and coordination procedures for space systems, data contained in various tables generated by the Board which are used to check the information submitted on a notice (in some cases these tables are printed in the Preface to the International Frequency List), etc.

10. To expand on these three examples, the first case is probably not a candidate for use in automatic applications because human judgement in the reviewing process is essential; although technical data from the plans could be stored for information purposes, it would probably be more efficient to make use of the experience of a human operative than to attempt to have a computer check for conformity with Plans or Coordination procedures.

11. In the second case, where information flows from the operation of procedures, it is used by the Engineering Department in their examination of new space systems. At present, the data are received by the Board in forms of correspondence which are unformatted (telegrams and letters), or in the form used for actual notification. It would be more efficient to require a standard form containing the essential technical data items; such data could then be stored on a disc in a manner similar to that for the International Frequency List. A file of the status of the development of space systems could also be maintained in a format such as that shown in Figure 2. This series of files would then permit efficient examination of a notice as well as provide information on the status of various space systems.

12. In the third case, where information is necessarily generated by the Board (from statutory origins or as aids in the discharge of their functions), this is used in examining notices for correctness of submitted data and for conformity with certain parts of the Radio Regulations. In several instances, these data already exist in tabular form and are used by the Board in its procedures. One example is the geographical index which contains country names, station names and station coordinates (and is associated with Tables 1 and 2 of the Preface to the International Frequency List). Another is the index of names and addresses of operating administrations or companies (Table 3 of the Preface). Still another example is the Table of Frequency Allocations. These data can be transformed to disc storage in formats such as those shown in Figure 3. Such files would find use not only in the processing of notification forms, but also in the generation of publications.

13. The data of the third category are not generally used directly by the Board in its procedures. The data are largely documentary or archival in nature and do not appear to be a candidate for utilization in automatic applications.

14. It is apparent from the above discussion that an integrated system of electronically stored files can be developed which would provide convenient access to several forms of information which the Board uses in its notification procedures. These files are probably best stored in the medium of magnetic disc which would permit rapid, direct access to a particular piece of information and ease of manipulation. There would necessarily be a transaction (i.e. query, addition, modification, deletion) process associated with each of the files. The exact design of the files and their associated transaction processes should be a result of the comprehensive system analysis and design which the Board should undertake.

15. Since the Regulatory Department serves as the reception point for information submitted to the Board and is subsequently responsible for the keeping of such information, the responsibility for the maintenance of the complete data base belongs in that department. Such maintenance would normally include the transformation of incoming data to machine-readable form and the updating of appropriate files. It would also include the development of new files and procedures for transactions against them both as the Board and staff acquire confidence in, and further explore the potentialities of, automatic data processing systems, and as the decisions of future conferences impose new requirements upon the Board. Thus, it is possible to foresee a need for a group of persons who would be responsible for the maintenance of the I.F.R.B. data base. Such a group would include several persons for data entry, a data control clerk, a systems analyst, and a manager. (It could also include programmers, but that work would probably be more efficiently accomplished through use of outside resources when the need arises).

16. To conclude this section on data, the Board maintains some types of information which are not directly involved in its procedures and other types which, although directly involved in its procedures, are not amenable to transformation into machine-readable forms. It also maintains archives of notices, related correspondence, and results of the Board's processes in order to satisfy legal obligations in the possible event of dispute. In the former cases, it seems certain that problems arising from the handling and storage of the vast mass of hard copy records which has accumulated, and which continues to accumulate, could be alleviated by introducing a system in which the information is kept in some microform (microfiche or microfilm). Commercial systems exist which permit the establishment of a library of documents complete with an index. The microform of a specific document can be mechanically retrieved simply by keying the appropriate index number into the storage device (this means that each document in the library has a unique identifier). In addition, there are means for directing a computer to produce its output directly in microform. A microform library system would enable the Board conveniently to produce hard copies when the need arises.

17. The legal obligation for the Board to retain the originals of notices and related correspondence would not be affected by the suggestion above.

PROCESSING

18. The second major subject area requiring discussion is that of the manipulation of data by the Board in its processing of the notification forms. A comprehensive systems analysis and design should produce a detailed flow of the steps to be taken from the time when a form arrives until the time when the Master Register is updated. There are five major suggestions which, altogether, should be embodied in an automated processing system (keep in mind the fact that such a system can probably never be fully automated because of the reasons which were stated earlier). They are: a) Transform the submitted data into machine-readable form at the earliest possible stage of processing; b) Automate checks and sorts upon the transformed input data and combine them into a collective operation to be performed early in the process; c) Establish a set of temporary working files on disc which would be used to receive submitted data and as sources for subsequent updating of the I.F.L. and Master Register; d) Formalize as much as possible the procedures now used in the administrative and technical examination of notices and then automate them; and e) Adopt as a working principle that all routine checking and examination be done in the Regulatory Department to relieve the Engineering Department of non-engineering functions.

19. The first suggestion is crucial to the implementation of any sort of automatic processing of the notice forms. When the data is in machine-readable form, it can be sorted in various ways, it can be counted in various ways to provide high quality statistical information, it can be compared to previously machine-stored data, and it can be acted upon in numerous ways without the need for human action. This step should be introduced immediately after a notice form has been dated, uniquely identified, and has been given a cursory check in order to sort out illegible forms, forms which need some language translation, and forms submitted not for notification but for co-ordination. Ideally, the transformation should be done directly from the submitted notice form: that would eliminate the time now required to transcribe the data and the time required to check the transcription. The notification form which has been developed will permit that action. However, the optimum design of such a form depends upon the design and storage method of the ultimate data file - the International Frequency List. The transcription process presently performed by the Board, although intrinsic to the present manual system, results not only from the fact that the keypunching of data is performed "out-of-house", but also from the fact that the present design and storage method of the I.F.L. requires the inclusion of additional data and special operational codes into the submitted "raw" data. Clearly, therefore, the design of an input form should go hand-in-hand with the design of the machine-stored data file.

20. Given the early transformation of the input data in accordance with the first suggestion, the second suggestion could be implemented without much difficulty. At present, the machine-readable data are subjected to a number of checks pertaining to such things as alphanumeric content of columns, and ranges of numbers. There is also another set of manual checks made upon the notice form itself which include such things as the checking of dates against prescribed regulations, checking the names of stations and co-ordinates, and checking the names and addresses of operating administrations. These checks would be amenable to automation and that should be done. All of the above checks could then be combined into one collective operation to be performed upon the machine-readable data at the earliest opportunity. This operation would be most efficiently performed in a "batch" mode where the data from a number of notices would be processed in one machine "run". In association with the checking process, the machine would sort the input data into classes according to the type of action which should follow (e.g., return as incomplete, process according to service/frequency as a standard action, process according to service/frequency as a non-standard action) and count the number of notices in each class. Appropriate reports could be generated for each class of action.

21. The third suggestion relates to the means for storing data during the recording process. At present, there is a large amount of paper being handled and being moved from point-to-point. The file structure shown in Figure 4 could eliminate much of that while providing the means for checking on the status of a particular notice. The first file, labelled "WORK" would receive the raw machine-readable data which would be subjected to the checks discussed above. When the data have been verified and sorted according to action they would be tagged with appropriate identifiers (which need not be identical to the initially assigned identifiers) and then passed to the file labelled "ACTION". Appropriate administrative examinations and technical examinations would be performed upon the data in this file (using data from the I.F.L. when necessary). Upon completion of appropriate actions, the notification data would be supplemented by additional information such as results of calculations and I.F.R.B. findings, tagged with appropriate identifiers and used to update the I.F.L.

22. The fourth and fifth suggestions go hand-in-hand. It is evident that some of the administrative examination, such as the RR501 check, and some of the more simple cases of technical examination could be done by a computer rather than by a person. If these cases were integrated into the automatic processing, some staff would be free to concentrate on more complex cases or, especially in the cases concerning engineers, other tasks rather than examination. Of course, the results from the automatic examination would have to be kept under supervision (probably with sampling of engineering calculations) and integrated with any human engineering inputs. However, since the cases would be largely routine, this could be performed in the Regulatory Department. In order to be efficient, the Department would need expertise according to service/frequency classes. This classification of expertise could be carried through the entire process, so that it is possible to envisage a group of "notification examiners", each sub-group of which would have a particular area of expertise and which could be responsible for the complete processing of a notice from the time it enters the working flow (after being transformed into machine-readable form) until the time when the I.F.L. and Master Register are updated. The definition of the exact duties of these persons and the interfaces with the automatic process and the Engineering Department would result from a comprehensive analysis of the work and data flow processes.

SUMMARY

23. The form and content of the data which the Board uses and the manipulations made of these data have been reviewed. The Board could take advantage of automatic procedures to increase its efficiency and to ease the burdens placed upon the staff by a growing workload. However, caution against the implementation of automatic procedures on a selective basis must be emphasized; the result could be a system which would not work as a balanced whole and which would not be capable of absorbing new requirements. The prudent course would be to conduct, or contract for, a comprehensive systems analysis of the information needs and associated work processes of the Board with the intent of designing an automatic processing system which will indeed be beneficial to the work of the Board and thus enable them to give a better service to the administrations they serve. Such an analysis and design effort should not be constrained by the hardware, software, and personnel resources now available to the Board. Indeed, the analysis, design, programming and implementation of an efficient automatic processing system will require an expenditure of several person-years of work.

24. The operation of such a system will almost certainly require additional or upgraded hardware and certainly will require classes of personnel with the qualifications necessary to utilize the system.

25. It is hoped that the discussion and suggestions which have been presented in this section of the report can prove useful in defining the objectives and operations of the integrated automatic processing system which is needed by the Board.

Figure 1a - International Frequency List *)

<u>Basic File</u>	<u>Overflow File</u>
K Basic identifier	K Identifier (K')
Assigned frequency	Basic identifier
Transmit or Receive indicator	.
Assigned frequency	Name of second receiving station
Assigned frequency band	.
.	.
Name of transmitting station	Pointer to next overflow record(K")
.	
Name of first receiving station	
.	
Class of station	
.	
Status of registration	
Pointer to overflow record (K')	
Pointer to space portion (K ^S)	
<u>Space File</u>	
K Identifier (K ^S)	
Basic identifier	
Identity of space system	
.	
.	
BC-Sat data item	

*) In this Figure, as well as in Figures 2 and 3, symbol "K" refers to the item which is the osrt key for ordering of the records in a file, and then becomes the search key for retrieving a record.

Figure 1b

<u>Frequency/Assignment File</u>	<u>Overflow File</u>
K Assigned frequency	K Identifier (K')
Assignment 1 identifier	Assignment "n" identifier
Assignment 2 identifier	.
.	.
Assignment "m" identifier	.
Pointer to overflow record (K')	Pointer to next overflow record (K")
<u>Country/Assignment File</u>	<u>Overflow File</u>
K Country symbol	K Identifier (K')
Assignment 1 identifier	Assignment "n" identifier
Assignment 2 identifier	.
.	.
Assignment "m" identifier	.
Pointer to overflow record (K')	Pointer to next overflow record(K")
<u>Affected Assignments File</u>	
K Basic identifier	
Basic identifier of affected assignment 1	
.	
.	
Basic identifier of affected assignment "m"	

Figure 2 - Space Systems Index

<u>Basic File</u>	<u>Overflow File</u>
K System name	K Identifier (K')
Frequency	SPA/AA publication No.
Service	SPA/AA date
Longitude	SPA/AI publication No.
Country Symbol	SPA/AI date
SPA/AA publication No.	Pointer to next overflow record (K'')
SPA/AA date	
SPA/AI publication No.	
SAP/AI date	
SPA/AJ publication No.	
SPA/AJ date	
2d date	
2c date	
Diagram index No.	
Pointer to overflow record (K')	

<u>Country/System File</u>	<u>Frequency/System File</u>
K Country Symbol	K Frequency
System name 1	System name 1
.	.
.	.
System name "m"	System name "m"

Figure 3 - Examinations Files

<u>Standard Abbreviation File</u>
K Item (possible spelling as in Table No. 2)
Abbreviation
<u>Standard Country Code File</u>
K Country Symbol
Name of country or geographical area
I.T.U. Region
.
.
<u>Gazetteer Files</u>
K Station name
Country Symbol
Latitude
Longitude
<u>Operating Administration/Company File</u>
K Country Symbol
Company Code
First "n" characters of company name
<u>Operating Administration Address File</u>
K Country Symbol
Address code
First "n" characters of administration address
<u>Frequency Allocation File for Region "n"</u>
K Band start frequency (integer)
Allowable service 1
Primary/Secondary indicator
..
..
Allowable service "n"
Primary/Secondary indicator
Footnote flag

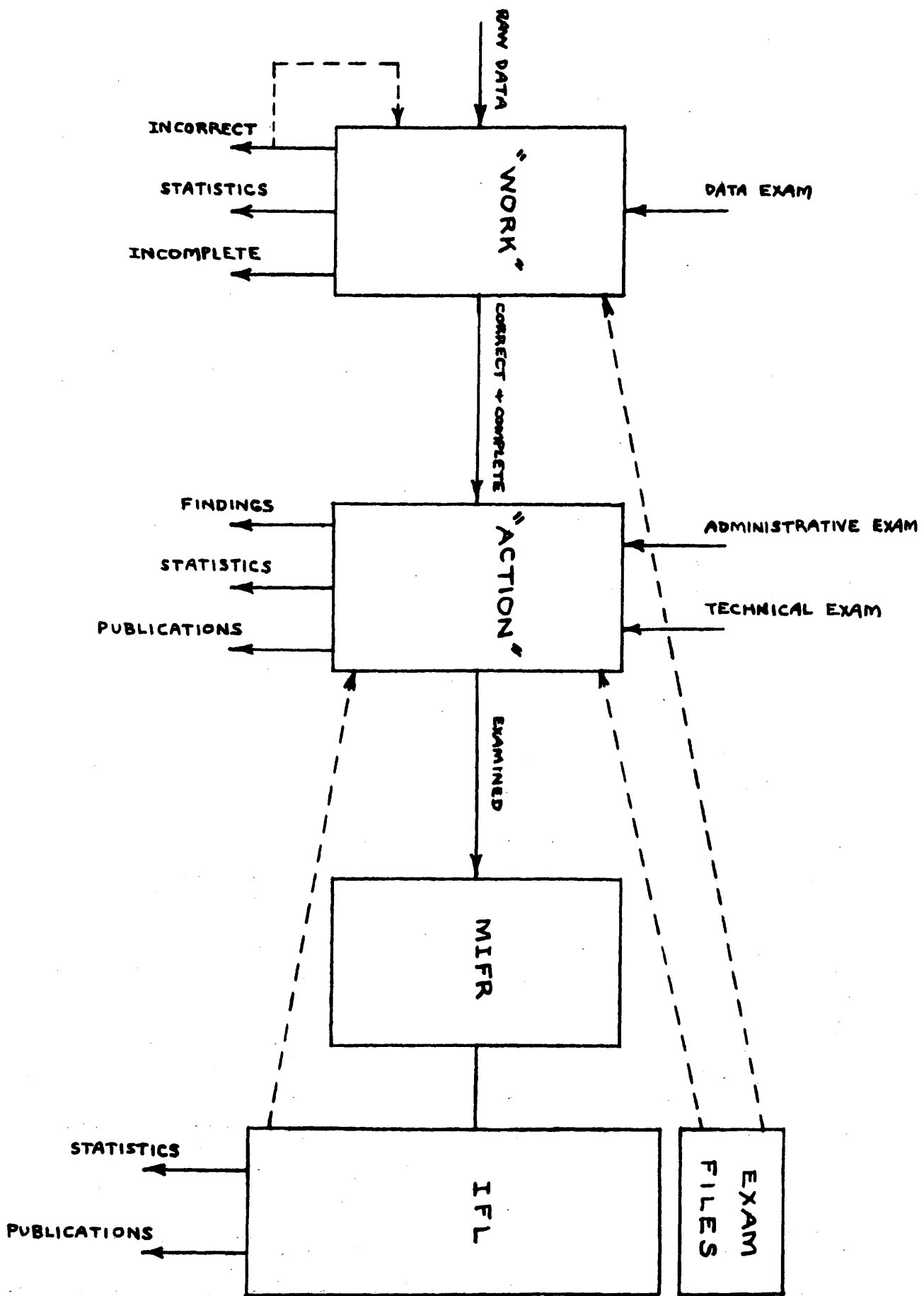


Figure 4

SECTION V

STRUCTURAL CONSOLIDATION OF THE TEXTS OF THE ADVANCE PUBLICATION,
UP-DATING OF PLANS, COORDINATION AND NOTIFICATION PROCEDURES
IN RELATION TO APPENDICES 1, 1A AND 1B *)

1. The provisions of the 1976 edition of the Radio Regulations when associated with those of various other I.T.U. conferences, relating to advance publication, the bringing up to date of various allotment and assignment plans, coordination, notification, examination and recording in the Master Register, are now so complex that serious consideration must be given to a major act of structural consolidation and simplification. The need for this is reinforced by:

- a) An increasing number of Final Acts of conferences that were evidently designed to stand outside, but have the full effect on those concerned, of the Radio Regulations themselves;
- b) Certain resolutions that contain their own procedures (Spa2 - 3, Mar2 - 7);
- c) Numerous footnotes to Article 5 under which "anomalous" use of certain frequency bands is authorized subject to various undefined conditions such as prior or special agreement, arrangement, consultation or coordination among the nations concerned or affected;
- d) The probability that, after the WARC 1979, future conferences will add still more new and different provisions relating to advance publication, up-dating of plans, coordination and/or notification, examination and recording.

2. Central to any attempt at consolidating and simplifying and, if possible, standardizing some of the currently differentiated wording, is the problem of coordination in the widest sense of the word. Associated with this is the increasing load of obligations placed on the Board by this extensive body of procedures which should if possible be lightened; certainly their commitments to the Administrative Council to make improved use of the I.T.U. computer need whatever assistance could be provided by such an act of consolidation.

*) I.F.R.B. Comment No. 27 - Although the study made by the Experts covered by the present Section was necessary to lead to the possible formulation of proposals concerning Appendices 1A and 1B, the Board did not participate in this part of the study considering that other implications may be involved. It is to be recalled the Group of Experts on the possible rearrangement of the Radio Regulations, Geneva, 1976, referred to a further study of the co-ordination, notification and registration procedures contained in Articles N11, N12 and N13 (see paragraph 12 and, in particular paragraph 12.3, of the Report). The results of the study contained in the present Section may also be considered as a possible approach in this connection.

3. Examination of the many procedures that are obligatory pre-requisites to the sending of a notice to the Board (for examination and recording in the Master Register) show many differences, but, clearly these were designed to cater for individual cases. And there is no reasonable prospect of designing (say) a standard "coordination" procedure that would be applicable in all cases. Further, since many of the procedures relate to only a single service it would almost certainly be outside the agenda of the WARC 1979 to attempt to revise them, quite apart from the practical problems of trying to do the job in the limited time available.

4. The most that is likely to stand a reasonable chance of achievement at the WARC 1979 is to construct a new and fairly simple framework to which all the existing procedures could be connected. Such a framework should show the order in which procedures are to be applied and the cases to which they apply. It should preserve the integrity of each procedure, but it should provide for growth so that the work of future conferences (e.g. if the W(AER)ARC 1978 in revising Appendix 27 was to introduce an "Article 4" procedure) could be connected to the framework with minimum editorial effort and with maximum standardization of wording.

5. At Annex 1 is a table showing the procedures currently in force and the cases to which they apply, while at Annex 2 is a draft of the framework designed as a means of connecting them into the body of the Radio Regulations. Annex 2, because of the limited time available, deals only with "up-dating" of plans and coordination.

Procedures¹⁾ A. Advance publication procedure

B. "Up-dating" of an existing allotment or assignment plan

C. Coordination procedure

D. Other procedure associated with Notification

E. Notification for examination and recording

No.	Cases in which various procedures are or may be applicable	Source	A	B	C	D	E
1	LF/MF broadcasting stations in Regions 1 and 3	GE 75, Art.4		✓			✓
2	Coast station use of duplex telephony channels from Appendix 25	No. 639DY		✓			✓
3	Coast station use of duplex narrow-band direct-printing telegraph channels	Res.Mar2 - 7				✓	✓
4	VHF/UHF FM/TV stations in European Broadcasting Area	ST 61, Art.4		✓			✓
5	VHF/UHF FM/TV stations in African Broadcasting Area	AF 66, Art.3		✓			✓
6	Satellite systems	No. 639AA	✓				
7	Terrestrial transmit stations in same band/coord. area of foreign earth stations	No. 492A			✓		✓
8	Geostationary space stations/cooperating earth stations vis-à-vis others	No. 639AJ			✓		✓
9	Earth stations in shared bands above 1 GHz/coord. distance of other countries	No. 639AN			✓		✓
10	Broadcasting-satellite space stations in bands shared with terrestrial services	Res.Spa2 - 3			✓		✓
11	Broadcasting satellites 11.7-12.5 GHz in Region 1, 11.7-12.2 GHz in Regions 2 & 3	GE 77, Art.4	✓	✓			✓
12	Fixed satellites vis-à-vis Broadcasting-satellites in above bands	GE 77, Art.7	✓		✓		✓
13	Terrestrial stations vis-à-vis Broadcasting-satellites in above bands	GE 77, Art.6			✓		✓
14	Aeronautical Mobile (R) stations in exclusive bands / Appendix 27 (Possible)	GE 78, Art.4		✓			✓
15	"Special" footnote(s) to Article 5 (Possible)	GE 79, ?			✓		✓

¹⁾Excluding Appendix 10 procedure

APPLICATION OF "UP-DATING", COORDINATION AND
NOTIFICATION PROCEDURES IN VARIOUS CASES

Annex 1 to Section V

Annex 2 to Section V

DRAFT

ARTICLE (N) "Y"

BRINGING UP TO DATE OF EXISTING FREQUENCY ALLOTMENT OR
ASSIGNMENT PLANS, COORDINATION, AND OTHER PROCEDURE PRIOR
TO NOTIFICATION AND RECORDING IN THE MASTER INTERNATIONAL
FREQUENCY REGISTER

Section I General Provisions as to Bringing up to Date Existing
Frequency Allotment or Assignment Plans Prior to Notification

- 001 (1) Before an administration notifies to the Board (for examination and recording in the Master Register) or brings into use a frequency assignment in any one of the cases described in Nos. 011, 012, 013, 014A, 015A or 016, it shall undertake the particular procedure prescribed for bringing up to date the frequency allotment or assignment plan appropriate to that case.
- 002 (2) Whenever an administration has, in accordance with No. 001, undertaken one of the procedures prescribed for bringing up to date an existing frequency allotment or assignment plan:
- 003 (a) Any other administration concerned in the matter, and the Board, shall take the action specified in the procedure prescribed for that particular case;
- 004 (b) Any other administration concerned in the matter failing to respond as specified in the procedure prescribed for that particular case, or failing to respond to action taken by the Board in accordance with the procedure prescribed, shall be assumed to have no objection to the proposal of the administration that undertook the procedure;
- 005 (c) Upon completion of the procedure prescribed, or following a failure to respond as described in No. 004, the Board shall promptly communicate the outcome to the Contracting Administrations¹⁾ to the particular plan.

¹⁾ 005.1 For the purposes of this Article "Contracting Administrations" are referred to throughout and shall be taken to refer to all administrations which have signed or subsequently acceded to the Final Acts of the Conference that prepared each plan.

- 006 (3) An administration intending to delete from an existing frequency allotment or assignment plan an entry made for its benefit shall notify the Board of its intention, using the form at Appendix 1, Section XX (to be developed).
- 007 (4) The Board, upon receiving a notification under No. 006 of an intended deletion from an existing frequency allotment or assignment plan, shall first verify that the intended deletion would not adversely affect the interests of any other Contracting Administration, and shall then communicate the deletion to all such administrations.
- 008 (5) The Board, following action in accordance with No. 005 or No. 007, shall on the next prescribed occasion publish a modification to the plan affected.
- 009 (6) Upon completion of the procedure prescribed by this Section for bringing up to date an existing frequency allotment or assignment plan, and except in those cases (see Sections III and IV of this Article) where coordination is also a prerequisite to the sending of a notice to the Board, it shall be understood that there is no further impediment to the sending of a notice to the Board for examination and recording in the Master Register.
- 010 - Spare - 1)

Note 1: There would be value, during the work of the WARC 1979, where future growth in the Regulations can reasonably be foreseen as the result of further I.T.U. conferences, and where it is desired to deal with a series of different cases in numerical order starting at 1, to leave some numbers vacant and annotate them as being "spare". This would avoid the proliferation over the years of uncomfortable references such as No. 57OAGC !

Section II Provisions as to Particular Cases of Bringing up to Date
Existing Frequency Allotment or Assignment Plans Prior
to Notification

011. (1) In the case of a proposed frequency assignment to a broadcasting station in the bands 150 - 285 kHz or 525 - 1605 kHz in Regions 1 or 3, the Assignment Plan for which is given at Appendix AA, the procedure described in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration proposes:
- a) To change the characteristics of a frequency assignment to a broadcasting station shown in the Plan, whether or not the station has been brought into use, or;
 - b) To bring into use an assignment to a broadcasting station not appearing in the Plan, or;
 - c) To change the characteristics of a frequency assignment to a broadcasting station for which the procedure in this Article* has been successfully applied, whether or not the station has been brought into use,
012. (2) In the case of a proposed frequency assignment, for use with radiotelephony by a coast station in any of the bands allocated exclusively to the maritime mobile service between 4000 and 23000 kHz, the Allotment Plan for which is given at Appendix AB, the procedure prescribed in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration proposes:
- (a) To establish a coast radiotelephone station and has no allotment in the Plan, or;
 - (b) To expand its coast radiotelephone service and requires an additional allotment, or;
 - (c) To bring into use at any coast radiotelephone station a frequency assignment not in accordance with an allotment in the Plan.

* Editorial: In lieu of "Article" refer to Annex 1 to Appendix AA.

013 (3) In the case of a proposed frequency assignment for use by a station of the aeronautical mobile (R)¹⁾ service in the bands allocated exclusively to that service between 2850 and 17970 kHz, the Allotment Plan for which is given at Appendix AC, the procedure prescribed in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration proposes:

(a) To bring into use an R assignment that is not in accordance with an allotment in the Plan, or;

(b) To change any of the characteristics of an allotment in the Plan.

014A (4) In the case of a proposed frequency assignment for use by a broadcasting station in the bands 41-68, 87.5-100, 162-230, 470-582 or 582-900 MHz in the European Broadcasting Area, the Plan for which is given at Appendix AD, the procedure prescribed in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration proposes:

(a) To change the characteristics of a broadcasting station shown in that Plan, or, to bring into operation a broadcasting station not appearing in the Plan, and;

(b) The distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are less than the limits corresponding to the proposed power of the station and other characteristics specified in Annex ...;

014B (5) The procedure prescribed in Annex 1 to Appendix AD shall not be applied to broadcasting stations outside the European Broadcasting Area, nor, within that area, to broadcasting stations in the bands between 41 and 230 MHz having a maximum ERP of less than 1 kW or to broadcasting stations in the bands between 470 and 960 MHz having a maximum ERP of less than 10 kW.

Note 1: This provision concerning the exclusive route bands is included on the assumption that the W(AERO)ARC, 1978, will include an Article 4 procedure in its revision of Appendix 27 Rev. No such assumption can be made concerning the Off Route Service for which no WARC can be expected until after 1979; thus, the inclusion here of a clause relating to the OR service, being a 'single service' matter, would be 'ultra vires' in respect of the WARC 1979.

015A (6) In the case of a proposed frequency assignment for use by a broadcasting station in the bands 41-68, 87.5-100, 174-223, or 470-960 MHz in the African Broadcasting Area, the Plans for which are given at Appendix AE, the procedure prescribed in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration proposes:

- a) To change the technical characteristics of a broadcasting station, shown in the Plans or brought into operation in accordance with the provisions of the present Agreement, or;
- b) To put into operation a broadcasting station not appearing in the Plans.

015B (7) The procedure prescribed in Annex 1 to Appendix AE shall not be applied to broadcasting stations outside the African Broadcasting Area, nor, within that Area, to broadcasting stations in the bands between 41 and MHz having a maximum ERP of less than kW or to broadcasting stations in the bands between and 960 MHz having a maximum ERP of less than kW.

016 (8) In the case of a proposed frequency assignment for use by a space station in the broadcasting satellite service in the band 11.7-12.5 GHz in Region 1 or 11.7-12.2 GHz in Regions 2 or 3, the Plan for which in respect of Regions 1 and 3 is given at Appendix AF, the procedure prescribed in Annex 1 to that Appendix shall, in accordance with No. 001, be undertaken whenever a Contracting Administration of Regions 1 or 3 proposes:

- a) To modify¹ the characteristics of any of its frequency assignments to a space station² in the broadcasting-satellite service which are shown in the Plan, or for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or;
- b) To include in the Plan a new frequency assignment to a space station in the broadcasting-satellite service.

017 - 020 Spares

¹ The intention not to employ energy dispersal consistent with section 3.18 of Annex 8 shall be treated as a modification and thus subject to the appropriate provisions of this Article.

² The expression "frequency assignment to a space station", wherever it appears in this Article, shall be understood to refer to a frequency assignment associated with a given orbital position. See Annex . . for the orbital position limitations.

Section III Provisions as to Coordination and other Procedure
prior to Notification

027 (1) Before an administration notifies to the Board (for examination and recording in the Master Register) or takes into use a pair of proposed frequency assignments, for use with narrow-band direct-printing telegraph by a coast station within the sub-bands reserved for this purpose (see Article (N)— (7)) in the bands allocated exclusively for the maritime mobile service between 4000 and 27000 kHz, the administration shall observe the provisions of the procedure given in Appendix AG (formerly Res. Mar 2-7).

022 (2) Before an administration notifies to the I.F.R.B. or brings into use any frequency assignment to a space station in the broadcasting-satellite service in a frequency band where this frequency band is allocated, with equal rights, to the broadcasting-satellite service and to a terrestrial radiocommunication service, either in the same Region or sub-Region or in different Regions or sub-Regions, it shall co-ordinate the use of this assignment with any other administration whose terrestrial radiocommunication services may be affected. For this purpose, it shall ~~inform the Board of all the technical characteristics of the station~~ ~~in accordance with the provisions of Appendix IA to the Radio Regulations~~ ~~to assess the risk of interference to terrestrial stations~~ undertake the co-ordination procedure prescribed in Appendix AH (formerly Res. Spa2 - 3).

023 (3) Before an administration notifies to the Board, or brings into use any frequency assignment to a terrestrial station¹ for transmitting in a band allocated with equal rights to terrestrial radiocommunication services and space radiocommunication services (space-to-Earth) in the frequency spectrum above 1 GHz, it shall initiate co-ordination of the proposed assignment with the administration responsible for the receiving earth station concerned if the assignment is for use within the co-ordination area of an existing receiving earth station or of one for which the co-ordination procedure referred to in No. 025¹ has been initiated. For the purpose of effecting co-ordination, it shall ~~send to any other such administration~~ undertake the co-ordination procedure prescribed in Appendix AI (formerly No. 492A etc.)

023.1 ~~C32A-1~~ ¹ Appendix 28 contains criteria relating only to co-ordination between earth stations and stations in the fixed or the mobile service. Until the C.C.I.R., in accordance with Recommendation No. Spa2-9 provides criteria for other terrestrial radiocommunication services, the criteria to be used in effecting co-ordination between earth stations and terrestrial stations other than those of the fixed or the mobile service, shall be agreed between the administrations concerned.

024

(4) Before an administration notifies to the Board or brings into use any frequency assignment to a space station on a geostationary satellite or to an earth station that is to communicate with a space station on a geostationary satellite, it shall effect co-ordination of the assignment with any other administration whose assignment in the same band for a space station on a geostationary satellite or for an earth station that communicates with a space station on a geostationary satellite is recorded in the Master Register, or has been co-ordinated or is being co-ordinated under the provisions of this paragraph. For this purpose, the administration requesting co-ordination shall ~~send to any other such administration the information listed in Appendix 1A~~ undertake the co-ordination prescribed in Appendix AJ (formerly No. 639AJ etc).

025

(5) Before an administration notifies to the Board or brings into use any frequency assignment to an earth station, whether for transmitting or receiving, in a particular band allocated with equal rights to space and terrestrial¹ radiocommunication services in the frequency spectrum above 1 GHz, it shall effect co-ordination of the assignment with any other administration whose territory lies wholly or partly within the co-ordination area² of the planned earth station. For this purpose it shall ~~send to any other such administration a copy of a diagram drawn to an appropriate scale indicating the location of the earth station and showing the co-ordination areas² of the earth station for the cases of transmission and reception by the earth station and the data on which they are based, including the pertinent parts of the proposed frequency assignment as listed in Appendix 1A, and an indication of the approximate date on which it is planned to begin operations~~ undertake the co-ordination procedure prescribed in Appendix AJ (formerly No. 639AN etc).

026A

in the band 11.7-12.5 GHz in Region 1 or 11.7-12.2 GHz in Regions 2 or 3,
(6) Before an administration notifies to the Board a frequency assignment to a terrestrial transmitting station, it shall initiate coordination with any other administration having a frequency assignment to a broadcasting-satellite station in conformity with the Plan at Appendix AF if:

- a) The necessary bandwidths of the two transmissions overlap; and
- b) The power flux density which would be produced by the proposed terrestrial transmitting station exceeds the value derived in accordance with Annex 3 at one or more points on the edge of the service area which is within the coverage area of the broadcasting-satellite station of that administration.

026B (7)

For the purpose of effecting coordination, the administration responsible for the terrestrial station shall undertake the co-ordination procedure prescribed in Annex .. to Appendix AF (formerly Article 6 of the BC-SAT Final Acts, 1977).

026B.1

These procedures do not involve any dispensation from the procedures prescribed for terrestrial stations in Article 9 of the Radio Regulations where stations other than those of the broadcasting-satellite service are involved.

026B.2

The procedures for coordination, notification and recording of assignments to terrestrial stations affecting broadcasting-satellite stations in Region 2 are contained in Article 9 of the Radio Regulations, except that the need for the coordination referred to in No. 492A of the Radio Regulations shall be determined on the basis of Annex 3.

027A (8) Before an administration notifies to the Board or brings into use any frequency assignment to a space station in the fixed-satellite service in the band 11.7-12.5 GHz in Region 1 or 11.7-12.2 GHz in Regions 2 or 3,

it shall seek the agreement of any other administration having a frequency assignment in conformity with the Plan at Appendix AF, if:

- a) any portion of the necessary bandwidth proposed for the space station in the fixed satellite service falls within the necessary bandwidth associated with the frequency assignment to the broadcasting-satellite station, and
- b) the power flux density which would be produced by the proposed fixed-satellite assignment exceeds the value specified in Annex 4 to Appendix AF.

027B (9) For this purpose, the administration seeking agreement shall undertake the co-ordination procedure prescribed in Annex ... to Appendix AF (formerly Article 7 of the BC-SAT Final Acts 1977).

028 10. Before an administration notifies to the Board or brings into use any frequency assignment in a band to which the provisions of (footnote) No.¹⁾ apply, it shall effect coordination of the proposed assignment with any other administration whose services, operating in accordance with the Table of Frequency Allocations, may be affected. For this purpose the administration requesting coordination shall undertake the general procedure²⁾ prescribed in Appendix

Note 1: The proposed wording of a standard opening phrase to all relevant footnotes might be as follows: "Subject to the provisions of Article ... (No. 028) as to coordination, the band may also be used for"

Note 2: Since there is often difficulty in deciding which administrations "may be affected", this problem could be resolved in the drafting of a general coordination procedure by requiring the Board to publish (with information provided by the initiating administration) details of the act of coordination, so that other administrations "believing that they should have been consulted" have the right to comment thereon within ... days.

SECTION VI

OTHER ACTIONS TO FACILITATE AUTOMATION IN THE I.F.R.B.

1. Two other actions could contribute towards facilitating automation of many of the routine processes of the I.F.R.B. The first is to encourage future administrative radio conferences, at an appropriate point in their work, specifically to consider the problems of automation and to ease them by standardizing terminology, phraseology and constructions of text, numbering of data items, etc. A note on this aspect is included in the Annex.

2. The second is to consider whether the presentation of Article 5 could itself be substantially modified to show (and this would be essentially an editorial task) how the provisions of Article 7 and the procedural Articles (9, 9A, 9B, etc.) are related to the use of frequency bands by different services. In this way, in convenient tabular form, there would be presented five essential pieces of information which, with the precision of presentation required for the tabular form, would reduce areas of uncertainty. The data then presented would be:

- a) the frequency limit of each band, differentiated by region as may be necessary;
- b) the names of the radio services to which each frequency band is allocated, together with their status relative to each other;
- c) the footnotes to each band allowing "anomalous" use of all or part of each band in one or more countries or areas and the conditions upon which this use is to be established (for example, subject to prior co-ordination as in Section V of this report);
- d) the identity of regulations in Article 7 which impose technical limits on each radio service or upon stations of that service;
- e) the identity of regulations in Articles 9, 9A etc. which impose advance publication, "up-dating", or co-ordination obligations prior to notifying or putting into use frequencies by stations of the relevant services.

3. While these might be only of marginal value in the Board's functions, they would however require a higher degree of precision in the expression of the decisions of radio conferences and this would certainly reduce the areas of uncertainty facing the Board.

Annex 1 to Section VI

Consideration during I.T.U. conferences of I.F.R.B. computerisation

1. The initiative taken by the Administrative Council towards improving use by the I.F.R.B. of the I.T.U. computer demands increasing efforts to standardize the identification of characteristics sent to the Board (whether in acts of publication, co-ordination or notification), the codes and symbols in which these items are to be expressed and even the formatting of the notices employed to send in this information.

2. Going still further, a number of processes used by the Board to discharge its functions could be automated if, in the structure and formal language of the Radio Regulations themselves, there was a higher degree of standardization of terminology, phraseology and construction. This would reduce areas of ambiguity or uncertainty and reduce the proportion of cases in which the Board is obliged to make interpretations, to establish precedents and search for the intent of the Regulations. Thus, a larger proportion of the cases in which the Board is involved would be standard rather than non-standard.

3. It is evident that some administrations, in their proposals and contributions to administrative radio conferences, already give considerable thought to the implications in so far as they may impose on the Board additional work, whether in terms of new types of work or new quantities. Since the Board's work arises mainly from obligations imposed by the Radio Regulations which are made by administrative radio conferences, this foresight and concern should be encouraged, perhaps by the Administrative Council in drafting its remit to each conference.

4. There is, however, within each conference a stage when more specific action could be taken. This is the point when the major decisions of the conference can be foreseen with a high degree of confidence and when the form and broad contents of the texts of the conference are fairly well established. At this point it would be possible to introduce external factors such as those mentioned in paragraph 2, as long as they could be satisfied in the basically editorial tasks of revising and harmonizing texts without compromising the prospect of the successful outcome of the conference.

5. It is for consideration, therefore, whether at future administrative conferences the chairmen of the main committees be asked at such a point in the work of their committees to introduce for discussion the implications of their output on the work of the I.F.R.B., with the aim of ensuring that the texts they send forward to the editorial committee take appropriate account of the Administrative Council's initiative on computerization in the I.F.R.B.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/174-E

6 November 1979

Original : English

French

Spanish

LIST OF DOCUMENTS (401 - 450)*)

No.	Origin	Title	Destination
401	ARG/CTR/ CUB/SLV/ GTM/GUY/ JMC/MEX/ NCG/URG/ VEN	Proposals	C.5
402	WG 5BA	Second report of Working Group 5BA to Committee 5	C.5
403	WG 5BB	Second report of Working Group 5BB to Committee 5	C.5
404	WG 4C	Sixth report from Working Group 4C to Committee 4	C.4
405	WG 4C	Seventh report of Working Group 4C to Committee 4	C.4
406	WG 4C	Eighth report from Working Group 4C to Committee 4	C.4
407	WG 4C	Note by the Chairman of Working Group 4C	C.4
408	WG 6A1	Second report of Drafting Group 6A1	WG 6A
409 + Corr.1	WG 5C	Sixth report of Working Group 5C to Committee 5	C.5
410 + Corr.1	WG 5C	Seventh report of Working Group 5C to Committee 5	C.5
411 (Rev.1)	C.6	Second report by Committee 6	PL
412	C.6	Second series of texts submitted by Committee 6 to the Editorial Committee	C.9
413	ISR	Resolution relating to the presentation of amendments to the Radio Regulations	C.7, 9
414	WG 5E1	Report to Working Group 5E from Sub-Working Group 5E1 formed to consider passive service proposals above 275 GHz	WG 5E

- *) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1
 For Documents Nos. 101 to 150, see Document No. DT/15
 For Documents Nos. 151 to 200, see Document No. DT/39
 For Documents Nos. 201 to 250, see Document No. DT/70
 For Documents Nos. 251 to 300, see Document No. DT/111
 For Documents Nos. 301 to 350, see Document No. DT/146
 For Documents Nos. 351 to 400, see Document No. DT/159



No.	Origin	Title	Destination
415	IATA	Observations regarding proposed allocations in the 136 - 137 MHz band	C.5
416 + Corr.1	WG 6A2	Report from Sub-Working Group 6A2 - Consideration of Resolutions and Recommendations	WG 6A
417	WG 5C	Eighth report of Working Group 5C to Committee 5	C.5
418	F	Radiolocation systems in the frequency band 1 605 - 3 000 kHz	C.5
419	WG 7B	Second report of the Chairman of Working Group 7B to Committee 7	C.7
420	WG 5BA6	Report of Sub-Working Group 5BA6 to Working Group 5BA	WG 5BA
421	C.6	Summary record of the fifth meeting of Committee 6 (Regulatory procedures)	C.6
422	WG 5 Ad Hoc 4	Report of Working Group 5 Ad Hoc 4	C.5
423	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 4	C.4
424 + Corr.1	C.9	B.1	PL
425	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
426	C.4	Fourth report of Committee 4	PL
427	C.4	Fourth series of texts from Committee 4 to the Editorial Committee	C.9
428	C.4	Fifth report of Committee 4	PL
429	C.4	Fifth series of texts from Committee 4 to the Editorial Committee	C.9
430	AFG	Proposals	C.5
431	USA	Information paper - Sound Broadcasting in the Broadcasting- satellite service : implications of operating frequency and individual VS community reception on the space station design	C.5
432	WG 4A	Note from the Chairman of Working Group 4A	C.4
433 + Corr.1	C.9	B.2	PL
434	C.8	Summary record of the fifth meeting of Committee 8 (Restructure)	C.8

No.	Origin	Title	Destination
435	ISR	Proposals	C.5
436	WG 5E8	Report by Sub-Working Group 5E8 to Working Group 5E	WG 5E
437	USA	Information paper concerning remote sensing frequency allocations for spaceborne passive microwave sensors	C.5
438	C.7	First report of Committee 7 (General Administration)	PL
439	C.7	First series of texts from Committee 7 to the Editorial Committee	C.9
440	WG 6A	Second report of Working Group 6A	C.6
441	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
442	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5
443	C.9	B.3	PL
444	F	Definition of the radio astronomy service	C.5
445	WG5BA1 Ad Hoc	Report of Ad Hoc Working Group 5BA1	WG 5BA
446	WG 6 Ad Hoc1	Report of Working Group 6 Ad Hoc 1 to Committee 6	C.6
447	WG 5A3	Report of Sub-Working Group 5A3 to Working Group 5A	WG 5A
448	WG 5E	Third report of Working Group 5E to Committee 5 (Allocations)	C.5
449	WG 5E	Fourth report of Working Group 5E to Committee 5 (Allocations)	C.5
450	WG 5E	Fifth report of Working Group 5E to Committee 5 (Allocations)	C.5

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/175-E

6 November 1979

Original : EnglishWORKING GROUP 4CDRAFT

THIRTEENTH REPORT OF WORKING GROUP 4C TO COMMITTEE 4

Subject : MOD Appendix 4

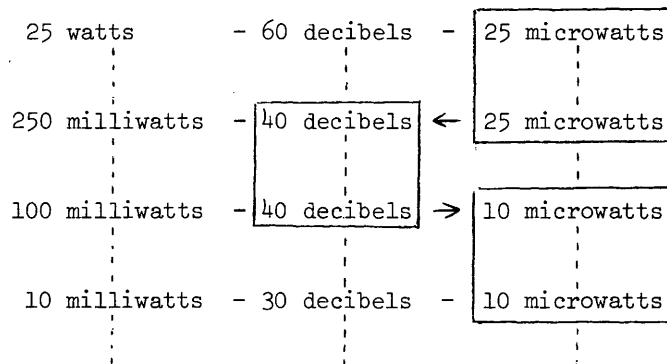
1. Working Group 4C, having considered all proposals concerning Appendix 4, submits this Appendix as revised for consideration in Committee 4 (see Annex).
2. The levels in Column A of the Table are identical to those at present in Column B. The same applies to the corresponding notes, notwithstanding editorial amendments without changing the substance.
3. Since certain decisions on frequency band limits have not yet been taken in Committee 5, frequencies, where relevant, have been enclosed in square brackets.
4. A majority decision was taken on the inclusion of levels for the band $[960]$ MHz to $[17.7]$ GHz.
5. Except as stated in item 4 above, this report and its Annex have been approved unanimously.

E. GEORGE

Chairman of Working Group 4C

Annex : 1

P.S. : The following will not form part of the report as it will be submitted to Committee 4. The sketch shown below serves merely to understand note 6 to the Table which has been derived from the present wording "and without the necessity for reducing this value below 10 microwatts" for the band 30 - 235 MHz and applying to mean powers of 25 watts or less.



A N N E X

MOD APPENDIX 4

MOD Table of Maximum Permitted Spurious Emission Power Levels

(See Article N4)

MOD 1. The following table indicates 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.

MOD 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.

MOD 3. These levels shall not, however, apply to emergency (PNG/111/377 position indicating radio beacon stations, emergency locator transmitters, as modified) ship's emergency transmitters, lifeboat transmitters, survival craft stations or maritime transmitters when used in emergency situations.

MOD 4. For technical or operational reasons, specific services (PNG/111/377 may demand more stringent levels than those specified in the Table. The as modified) levels applied to these services shall be those agreed upon by the appropriate Administrative Radio Conference. More stringent levels also can be fixed by specific agreement between Administrations concerned.

MOD 5. For radiodetermination stations, until acceptable methods (≈ SPM 8, of measurement exist, the lowest practicable absolute power level of spurious SPM Report p.8.8) emission should be achieved.

SUP 6. (transferred to Column A of the Table)

MOD

Assigned Frequency Band (lower limit exclusive, upper limit inclusive)	For any spurious component neither the attenuation (mean power within the necessary band width relative to the mean power of the spurious component concerned) shall be below nor shall the absolute mean power exceed the levels specified in Columns A and B below (Note 1)	
	A	B
	Levels applicable until 1 January 1994 to transmitters now in use and to those installed before 2 January 1985	Levels applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1994
$\underline{0/9}$ to 30 MHz	40 decibels or 50 milliwatts (Notes 2,3,4)	40 decibels or 50 milliwatts (Notes $\underline{3/8}$, 4,7)
30 to $\underline{235}$ MHz		
- mean power above 25 watts	60 decibels or 1 milliwatt (Note 5)	60 decibels or 1 milliwatt (Note 9)
- mean power 25 watts or less	40 decibels or 25 microwatts (Notes 5,6)	40 decibels or 25 microwatts

<p><u>235</u> to <u>960</u> MHz</p> <ul style="list-style-type: none"> - mean power above 25 watts - mean power 25 watts or less 		<p>60 decibels or 20 milliwatts (Notes 10, 11)</p> <p>40 decibels or 25 microwatts</p>
<p><u>960</u> MHz to <u>17.7</u> GHz</p> <ul style="list-style-type: none"> - mean power above 10 watts - mean power 10 watts or less 	<p>No level is specified for transmitters operating on assigned frequencies</p>	<p>50 decibels or 100 milliwatts (Notes 11,12,13)</p> <p>100 microwatts (Notes 11,12,13)</p>
<p>Above <u>17.7</u> GHz</p>	<p>above <u>235</u> MHz. For these transmitters the power of spurious emissions shall be as low as practicable.</p>	<p>Due to the diverse nature of technologies employed by services operating above <u>17.7</u> GHz further study by the CCIR is required prior to specification of levels. To the extent possible, the values to be observed should be those shown in appropriate CCIR Recommendations. Until suitable Recommendations have been adopted, the lowest possible values achievable shall be employed (see Recommendation No. <u>J</u>)</p>

/ADD

Notes referring to the Table of Maximum
Permitted Spurious Emission Power Levels /

MOD
(= SPM 11)

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.

MOD
(= (MOD) ex.1)

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.

MOD
(= (MOD) ex.2)

3. For hand-portable equipment of mean power less than 5 watts / which operates in the frequency band below 30 MHz /, the attenuation shall be at least 30 decibels, but every / practicable / effort should be made to attain 40 decibels attenuation.

MOD
(= (MOD) ex.3)

4. 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.

ADD
(= (MOD) ex.4)

5. For frequency modulated maritime mobile radio-telephone 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.

ADD

6. For transmitters having a mean power of less than 100 milliwatts it is not mandatory to reduce the mean power level below 10 microwatts even if an attenuation of 40 decibels is not achieved.

Alternative text :

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.

ADD

7. 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, whilst a reduction below 50 milliwatts is not mandatory, a minimum attenuation of 60 decibels shall be provided.

ADD

8. For hand-portable equipment of mean power less than 5 watts, the attenuation shall be / at least / 30 decibels, but every practicable effort should be made to attain 40 decibels attenuation.

ADD

9. Administrations may adopt a level of 10 milliwatts provided that harmful interference is not caused.

ADD 10. Where several transmitters feed a common antenna or closely spaced antennae on adjacent frequencies, every /practicable/ effort should be made to comply with the levels specified, although this may not always be achievable.

ADD 11. Since the levels referred to in No. 5 preceding the Table 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.

ADD 12. 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 CCIR Recommendations (see Recommendation No. / /).

ADD 13. 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.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/176(Rev.1)-E

9 November 1979

Original : English

WORKING GROUP 5E

DRAFT

EIGHTH AND LAST REPORT FROM WORKING GROUP 5E TO COMMITTEE 5

1. The Working Group has considered the existing Recommendations referred to it (Nos. Spa2 - 3, Spa2 - 4, and Spa2 - 5).
2. The decisions taken by the Working Group on Spa2 - 4 and Spa2 - 5 are shown in the Annex.
3. For action on Recommendation No. Spa2 - 3, see the draft Recommendations in Document No. /DT/194(Rev.1)/.

Dr. A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

1. Recommendation No. Spa2 - 3

Two new Recommendations entitled as shown below, for action on the subject covered by Recommendation No. Spa2 - 3 have been drafted (Reference Document No. DT/194(Rev.1)) :

- a) relating to the use of airborne radars in the frequency bands shared between the inter-satellite service and the radiolocation service;
- b) relating to sharing of frequency bands between the aeronautical mobile service and the inter-satellite service.

2. Recommendation No. Spa2 - 4

Action has been taken through the recommendation of allocations to terrestrial services, as shown in Documents Nos. 394(Rev.1), 449 and 450.

The Recommendation should now be abrogated.

3. Recommendation No. Spa2 - 5

Action has been taken through the recommendation of allocations to terrestrial services, as shown in Document No. 390(Rev.1).

The Recommendation should now be abrogated.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/176-E

6 November 1979

Original: English

WORKING GROUP 5E

DRAFT

EIGHTH AND LAST REPORT FROM THE CHAIRMAN OF WORKING GROUP 5E TO THE
CHAIRMAN OF COMMITTEE 5

1. The Working Group has considered the existing Recommendations referred to it (Nos. Spa2 - 3, Spa2 - 4, and Spa2 - 5).
2. The decisions taken by the Working Group on Spa2 - 4 and Spa2 - 5 are shown in the Annex.
3. Actions on Recommendation Spa2 - 3 will have to await the response from Committee 4 on the question of "except Aeronautical Mobile" with respect to the intersatellite service (Reference Document No. 379).

A.W. ADEY

Chairman of Working Group 5E

Annex: 1



ANNEX

1. Recommendation No. Spa2 - 3

A decision on this Recommendations has been deferred pending a response from Committee 4 (reference Document No. 379).

2. Recommendation No. Spa2 - 4

Action has been taken through the recommendation of allocations to terrestrial services, as shown in Documents Nos. 394(Rev.1), 449 and 450.

The Recommendation should now be abrogated

3. Recommendation No. Spa2 - 5

Action has been taken through the recommendation of allocations to terrestrial services, as shown in Document No. 390(Rev.1).

The Recommendation should now be abrogated.

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/177-E

6 November 1979

Original : English

COMMITTEE 7

NOTE FROM THE ACTING CHAIRMAN OF COMMITTEE 7

The Annex hereto is a list of Resolutions and Recommendations adopted by previous Administrative Conferences, which are appropriate to the work of Committee 7 according to its terms of reference. Notes on possible action have been included.

H.L. VENHAUS

Acting Chairman of Committee 7

Annex : 1



A N N E X

This document replaces and supersedes documents DL/155 and DL/163.

EXISTING RESOLUTIONS AND RECOMMENDATIONS TO BE CONSIDERED BY COMMITTEE 7

1. RESOLUTIONS

- a) Resolutions for which all proposals received are for abrogation

RESOLUTION No. 9

Relating to the Publication of Service Documents

ZAI/8/57 SUP RES. 9
F/57A/704
NOR/72/228
IND/93/254
GRC/132/485 and
GS Report Doc. 158

(Note. Reason: All necessary action has been taken.)

RESOLUTION No. 12

Relating to the Establishment of a Manual for Use by the Mobile Services

ZAI/8/59 SUP RES. 12
F/57A/706
NOR/72/231
IND/93/256
GRC/132/485

(Note. Reason: All necessary action has been taken.)

RESOLUTION No. Mar 1

**Relating to the Abrogation of Obsolete Recommendations
of the Administrative Radio Conference, Geneva, 1959**

ZAI/8/61 SUP RES. Mar 1
F/57A/710
NOR/72/235
IND/93/258
GRC/132/485

(Note. Reason: Now obsolete)

RESOLUTION No. Mar 2

**Relating to the Establishment of a Manual
for Use by the Maritime Mobile Service**

ZAI/8/61 SUP RES. Mar 2
F/57A/711
NOR/72/236
IND/93/258
GRC/132/485

(Note. Reason: Now obsolete)

RESOLUTION No. Mar 17

**Relating to the Need for keeping adequate Watch by Ship Stations
on the International Distress Frequency for Radiotelephony**

NOR/72/239 SUP RES. Mar 17
IND/93/258
GRC/132/485

(Note. Reason: Now obsolete)

RESOLUTION No. Spa2-7

**Relating to the Inclusion of additional Sections
in List VIIIA (Article 20, Appendix 9)**

F/57A/708 SUP RES. Spa2-7
NOR/72/233
GRC/132/485

(Note. Reason: All necessary action has been taken)

RESOLUTION No. Spa2-8

**Relating to the Abrogation of obsolete Resolutions and Recommendations of
the Extraordinary Administrative Radio Conference to allocate Frequency
Bands for Space Radiocommunication Purposes, Geneva, 1963 and a
Recommendation of the Administrative Radio Conference, Geneva, 1959**

ZAI/8/65 SUP RES. Spa2-8
F/57A/709
NOR/72/234
IND/93/259
GRC/132/485

(Note. Reason: Now obsolete)

RESOLUTION No. Mar2-1

**Relating to the Abrogation of obsolete Resolutions and Recommendations
of the World Administrative Radio Conference, Geneva, 1967,
and a Resolution of the World Administrative Radio Conference for Space
Telecommunications, Geneva, 1971**

ZAI/8/63 SUP RES. Mar2-1
F/57A/716
NOR/72/240
IND/93/260
GRC/132/485

(Note. Reason: Now obsolete)

RESOLUTION No. Mar2 - 5

**Relating to the Introduction of New Calling Procedures for
HF A1 Morse Telegraphy**

ZAI/8/63 SUP RES. Mar2-5
F/57A/720
IND/93/260
GRC/132/485

(Note. Reason: All necessary action has been taken)

**RESOLUTION No. Sat - 4 relating to the amending to the Radio Regulations of the provisions and
~~associated provisions contained~~ in the Final Acts of the Conference**

F/57A/734 SUP RES. Sat-4

(Note. See J/62A/225 ADD New Appendix)

(Note. Reason: All necessary action taken?)

RESOLUTION No. Aer2 - 8

**Relating to the Abrogation of various Resolutions and a
Recommendation of the Extraordinary Administrative Radio
Conference, Geneva, 1966, and a Resolution of the
Administrative Radio Conference, Geneva, 1959**

F/57A/743 SUP RES. Aer2-8

(Note. Reason: Now obsolete)

b) Resolutions for which proposals have been received for modification, replacement or abrogation

RESOLUTION No. Mar2 - 18

**Relating to Technical Cooperation with the Developing Countries
in Maritime Telecommunications**

CHL/CLM/EQA/NIG/368/... MOD RES. MAR2-18

c) Resolutions for which no proposals have been received.

RESOLUTION No. 8

**Relating to the Formation of Call Signs and the Allocation
of New International Series**

(Note: This Resolution should be considered together with Article N23.)

RESOLUTION No. Spa 4

**Relating to International Co-operation
and Technical Assistance in the Field of Space Radiocommunications**

RESOLUTION No. Mar2 - 17

**Relating to the Establishment of a Manual for Use by the
Maritime Mobile and Maritime Mobile-Satellite Services**

(Note. This Resolution should be considered together with Article N24)

RESOLUTION No. Mar2 - 19

**Relating to the Introduction of a Digital Selective Calling
System to meet the Requirements of the Maritime Mobile Service**

2. RECOMMENDATIONS

- a) Recommendations for which all proposals received are for abrogation

RECOMMENDATION No. 18

Relating to Operator Certificates

IND/93/267 SUP
GRC/132/486

(Note. Reason: All necessary action has been taken)

RECOMMENDATION No. 29

Relating to the Pronunciation of Words in the Phonetic Alphabet

NOR/72/253 SUP REC. 29
GRC/132/486

(Note. Reason: All necessary action has been taken)

RECOMMENDATION No. Spa2 - 13

**Relating to the Use of Space Radiocommunication Systems
in the Event of natural Disasters, Epidemics, Famines and similar
Emergencies**

GRC/132/486 SUP

(Note: This Recommendation should be replaced by)

RECOMMENDATION No. Mar2 - 5

**Relating to the Introduction of an Additional Tone
after the Radiotelephone Alarm Signal transmitted by
Coast Stations**

GRC/132/486 SUP

(Note. Reason: All necessary action has been taken)

RECOMMENDATION No. Mar2 - 6

**Relating to the Frequencies in Appendix 17, Section C,
and Appendix 17 Rev., Section B, of the Radio
Regulations, provided for World-Wide Use
by Ships of all Categories and
by Coast Stations**

GRC/132/486 SUP

(Note. Reason: All necessary action has been taken)

RECOMMENDATION No. Mar2 - 17

**Relating to the Use of Radiocommunications for Marking, Identifying,
Locating, and Communicating with the Means of Transport protected
under the Geneva Conventions of 12 August 1949, concerning
the Protection of War Victims and any Additional Instruments of
those Conventions, as well as for ensuring the Safety of Ships
and Aircraft of States not Parties to an Armed Conflict**

S/15/375 SUP REC. Mar2 - 17
IND/93/284
GRC/132/486

(Note: This Recommendation should be replaced by)

RECOMMENDATION No. Mar2 - 20

**Relating to the Presentation of Draft Amendments
to the Radio Regulations**

F/57A/763 SUP REC. Mar2 - 20
IND/93/283

(Note. Reason: All necessary action has been taken)

b) Recommendations for which proposals have been received for modification, replacement or abrogation

RECOMMENDATION No. 17

**Relating to the Adoption of Standard Forms
for Ship Station Licences and Aircraft Station Licences**

F/57A/749 NOC REC. 17

RECOMMENDATION No. 34

**Relating to the Use of Radiotelegraph and Radiotelephone
Links by Red Cross Organizations**

GRC/132/486

S/15/382 SUP REC. 34

[See document No. 273]

IND/93/272

RECOMMENDATION No. 31 } To be reviewed in the light
RECOMMENDATION No. 34 } of decisions of WARC-79.

} Pending
decision
by
Committee 5

(Note: This Recommendation should be replaced by)

RECOMMENDATION No. 35

**Relating to the Practical Needs of Countries in Need of Special
Assistance**

The Administrative Radio Conference, Geneva, 1959.

recommends

1. that administrations of countries in need of special assistance should establish their own facilities for processing and adjusting quartz crystals, and obtain crystal-stabilized variable frequency oscillators to be employed as a temporary means of frequency control of their transmitters pending availability of crystals adjusted to precise operating frequencies. When assistance in this matter is requested, it should be provided through the appropriate technical assistance organs of the United Nations ;

2. that all administrations should make special efforts to co-operate with the administrations of countries in need of special assistance by furnishing monitoring information and such technical assistance as may aid these countries in obtaining proper frequency assignments for their operations ;

invites the International Frequency Registration Board

to provide administrations of countries in need of special assistance with the necessary information and technical data, including the detailed explanations of the Radio Regulations, which will permit these countries to choose and obtain proper frequency assignments for their operations.

IND/93/271 MOD.

RECOMMENDATION No. 35

Delete "Recommends 1".

(Note: This Recommendation should be replaced by)

RECOMMENDATION No. Spa 9

**Relating to the Review of Progress in the Field
of Space Radiocommunications**

The Extraordinary Administrative Radio Conference, Geneva, 1963,

considering

- a) that man is progressing rapidly in the conquest of outer space, that all nations will benefit, and that this progress depends upon efficient and orderly space communications;
- b) that this Conference has taken the first steps in the field of development of space radiocommunications in having allocated frequency bands for space radiocommunications and having established technical criteria and frequency registration and notification procedures designed to facilitate the further development of space radiocommunications;

recognizing

- a) that the development of space services will go on in parallel with the development of terrestrial communication systems;
- b) that all Members of the Union have an interest in the rational use of frequency bands allocated for space communication services, in the avoidance of harmful interference to space and other services, and in the international regulation of the use of these frequency bands;
- c) that the decisions of the Conference may be subject to increasing refinement and improvement by future Conferences of the Union;
- d) that there will be available additional data relating to space radiocommunications resulting from further experimental and operational experience;

believing

that such refinement and improvement is in the best interests of all Members and Associate Members of the Union if the full benefits of new technology are to be realized;

recommends

- 1. that Members and Associate Members of the Union make available, to the appropriate permanent organs of the Union, pertinent data resulting from experimental and operational experience relating to space radiocommunications, as well as their proposals concerning space radiocommunications;

2. that the Administrative Council of the Union should review annually the progress in space radiocommunications made by Administrations, and the available reports and recommendations of the permanent organs of the Union with respect thereto;

and further recommends

3. (Abrogated by Resolution No. Spa2-8)
4. (Abrogated by Resolution No. Spa2-8)

URS/63A/117 SUP REC. Spa 9

IND/93/276 MOD

RECOMMENDATION Spa 4	} Reference to CCIR text is to be updated
RECOMMENDATION Spa 8	
RECOMMENDATION Spa 9	
RECOMMENDATION Spa 10	

(Note. This Recommendation should be replaced by)

RECOMMENDATION Mar2 - 4

Relating to the Use of the Carrier Frequencies 4 136.3 kHz
and 6 204 kHz¹ to supplement the Carrier Frequency 2 182 kHz
for Distress and Safety and for Call and Reply Purposes
in the Zone of Regions 1 and 2 South of Latitude 15° North,
but including Mexico, and in the Zone of Region 3
South of Latitude 25° North

GRC/132/486 SUP

RECOMMENDATION Mar2 - 4

The World Maritime Administrative Radio Conference, Geneva, 1974,

considering

a) that in some areas of the world it is not practicable to provide reliable coverage for distress and safety purposes on the international radiotelephony distress frequency 2 182 kHz, because of the great distances between coast stations keeping watch on this frequency;

b) that a large number of ships equipped only for radiotelephony make voyages in these areas during which they are often out of range of coast stations keeping watch on the carrier frequency 2 182 kHz;

c) that to overcome this problem many administrations in the above-mentioned zones have established watches at their coast stations for distress and safety and for call and reply purposes on the carrier frequencies 4 136.3 kHz and 6 204 kHz;¹ and that these watches have proved to be effective supplements to those kept on 2 182 kHz;

d) that provision is made in the Radio Regulations for the carrier frequency 4 136.3 kHz¹ to be used in the zone of Regions 1 and 2 south of latitude 15° North, including Mexico, and in the zone of Region 3 south of latitude 25° North and also for the carrier frequency 6 204 kHz¹ to be used in the zone of Region 3 south of latitude 25° North as supplementary frequencies to 2 182 kHz for distress and safety and for call and reply purposes;

e) that it could be in the interests of ships equipped only for radiotelephony and operating in these zones to have facilities to send and receive on the carrier frequencies 4 136.3 kHz and 6 204 kHz¹ when calls on 2 182 kHz might be ineffective;

recommends

1. that administrations bring to the notice of the operators of ships under their jurisdiction which are equipped only for radiotelephony that certain land stations as indicated in the List of Coast Stations provide facilities for distress and safety and for call and reply purposes on the carrier frequency 4 136.3 kHz¹ to supplement the carrier frequency 2 182 kHz in the zone of Regions 1 and 2 south of latitude 15° North, including Mexico, and in the zone of Region 3 south of latitude 25° North and also for the carrier frequency 6 204 kHz¹ to be used in the zone of Region 3 south of latitude 25° North;

2. that administrations whose ships are equipped only for radiotelephony consider that, although it is not mandatory for ship and coast stations to provide facilities for sending and receiving on the carrier frequencies 4 136.3 kHz and 6 204 kHz,¹ it may be essential for the safety of radiotelephony ships operating in the above-mentioned zones to have such facilities.

¹ As from 1 January 1978, the carrier frequencies 4 136.3 kHz and 6 204 kHz are to be replaced by the carrier frequencies 4 125 kHz and 6 215.5 kHz, respectively.

ZAI/8/70 MOD Recommendation No. Mar2 - 4.

Since 1 January 1978 the carrier frequencies 4 136.3 kHz and 6 204 kHz have been replaced by the carrier frequencies 4 125 kHz and 6 215.5 kHz. However, Recommendation No. Mar2 - 4 remains necessary.

ARG/129/256 MOD
(Add.1)

RECOMMENDATION Mar2 - 4

d) that provision is made in the Radio Regulations for the carrier frequency ~~4-136.3-kHz~~ 4 125 kHz to be used in the zone of Regions 1 and 2 south of latitude 15° North, including Mexico, and in the zone of Region 3 south of latitude 25° North and also for the carrier frequency ~~6-204-kHz~~ 6 215.5 kHz to be used in the zone of the frequency 2 182 kHz for distress and safety purposes, the frequency 2 187.9 kHz for call and reply.

e) that it could be in the interests of ships equipped only for radiotelephony and operating in these zones to have facilities to send and receive on the carrier frequencies ~~4-136.3-kHz-and-6-204-kHz~~ 4 125 kHz and 6 215.5 kHz when calls on ~~2-182-kHz~~ 2 187.9 kHz might be ineffective.

(Note: This Recommendation should be replaced by)

RECOMMENDATION No. Mar2 - 10

**Relating to the Establishment of a Watch by Coast Stations
for Distress Purposes on the Frequency 156.8 MHz**

F/57A/761 NOC REC. Mar2 - 10

**RECOMMENDATION No. Aer2 - 2 Relating to the Efficient Use of Aeronautical Mobile (R)
World-Wide Frequencies**

F/57A/769 NOC REC. Aer2 - 2

- c) Recommendations for which no proposals have been received

RECOMMENDATION No. Mar2 - 7

**Relating to the Improved Use of the HF Radiotelephone
Channels for Coast Stations in the Bands allocated exclusively
to the Maritime Mobile Service**

RECOMMENDATION No. Mar2 - 12

**Relating to the Future Use and Characteristics of
Emergency Position-Indicating Radiobeacons**

RECOMMENDATION No. Mar2 - 15

**Relating to Temporary Provisions covering the
Technical and Operational Aspects of the
Maritime Mobile-Satellite Service**

RECOMMENDATION No. Mar2 - 16

Relating to Distress, Urgency and Safety Traffic

RECOMMENDATION No. Mar2 - 19

**Relating to Studies of the Interconnection of Maritime Mobile
Radiocommunication Systems with the International
Telephone and Telegraph Networks**

H.L. VENHAUS

Vice-Chairman of Committee 7

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/178-E

6 November 1979

Original : English

WORKING GROUP 4C

NOTE BY THE CHAIRMAN OF WORKING GROUP 4C

The Annex contains a first draft of a new Recommendation to the CCIR relating to studies required on spurious emissions.

E. GEORGE

Chairman of Working Group 4C

Annex : 1



A N N E X

RECOMMENDATION NO. []

To the CCIR Relating to the
Maximum Permitted Levels of Spurious Emissions

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that Appendix 4 to these Regulations specifies maximum permitted levels of spurious emissions supplied by a transmitter to the antenna transmission line for the frequency bands below 17.7 GHz;
- b) that the principal objective of this Appendix is to provide maximum permitted levels of spurious emissions that, while being achievable, provide protection against harmful interference;
- c) that excessive levels of spurious emissions may give rise to harmful interference;
- d) that while this Appendix applies only to the mean power of the transmitter and the spurious emissions, there is a variety of emissions where the interpretation of the term "mean power" and its consequential measurement is difficult;
- e) that whilst CCIR is studying this problem, it has not yet furnished adequate recommendations pertaining to this Appendix for the higher frequency bands;
- f) that spurious emissions from transmitters operating in space stations may cause harmful interference, particularly in regard to intermodulation components from wideband amplifiers which cannot be adjusted after launch;
- g) that spurious emissions from Earth stations also require particular study;
- h) that no information is available from the CCIR regarding spurious emissions from stations employing digital modulation techniques in the frequency bands above [] 960 [] MHz; and,

noting that in large metropolitan areas radio spectrum usage above [] 960 [] MHz is extensive and rapidly growing and that much of this growth in urban areas is now taking place above 10 GHz;

invites the CCIR

- 1. to study on an urgent basis, the question of spurious emissions resulting from space services transmissions, and to develop recommendations for maximum permitted levels of spurious emissions based on those studies;

2. to continue the study of spurious emission levels in all frequency bands, emphasizing study of those frequency bands and services not presently covered by Appendix 4;
 3. to establish appropriate measurement techniques for spurious emissions, including the determination of reference levels for wide band transmissions as well as applicability of reference measurement bandwidths;
 4. to study the categorizing of emissions and spurious emissions in terms of "mean power" and develop appropriate recommendations to facilitate the interpretation and measurement of this term as it applies to the various classes of emissions.
-

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/179-E

6 November 1979

Original : English

WORKING GROUP 4C

NOTE BY THE CHAIRMAN OF WORKING GROUP 4C

The Annex contains a consolidated text from CAN/60A/204 (Draft Recommendation) and D/84/443 (Draft Resolution) prepared by the delegations from Canada and the Federal Republic of Germany for consideration in Working Group 4C.

E. GEORGE
Chairman of Working Group 4C

Annex : 1



A N N E X

RECOMMENDATION No. 1 7

Formulae and Examples for the Calculation of
Necessary Bandwidths

The World Administrative Radio Conference, Geneva 1979,

considering

- a) that Article N3 of these Regulations requires that the necessary bandwidth be part of the full designation of emissions;
- b) that Appendix 5, Part B, gives a partial list of examples and formulae for the calculation of the necessary bandwidth of some typical emissions;
- c) that sufficient information is not available for the determination of the K-factors used throughout the table of examples of the necessary bandwidth in Appendix 5;
- d) that especially in view of the economical utilization of the radio frequency spectrum, monitoring and notification of emissions it is required that necessary bandwidths for the individual classes of emission be known;
- e) that for reasons of simplification and international uniformity it is desirable that measurements for determining the necessary bandwidth should have to be made as seldom as possible;

invites the CCIR

- 1. to provide formulae for the determination of necessary bandwidth for common classes of emission and to provide examples to supplement those given in Appendix 5, Part B, from time to time;
 - 2. to study and provide values for the K-factors required for the calculation of the necessary bandwidth for common classes of emission.
-

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/180-E

5 November 1979

Original: English

WORKING GROUP 5C

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5C

Subject : Assignment of Resolutions and Recommendations to Working Group 5C

1. Resolution No. 11

Relative to the convening of a Special Regional Conference.

2. Resolution No. Aer2 - 6

Relating to the Use of Frequency Bands, higher than the HF bands, in the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service for Communication and for Meteorological Broadcasts.

3. Recommendation No. 14

To Administrations in Region 1. Relating to the Broadcasting Service in the Band 100 - 108 MHz.

4. Recommendation No. 32

Relating to the Radio Astronomy Service.

5. Recommendation No. 33

Relating to the Meteorological Aids Service in the Band 27.5 - 28 MHz.

6. Recommendation No. Spa 7

Relating to the Use of the Band 136 - 137 MHz by the Fixed and Mobile Services

7. Recommendation No. Spa 8

Relating to the Need to Cease Operations of the Fixed and Mobile Services in the Bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz Allocated to the Radionavigation-Satellite Service.

8. Recommendation No. Spa2 - 6

Relating to future Frequency Allocation Requirements for the Maritime Mobile-Satellite Service.



9. Recommendation No. Mar2 - 11

Relating to the Use of Channels 15 and 17 of Appendix 18 by On-Board Communication Stations.

10. Draft Recommendation No. A (NOR/72/258)

To the next competent Administrative Radio Conference, relating to VHF/UHF public correspondence in the Maritime Mobile Service.

K. OLMS
Chairman of Working Group 5C

Annex : 1

ANNEX

RES11-1

1.

RESOLUTION No. 11

Relative to the Convening of a Special Regional Conference

The Administrative Radio Conference, Geneva, 1959,

considering

- a) that, according to No. 250 of the Radio Regulations, a special regional conference is to be held not later than 1st May, 1960, to draw up agreements and associated plans for the bands 68-73 MHz and 76-87.5 MHz;
- b) the desirability to hold this conference at Geneva with regard to the availability of relevant data of the International Frequency Registration Board and C.C.I.R., and the experienced staff of the Secretariat of the Union ;
- c) that this conference should be convened by the Secretary General under the provisions of the General Regulations annexed to the Convention ;

requests the Secretary General

to take the necessary steps for convening at Geneva the special regional conference referred to in No. 250 of the Radio Regulations, Geneva, 1959.

- ZAI/8/58 SUP Resolution No. 11.
Reasons : The subject of this Resolution is no longer relevant (holding of a regional conference in May 1960).
- F/57A/705 SUP RESOLUTION No. 11
Reasons : No longer relevant.
- NOR/72/230 SUP Resolution No. 11.
Reason: The subject of this Resolution is no longer relevant (concerns a conference held in 1960).
- GRC/132/485 SUP Res 11 : Relative to the Convening of a Special Regional Conference.
Reasons : The special Regional Conference was convened in Geneva, 1960.

RES Aer2-6/1

2.

RESOLUTION No. Aer 2 - 6

**Relating to the Use of Frequency Bands, higher than the HF bands, in
the Aeronautical Mobile (R) Service and the Aeronautical
Mobile-Satellite (R) Service for Communication
and for Meteorological Broadcasts**

The World Administrative Radio Conference on the Aeronautical
Mobile (R) Service, Geneva, 1978,

considering

- a) that from an aeronautical viewpoint, higher frequency bands can provide a more reliable and more interference-free communication system than HF;
- b) that from a technical and operational viewpoint, the use of VHF by aviation has progressed significantly;
- c) that the future possibility of communications utilizing satellite technology is now recognized;
- d) that, owing to the ever increasing development of aeronautical telecommunications in all areas of the world, there is an increasing demand for frequencies for communication with and for meteorological broadcasts to aircraft in flight:

resolves

that administrations, taking into account the relevant economic and technical factors, consider to the maximum extent possible meeting their requirements for communication and for meteorological broadcasts by frequencies in frequency bands, higher than the HF bands, which are allocated to the aeronautical mobile (R) service and the aeronautical mobile-satellite (R) service.

(Rev. 1979)

F/57A/741 NOC RESOLUTION No. Aer2 - 6

Reasons : Provisions still in force.

REC14-1

3.

RECOMMENDATION No. 14

**to Administrations in Region 1. Relating to the Broadcasting
Service in the Band 100-108 MHz**

The Administrative Radio Conference, Geneva, 1959,

considering

- a) that, so far as possible, there should be a common allocation of frequency bands to the broadcasting service in the three Regions, so that administrations may more readily coordinate their use of frequencies and thereby achieve maximum frequency economy ;
- b) that a growing demand is foreseen in Region 1 for assignable frequencies in Band 8 for sound broadcasting ;
- c) that, for technical reasons, and in particular, in order to avoid complication in the manufacture of receivers, any future extension of the broadcasting band 87.5-100 MHz, should take place in an adjacent band ;
- d) that the band 100-108 MHz is now allocated to the broadcasting service in Regions 2 and 3, and in some countries in Region 1 ;
- e) that a number of administrations in Region 1 have expressed their desire to use the band 100-104 MHz for the broadcasting service ;

recommends

that, at the next Administrative Radio Conference, administrations of Region 1 consider the possibility of proposing a new allocation to services in the band 100-108 MHz, with special reference to the needs of the broadcasting service.

GRC/132/486 SUP. Rec 14 : To Administrations in Region 1. Relating to the Broadcasting Service in the Band 100 - 108 MHz.

Reasons : The WARC-79 shall reconsider a new allocation to services in the band 100 - 108 MHz (see also our proposal GRC/86B/183).

REC32-1

4.

RECOMMENDATION No. 32

Relating to the Radio Astronomy Service

The Administrative Radio Conference, Geneva, 1959,

considering that

- a) recognition has now been given to the radio astronomy service in the Regulations, and that allocations to this service are included in the Table of Frequency Allocations ;
- b) the radio astronomy service is devoted to the reception of extremely low-level electromagnetic radiations of extra-terrestrial origin, and needs therefore to be protected from radiations of man-made origin, to the maximum degree practicable ;
- c) the radio astronomy service must compete for spectrum space with other existing and expanding radio services ;
- d) the ability of the radio astronomy service to share frequency bands with other radio services is limited ;
- e) in the case of many radio astronomy service installations it would be very difficult, once they were established, to change the frequency bands being observed or locations to avoid harmful interference ;
- f) the radio astronomy service should be assured a reasonable degree of stability in the frequency bands allocated to it, so as to permit long-term study programmes ;
- g) the desired protection for the radio astronomy service in many of the bands allocated for its use will be difficult to obtain and can be achieved only on a long-term basis ;
- h) the provisions of the new Table of Frequency Allocations do not

REC32-2

meet fully the stated requirements of the radio astronomy service, particularly in Band 8 and the lower part of Band 9 ;

- i) it will assist administrations to protect the radio astronomy service if information is available showing the locations of the observatories, and those of the bands allocated in the Table of Frequency Allocations that are in use at each observatory ;

recommends that

1. administrations, when preparing for the next Administrative Radio Conference, should consider further the question of frequency allocations for the radio astronomy service ;

2. the possibility of making a firm allocation in the range 37-41 MHz be specially considered and that, in the meantime, when assigning frequencies to stations of other services, administrations should avoid, as far as practicable, the bands 38.0 ± 0.25 MHz or 40.68 ± 0.25 MHz, which are in use, or are proposed for use for radio astronomical observations in certain countries ;

3. administrations when drawing up frequency assignment plans should leave, as far as practicable, the band 606-614 MHz free for radio astronomical observations or should assign frequencies to stations of other services in this band in such a way as to afford the maximum practicable protection for the radio astronomy service ;

4. administrations should notify to the Secretary General the locations of observatories in their countries and those of the bands allocated in the Table of Frequency Allocations that are in use at each observatory ; and that the Secretary General should communicate this information to Members and Associate Members of the Union ;

REC32-3

draws the attention of organizations concerned with radio astronomy to the following:

1. the relevant provisions of the Radio Regulations ;
2. the need to maintain close co-ordination with their national administrations on matters of frequency usage ;
3. the need to select, for observatories, sites that are as remote as possible from sources of radio interference.

IND/93/268 SUP

RECOMMENDATION No. 32

Reasons : No separate provisions are necessary for radio astronomy service other than those contained in the existing Radio Regulations.

GRC/132/486 SUP

Rec 32 : Relating to the Radio Astronomy Service.

Reasons : The provisions of this Recommendation have been covered by previous Conferences (Spa 1963, 1971) and by actions of the Secretary-General.

USA/49/790A SUP REC. 32

USA/49/790 ADD

RECOMMENDATION No. CC

Relating to the Radio Astronomy Service

The World Administrative Radio Conference, Geneva, 1979

considering that

- a) recognition has been given to the radio astronomy service in the Regulations, and that allocations to this service are included in the Table of Frequency Allocations;
- b) the radio astronomy service is devoted to the reception of extremely low-level electromagnetic radiations of extra-terrestrial origin, and needs therefore to be protected from radiations of man-made origin, to the maximum degree practicable;
- c) the radio astronomy service must compete for spectrum space with other existing and expanding radio services;
- d) the ability of the radio astronomy service to share frequency bands with other radio services is limited;
- e) in the case of many radio astronomy service installations it would be very difficult, once they were established, to change the frequency bands being observed or locations to avoid harmful interference;
- f) the radio astronomy service should be assured a reasonable degree of stability in the frequency bands allocated to it, so as to permit long-term study programmes;
- g) the desired protection for the radio astronomy service in many of the bands allocated for its use will be difficult to obtain and can be achieved only on a long-term basis;
- h) it will assist administrations to protect the radio astronomy service if information is available showing the locations of the observatories, and those of the bands allocated in the Table of Frequency Allocations that are in use at each observatory;

recommends that

administrations should notify to the Secretary General the locations of observatories in their countries and those of the bands allocated in the Table of Frequency Allocations that are in use at each observatory; and that the Secretary General should communicate this information to Members of the Union;

invites

organizations concerned with radio astronomy to the following:

1. the relevant provisions of the Radio Regulations;
2. the need to maintain close co-ordination with their national administrations on matters of frequency usage;
3. the need to select, for observations, sites that are as remote as possible from sources of radio interference.

Reason: To have a future Conference draw up provisions for the radio astronomy service, and an up-dating of Recommendation No. 32, which has been proposed for suppression.

REC33-1

5.

RECOMMENDATION No. 33

Relating to the Meteorological Aids Service in the band 27.5-28 MHz

The Administrative Radio Conference, Geneva, 1959.

recommends

that administrations whose stations in the meteorological aids service operate in the band 27.5-28 MHz should arrange, as soon as possible, for the transfer of these operations to higher frequency bands which are allocated to the meteorological aids service ;

invites

the World Meteorological Organization to study this question and to proceed with such co-ordination among administrations as appears necessary.

F/57A/752 (MOD) RECOMMENDATION No. 33

Reasons : Provisions still applicable, but title to be amended on the basis of MOD 3042/76.

[MOD 3042/76 Meteorological Aids Radio Service : An radiocommunication service Earth exploration radio service used for meteorological, including hydrological, purposes and-exploration.]

IND/93/269 SUP RECOMMENDATION No. 33

Reasons : Action completed.

GRC/132/486 SUP Rec 33 : Relating to the Meteorological Aids Service in the band 27.5 - 28 MHz.

Reasons : Relevant proposals to WARC-79 (see also our proposal GRC/86B/152).

6.

RECOMMENDATION No. Spa 7

Relating to the Use of the Band 136-137 MHz
by the Fixed and Mobile Services

The Extraordinary Administrative Radio Conference, Geneva, 1963,

considering

- a) that the Table of Frequency Allocations, Geneva, 1959, made provisions for the fixed and mobile services together with space services in the band 136-137 MHz;
- b) that a number of administrations have fixed and mobile services operating in accordance with these provisions;
- c) that the modified Table of Frequency Allocations, Geneva, 1963, makes provision for the space research service on a primary basis in the band 136-137 MHz, and makes provision for the continued operation of the fixed and mobile services on a primary basis in this band;
- d) the great importance of affording the space research service protection against interference from stations in the fixed and mobile services, taking into account the very weak signals which may be used in the space research service;

recommends

- 1. that administrations of all Regions operating, or intending to operate, stations in the fixed and mobile services in the band 136-137 MHz take all possible steps to give the required protection to the space research service and to cease the operation of stations of the fixed and mobile services as soon as possible;
- 2. that administrations notify the International Frequency Registration Board, preferably in advance, of the date when these stations will have ceased operations, and that specific reference should be made to this Recommendation;

and requests the International Frequency Registration Board

to publish this information every six months.

F/57A/755 SUP RECOMMENDATION No. Spa 7

Reasons : The necessary action has been taken.

PHL/92B/224 SUP Recommendation Spa 7 now seems unnecessary.

IND/93/274 SUP RECOMMENDATION Spa 7

Reasons : In view of proposed amendments to the Table of Frequency Allocations for the band 136 - 137 MHz.

REC Spa 8-1

7.

RECOMMENDATION No. Spa 8

**Relating to the Need to Cease Operations of the Fixed and
Mobile Services in the Bands 149.9-150.05 MHz and 399.9-400.05 MHz
Allocated to the Radionavigation-Satellite Service**

The Extraordinary Administrative Radio Conference, Geneva, 1963,

considering

- a) that the frequency bands 149.9-150.05 MHz and 399.9-400.05 MHz have been allocated to the radionavigation-satellite service on an exclusive world-wide basis;
- b) that many administrations require an extended period of time to re-accommodate existing fixed and mobile operations in other appropriately allocated bands;
- c) that early implementation of the radionavigation-satellite service will be of benefit to all administrations, particularly in its application to marine navigation;
- d) that interference to users of the radionavigation-satellite service could constitute a hazard to the safety of life and property;
- e) that the C.C.I.R. is studying the feasibility of sharing frequency bands between the radionavigation-satellite service and terrestrial services but has not yet been able to reach a conclusion in this regard;

recommends

- 1. that, pending an affirmative determination by the C.C.I.R. that sharing is possible and practicable between stations of the radionavigation-satellite service and the fixed and mobile services, administrations take all possible steps to protect from harmful interference the operations of mobile earth stations using the radionavigation-satellite service;
- 2. that, in the light of 1) above, administrations be urged to cease operation of their fixed and mobile stations in the bands 149.9-150.05 MHz and 399.9-400.05 MHz as soon as practicable, with particular emphasis on those stations located in coastal areas.

IND/93/276 MOD

RECOMMENDATION Spa 8

Reference to CCIR text is to be updated.

Reasons : Updating

GRC/132/486 SUP

Rec Spa 8 : Relating to the Need to Cease Operations of the Fixed and Mobile Services in the Bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz Allocated to the Radionavigation-Satellite Service.

Reasons : As a consequence of relevant proposals for the Radio Regulation 3592/285B to the WARC-79.

8.

RECOMMENDATION No. Spa2 - 6

**Relating to future Frequency Allocation Requirements for the
Maritime Mobile-Satellite Service**

The World Administrative Radio Conference for Space Telecommunications, (Geneva, 1971),

having noted

that the Inter-Governmental Maritime Consultative Organization (I.M.C.O.) has stated a requirement for frequencies of the order of 400 MHz, believing that small vessels in particular may be unable to use satellite radiocommunications if such frequencies are not made available;

further noting

that the C.C.I.R. Special Joint Meeting (Geneva, 1971) concluded that the present Conference should be invited to examine the possibility of providing exclusive channels for the maritime mobile-satellite service at about 400 MHz and that provision of such channels is desirable;

considering

- a) that ship stations and survival craft stations are completely dependent upon the use of radio for communication;
- b) that the use of space techniques will provide the maritime mobile service with a reliable and more efficient method of communication;
- c) that reliable maritime mobile-satellite service communications will greatly assist in the saving of lives and property;

REC Spa2 - 6/2

d) that although the Conference has made certain provisions for the maritime mobile-satellite service, there is some uncertainty with respect to the adequacy and usefulness of these provisions, particularly insofar as small ships and survival craft are concerned;

e) that general participation of small ships in a service using space techniques would not only benefit the efficient and safe operation of these ships but would also improve the safety service for larger ships and survival craft;

f) that future conferences might find it necessary to make additional allocations for such uses nearer to the optimum portions of the spectrum;

g) that for some communications functions, such as certain broadcasting and fixed applications, other means than radio could be used, thereby making portions of the spectrum available for services which are dependent on radio;

recommends

1. that administrations and appropriate international organizations continue to review the requirements for the maritime mobile-satellite service and the suitability of current frequency allocations in meeting those requirements;

2. that the C.C.I.R. continue its studies to determine the optimum portions of the frequency spectrum and related sharing conditions to accommodate maritime mobile-satellite service requirements, taking into consideration advances in space radiocommunication technology;

3. that a competent World Administrative Radio Conference review the requirements of the maritime mobile-satellite and safety services, and if necessary, provide the frequency allocations to satisfy these requirements.

GRC/132/486 SUP Rec Spa2 - 6 : Relating to future Frequency Allocation Requirements for the Maritime Mobile-Satellite Service.

Reasons : As a consequence of relevant proposals to the WARC-79.

REC Mar2 - 11/1

9.

RECOMMENDATION No. Mar2 - 11

**Relating to the Use of Channels 15 and 17 of Appendix 18
By On-Board Communication Stations**

The World Maritime Administrative Radio Conference, Geneva, 1974,

considering

a) that channels 15 and 17 of Appendix 18 were provided by the World Administrative Radio Conference, Geneva, 1967, for use for internal operational communications on board ships within territorial waters and with an effective radiated power not in excess of 0.1 W, and that this power limit has been raised to 1 watt by the present Conference;

b) that considerable use is made of these channels by a number of administrations;

c) that some administrations have not used these channels for on-board communication because of the shortage of VHF channels for other maritime mobile needs;

d) that, for the same reason, these administrations wish to have the use of these channels for on-board communication discontinued;

recognizing

a) that several common channels for on-board communication are necessary internationally to meet world-wide requirements in the future;

b) that there may be a need for frequencies to provide for the use of repeater stations on large vessels, such as container ships, tankers, etc.;

c) that additional experience concerning the application and effectiveness of the UHF channels made available for this purpose by the present Conference may be required;

REC Mar2 – 11/2

recommends

1. that the next competent World Administrative Radio Conference determine whether the use of channels 15 and 17 of Appendix 18 is still necessary for on-board communication and, if it is not, the date by which such use should cease;
2. that the same Conference review the UHF channels being used for on-board communication stations to determine whether the number of channels and their location in the radio spectrum are satisfactory and meet the requirements of such stations;
3. that the same Conference consider the need for additional allocations for use by on-board communication stations on a world-wide basis, including the territorial waters of all countries;
4. that due consideration be given by administrations to the technical standards and functioning of such stations to ensure their mutual compatibility in an effective international system of operation;

requests the C.C.I.R.

to study the question whether UHF frequencies can meet the technical and operational requirements of on-board communication stations and report its findings to the next competent World Administrative Radio Conference.

10. Recommendation No. A

NOR/72/258 ADD To the next competent Administrative Radio Conference, Relating to VHF/UHF public correspondence in the maritime mobile service.

The World Administrative Radio Conference, Geneva 1979

considering

- a) that the maritime mobile VHF band (Appendix 18) is becoming congested in many areas of the world;
- b) that in this band there is a growing need for additional channels designated for services concerned with the movement and safety of ships;
- c) that the maritime mobile service is international in character;
- d) that the future requirement for additional VHF/UHF channels for public correspondence in the maritime mobile service is in the order of 250 channels (with 25 kHz channel spacing);
- e) that it is highly desirable for the VHF/UHF maritime mobile public correspondence system to become fully automated to ensure the efficient utilization of the channels and the economic operation of the service, to the benefit of the users;
- f) that some Administrations may wish to use the channels designated to such an automated system, also for the land mobile service in an integrated system, primarily in areas where the channels are not needed or only partly needed for the maritime mobile service;

recommends

that the next competent Administrative Radio Conference

- designate a suitable band with sufficient number of channels for a maritime mobile automated public correspondence system, either as an extension of the present band (Appendix 18), or in another VHF/UHF band allocated world-wide to the mobile service;
- establish a coordination procedure allowing the channels to be used for the land mobile service in areas where there is no requirement for the maritime mobile service, but with priority to the maritime mobile service operating in accordance with an assignment plan;
- study the means for establishing as soon as possible, if necessary after the Conference, regional assignment plans which take into account the world-wide needs of the maritime mobile service and allow for an integration with the land mobile service.

Reason

CCIR studies have shown (Report 587-1) that the present number of channels available for public correspondence in the existing maritime mobile VHF band (Appendix 18) is insufficient to support an adequate VHF service, whether automated or manual.

To meet the traffic requirement, we consider that about 250 channels will be needed, either as an extension of the existing band or in another VHF/UHF mobile band. These public correspondence channels should be used in an automated system in which the land mobile service may be integrated where it is advantageous.

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

NINETEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5 (ALLOCATIONS)

Subject : Frequency bands between 1 790 and 2 290 MHz as well as between 2 500 and 2 655 MHz.

1. Frequency band between 1 790 and 2 290 MHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in the Annex 1.

2. Frequency bands between 2 500 and 2 655 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex 2.

3. The delegations of Algeria, Saudi Arabia, Iraq, Jordan, Qatar, Syria and Sudan reserved the right to come back to the allocation of mobile except aeronautical mobile service in the band 2 500 - 2 655 MHz.

4. The Working Group decided to defer the discussion on footnote 3723A (Addendum 2 to Document No. 62B proposal : J/62B/306).

5. The Working Group decided to postpone the discussion on footnote 3723/364E until the Committee 4 decides the value of the power flux density mentioned in the footnote.

6. The Working Group decided to form Drafting Group 5D13 to summarize the proposals relating to footnotes 3705, 3706 and 3707 and to provide their modified texts.

7. The Drafting Group 5D2 will examine the footnote 3714/361A for modification.

8. The delegation of Iran reserved the right to come back to footnote 3724/364F.

Dr. B.S. RAO
Chairman of Working Group 5D



A N N E X 1

MHz

1 790 - 2 290

Region 1	Region 2	Region 3
1 790 - 2 290	1 790 - 2 290	
FIXED	FIXED	
Mobile	MOBILE	
3707A 3707B 3707C 3701A 3701AA	3703/356A 3707A 3707B 3707C 3701A 3701AA	

- MOD 3703/356A Subject to agreement obtained under the procedure set forth in Article N13A the band 1 750 - 1 850 MHz may also be used for space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, Afghanistan, Australia, India, Indonesia, Japan and Thailand.
- ADD 3701A In Brazil, Colombia, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Guyana, India, Iran, Papua New Guinea, Tanzania and Venezuela the band 1 700 - 1 900 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed and land mobile services.
- ADD 3701AA In Angola, Cape Verde, China, Spain, Iraq, Malaysia, Syria, Sudan and Thailand the band 1 710 - 2 350 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed service.
- SUP 3702/356
- SUP 3705/356AB
- SUP 3706/356ABA
- SUP 3707/356AC
- ADD 3707A Subject to the agreement under the procedure set forth in Article /N13A/, the band 2 025 - 2 110 MHz may also be used for Earth-to-space and space-to-space transmissions in the space research, space operation and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.
- ADD 3707B Subject to agreement under the procedure set forth in Article /N13A/, the band 2 110 - 2 120 MHz may also be used for Earth-to-space transmissions in the space research (deep space) service.
- ADD 3707C Subject to agreement under the procedure set forth in Article /N13A/, the band 2 200 - 2 290 MHz may also be used for space-to-Earth and space-to-space transmissions in the space research, space operations and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.

A N N E X 2

MHz
2 500 - 2 655

Region 1	Region 2	Region 3
2 500 - 2 655 FIXED 3721/364C / MOBILE except aeronautical mobile_7 BROADCASTING-SATELLITE 3715/361B	2 500 - 2 655 FIXED 3721/364C MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B FIXED-SATELLITE (Space-to-Earth) 3723/364E	2 500 - 2 535 FIXED 3721/364C MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B FIXED-SATELLITE (Space-to-Earth) 3723/364 E 3680D 3724/364F 3723B
3713/361 3716/362 3724/364F 3717/363 3718/364 3680D	3714/361A 3723/364E 3680D	2 535 - 2 655 FIXED 3721/364C MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3724/364F 3680D

- MOD 3713/361 In France, the band 2 450 - 2 550 MHz is allocated on a primary basis to the radiolocation service and on a secondary basis to the fixed and mobile services. Such use is subject to agreement with the Administrations having services operating or planned to operate in accordance with the Table, which may be affected.
- ADD 3723B Subject to agreement obtained under the procedure set forth in Article N13A the band 2 500 - 2 535 MHz may also be used in Region 3 for the mobile-satellite (space-to-Earth) service.
- MOD 3714/361A Additional allocation : in Canada the band 2 500 - 2 550 MHz is also allocated to the radiolocation service on a primary basis.
- NOC 3715/361B The use of the band 2 500 - 2 690 MHz by the broadcasting-satellite service is limited to domestic and regional systems for community reception and such use is subject to agreement obtained under the procedure set forth in Article N13A. The power flux-density at the Earth's surface shall not exceed the values given in Nos. 6059/470NH - 6062/470NK.

- MOD 3716/362 Additional allocation : In the United Kingdom,
the band 2 500 - 2 600 MHz is also allocated to the radiolocation service on a
secondary basis.
- MOD 3717/363 Alternative allocation : In the Federal Republic of Germany,
(D/16/249) Austria and Greece, the band 2 500 - 2 690 MHz is allocated to the fixed service
on a primary basis.
- NOC 3721/364C When planning new tropospheric scatter radio relay links
in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid
directing the antennae of these links towards the geostationary satellite orbit.
- MOD 3723/364E ~~The use of the band 2 500 - 2 690 MHz in Region 2 and
2 500 - 2 535 MHz and 2 655 - 2 690 MHz in Region 3 by the fixed-satellite
service is limited to domestic and regional systems and such use is subject to
agreement between the administrations concerned and those having services
operating in accordance with the Table, which may be affected (see
Articles N11 and N13/9A).~~ In the direction space-to-Earth, the power flux-
density at the Earth's surface shall not exceed the values given in
No. 6055/470NE. ~~I~~
- obtained under the procedure set
forth in Article N13A.
- MOD 3724/364F Alternative allocation : In Bulgaria, Iran and the USSR,
the band 2 500 - 2 690 MHz is allocated to the fixed service and the
mobile except aeronautical mobile service on a primary basis.
- ADD 3680D The bands 1 370 - 1 400 MHz, 2 640 - 2 655 MHz,
4 950 - 4 990 MHz, 6 725 - 7 250 MHz and 15.2 - 15.35 GHz are also allocated to
the space research (passive) and Earth exploration-satellite (passive) services
on a secondary basis.
- MOD 3718/364 Subject to agreement obtained under the procedure set
forth in Article N13A, the band 2 500 - 2 690 MHz may be used for tropospheric
scatter systems in Region 1.
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WORKING GROUP 5D

DRAFT

NINETEENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 1 790 and 2 290 MHz as well as between 2 500 and 2 655 MHz.

1. Frequency band between 1 790 and 2 290 MHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in the Annex 1.

2. Frequency bands between 2 500 and 2 655 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex 2.

3. The delegations of Algeria, Saudi Arabia, Iraq, Jordan, Qatar, Syria and Sudan reserved the right to come back to the allocation of mobile except aeronautical mobile service in the band 2 500 - 2 655 MHz.

4. The Working Group decided to defer the discussion on footnote 3723A (Addendum 2 to Document No. 62B proposal : J/62B/306).

5. The Working Group decided to postpone the discussion on footnote 3723/364E until the Committee 4 decides the value of the power flux density mentioned in the footnote.

6. The Working Group decided to form Drafting Group 5D13 to summarize the proposals relating to footnotes 3705, 3706 and 3707 and to provide their modified texts.

7. The Drafting Group 5D2 will examine the footnote 3714/361A for modification.

8. The delegation of Iran reserved the right to come back to footnote 3724/364F.

Dr. B.S. RAO
Chairman of Working Group 5D



A N N E X 1

MHz
1 790 - 2 290

Region 1	Region 2	Region 3
1 790 - 2 290 FIXED Mobile / 3705/356AB / / 3706/356ABA / / 3707/356AC / 3701A 3701AA	1 790 - 2 290 FIXED MOBILE 3703/356A / 3705/356AB / / 3706/356ABA / 3701A 3701AA	

- MOD 3703/356A In Region 2, Afghanistan, Australia, India, Indonesia, Japan and Thailand, the band 1 750 - 1 850 MHz may also be used for Earth-to-space transmissions in the space research service and space operation service / subject to agreement between the Administrations concerned and those having services operating in accordance with the Table, which may be affected. /
- ADD 3701A In Brazil, Colombia, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Guyana, India, Iran, Papua New Guinea, Tanzania and Venezuela the band 1 700 - 1 900 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed and land mobile services.
- ADD 3701AA In Angola, Cape Verde, China, Spain, Iraq, Malaysia, Syria, Sudan and Thailand the band 1 710 - 2 350 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed service.
- SUP 3702/356
- MOD

3705/356AB
3706/356ABA
3707/356AC

 footnotes_ / The Drafting Group 5D13 will provide the text of the

A N N E X 2

MHz
2 500 - 2 655

Region 1	Region 2	Region 3
2 500 - 2 655	2 500 - 2 655	2 500 - 2 535
FIXED 3721/364C	FIXED 3721/364C	FIXED 3721/364C
/ MOBILE except aeronautical mobile /	MOBILE except aeronautical mobile	MOBILE except aeronautical mobile
BROADCASTING-SATELLITE 3715/361B	BROADCASTING-SATELLITE 3715/361B	BROADCASTING-SATELLITE 3715/361B
	FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)
		/ 3723/364E / 3724/364F / 3714/361A /
		2 535 - 2 655
		FIXED 3721/364C
		MOBILE except aeronautical mobile
		BROADCASTING-SATELLITE 3715/361B
/ 3714/361A / 3716/362 3724/364F 3717/363-1 / 3723/364E / 3680AA 3718/364	/ 3714/361A / / 3723/364E / 3680AA	3724/364F 3723/364E 3680AA

/ 3714/361A / The Drafting Group 5D2 will provide the text of the footnote in the band 2 500 - 2 535 MHz /.

NOC 3715/361B The use of the band 2 500 - 2 690 MHz by the broadcasting-satellite service is limited to domestic and regional systems for community reception and such use is subject to agreement between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions Nos. Spa2 - 2 and Spa2 - 3). The power flux density at the Earth's surface shall not exceed the values given in Nos. 6059/470NH - 6062/470NK.

MOD 3716/362 Additional allocation : In the United Kingdom, the band 2 500 - 2 600 MHz is also allocated to the radiolocation service on a secondary basis.

MOD 3717/363-1 (D/16/249) Alternative allocation : In the Federal Republic of Germany, Austria and Greece, the band 2 500 - 2 690 MHz is allocated to the fixed service on a primary basis.

- NOC 3721/364C When planning new tropospheric scatter radio relay links in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary satellite orbit.
- MOD 3723/364E [The use of the bands 2 500 - 2 535 MHz and 2 655 - 2 690 MHz] by the fixed-satellite service is limited to domestic and regional systems and such use is subject to agreement between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Articles N11 and N13/9A). In the direction space-to-Earth, the power flux density at the Earth's surface shall not exceed the values given in No. 6055/470NE.]
- MOD 3724/364F Alternative allocation : In Bulgaria, Iran and the USSR, the band 2 500 - 2 690 MHz is allocated to the fixed service and the mobile except aeronautical mobile service on a primary basis.
- ADD 3680AA Additional allocation : The bands [1 370 - 1 400 MHz], [2 640 - 2 655 - 2 690 MHz], [4 950 - 4 990 MHz, 6 725 - 7 250 MHz, 10.6 - 10.68 GHz and 15.20 - 15.35 GHz] are also allocated to the space research, [Earth exploration] and Earth exploration-satellite services for passive sensing on a secondary basis.
- MOD 3718/364 In Region 1, tropospheric scatter systems may operate in the band 2 500 - 2 690 MHz, subject to agreement between the Administrations concerned and those having services, operating and planned in accordance with the Table, which may be affected.
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**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

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Original : English

WORKING GROUP 5D

DRAFT

TWENTIETH REPORT OF WORKING GROUP 5D TO COMMITTEE 5

Subject : Discussions on reports of chairmen of ad hoc and Drafting Groups 5D5, 5D7, 5D8, 5D11 and 5D12.

1. The Working Group discussed in details the report of the Chairman of Drafting Group 5D5 to Working Group 5D (DL/160) on proposed radio astronomy footnotes for frequency bands between 0.96 and 40 GHz and decided to recommend the adoption of the footnotes as given in Annex 1.
2. The delegation of France reserved the right to come back to footnotes referring to radio astronomy service in Committee 5.
3. The delegation of the United Kingdom reserved the right to come back to the radio astronomy footnote in the band 1 710 - 1 770 MHz.
4. The delegation of the United Kingdom reserved the right to come back to footnote referring to radio astronomy service in the band 1 718.8 - 1 722.2 MHz in Committee 5.
5. The Working Group discussed the report of the Chairman of ad hoc Group 5D7 to Working Group 5D (DL/174) on the satellite sound broadcasting in the band 0.5 - 2 GHz and decided by majority to recommend the adoption of a draft resolution identifying the future need for an allocation indicating the band foreseen and asking for further studies to be carried out by the CCIR. The text of the draft resolution will be provided by the Chairman of the ad hoc Group 5D7.
6. The Working Group discussed the report of the Chairman of ad hoc Group 5D8 to Working Group 5D (Document No. DL/183) on footnotes for bands 3.4 - 3.7 GHz and 4.5 - 4.8 GHz, and decided to defer the decision on the subject contained in the report. After discussions, ad hoc Group 5D8 will formalize the solutions. The delegations of Australia, Brazil, Chile, Cuba, Ecuador, Jamaica, New Zealand and Venezuela will also participate in the work of ad hoc Group 5D8.
7. The Working Group discussed the report of the Chairman of the Drafting Group 5D11 to Working Group 5D (DL/157) on the allocations and footnotes in the band 10.6 - 10.68 GHz, and decided to recommend to the Chairman of Committee 5 to send a note to the Chairman of Committee 4 as given in Annex 2.
8. The Working Group discussed the first report of the Chairman of ad hoc Group 5D12 (DT/152) to Working Group 5D on the allocations and footnotes in the band 1 530 - 1 660.5 MHz and decided unanimously to recommend the adoption of the revised Table as given in Annex 3, and to change the Table of allocations in the thirteenth report of Working Group 5D to Committee 5 (DT/120).

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 3



A N N E X 1

1 300 - 1 350 MHz, 1 350 - 1 400 MHz (6th Report of Working Group 5D; new footnote replaces No. [MOD 3680/349A ADD 3618A_7])

In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 1 330 - 1 400 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

1 400 - 1 427 MHz (6th Report of Working Group 5D; new footnote replaces No. MOD 3815/412J)

All emissions in the band 1 400 - 1 427 MHz are prohibited. The use of passive sensors by other services is also authorized.

1 670 - 1 690 MHz

SUP 3697/354

1 710 - 1 770 MHz (2nd Report of Working Group 5D; new footnote replaces No. [MOD 3695/352K_7])

The band 1 718.8 - 1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

2 655 - 2 690 MHz (not yet discussed; new footnote replaces 3725/364G)

In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 2 655 - 2 690 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

2 690 - 2 700 MHz (8th Report of Working Group 5D; new footnote replaces No. [3531/233B_7])

All emissions in the band 2 690 - 2 700 MHz are prohibited, except for those under the provisions of No. 3717A and No. 3719/364A. The use of passive sensors by other services is also authorized.

3 200 - 3 300 MHz (8th Report of Working Group 5D; no footnote listed) 3 300 - 3 400 MHz (9th Report of Working Group 5D; new footnote replaces No. [3732A + 3531/233B_7])

In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the bands 3 260 - 3 267 MHz, 3 332 - 3 339 MHz and 3 345.8 - 3 352.5 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

4 990 - 5 000 MHz (14th Report of Working Group 5D; new footnote replaces No. 3531/233B)

In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 4 990 - 5 000 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

8 500 - 8 750 MHz

SUP 3697/354

10.6 - 10.68 GHz (16th Report of Working Group 5D; new footnote replaces No. 3531A + MOD 3815/412J + (CAN/60B/363))

In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 10.6 - 10.68 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

10.68 - 10.7 GHz (16th Report of Working Group 5D)

All emissions in the band 10.68 - 10.7 GHz are prohibited, except for those under the provisions of No. 3784/405B. The use of passive sensors by other services is also authorized.

15.35 - 15.4 GHz (not yet discussed)

(It is assumed that the band is passive except for allocations by footnote No. 3799/409C.)

All emissions in the band 15.35 - 15.4 GHz are prohibited, except for those under the provisions of No. 3799/409C. The use of passive sensors by other services is also authorized.

23.6 - 24 GHz (12th Report of Working Group 5D; new footnote replaces No. [3815/412J])

All emissions in the band 23.6 - 24 GHz are prohibited, except for those under the provisions of No. 3803A. The use of passive sensors by other services is also authorized.

31 - 31.3 GHz (5th Report of Working Group 5D; new footnote replaces No. 3814/412I)

In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 31.2 - 31.3 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

31.3 - 31.5 GHz (5th Report of Working Group 5D No. 3531/233B)

All emissions in the band 31.3 - 31.5 GHz are prohibited, except for those under the provisions of No. MOD 3806/412A. The use of passive sensors by other services is also authorized.

31.5 - 31.8 GHz (12th Report of Working Group 5D; new footnote replaces No. [3531/233B])

In Regions 1 and 3, in making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 31.5 - 31.8 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

In Region 2, all emissions in the band 31.5 - 31.8 GHz are prohibited, except for those under the provisions of No. MOD 3806/412A. The use of passive sensors by other services is also authorized.

36 - 40 GHz (not yet discussed). (The footnote replaces No. 3761/391A.)

In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 36.43 - 36.50 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

A N N E X 2

COMMITTEE 4

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 5
TO THE CHAIRMAN OF COMMITTEE 4

1. In a review by Working Group 5D of proposals for allocations in the band 10.6 - 10.68 GHz, sharing between the Earth exploration-satellite (passive), space research (passive), fixed and mobile services was proposed. Sharing criteria to permit sharing between the passive and active services were proposed in a footnote to the allocation table.
2. Another proposal was made in the band 18.6 - 18.8 GHz for sharing between the above services in addition to the fixed-satellite service (space-to-Earth). Limitations were proposed on the fixed and fixed-satellite services by footnote to permit operation of the passive sensors. Several Administrations indicated that the sharing conditions in this band were completely different to those at 10.6 to 10.68 GHz and were opposed to a primary allocation to the EES and SR services.
3. Committee 4 is requested to examine the proposals submitted to Working Group 5D and to consider whether suitable sharing criteria can be established to permit sharing between the proposed services in the bands 10.6 - 10.7 GHz and 18.6 - 18.8 GHz.
4. If sharing is found to be feasible, Committee 4 is further requested to recommend the appropriate procedure for incorporating the sharing criteria into the Radio Regulations.
5. Reference is made to Document No. DL/157.

A N N E X 3

MHz
1 530 - 1 660.5

Allocation to Services		
Region 1	Region 2	Region 3
1 530 - 1 535 SPACE OPERATION (Space-to-Earth) FIXED MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Mobile except aeronautical mobile [3683/350C] 3679A	1 530 - 1 535 SPACE OPERATION (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Fixed Mobile 3679A 3680A	1 530 - 1 535 SPACE OPERATION (Space-to-Earth) FIXED MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Mobile [3683/350C] 3679A 3680A
1 535 - 1 544	MARITIME MOBILE-SATELLITE (Space-to-Earth) 3688/352D 3679A	
1 544 - 1 545	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) 3688/352D 3695A 3679A	
1 545 - 1 559	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) 3685/352 3688/352D 3691/352G 3679A	
1 559 - 1 610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (Space-to-Earth) 3685/352 3688/352D 3679A	
1 610 - 1 626.5	AERONAUTICAL RADIONAVIGATION [3695B] 3685/352 3686/352A 3687/352B 3688/352D 3695/352K 3679A	
1 626.5 - 1 645.5	MARITIME MOBILE-SATELLITE (Earth-to-space) 3685/352 3688/352D 3679A	

MHz
1 530 - 1 660.5 (cont.)

Region 1	Region 2	Region 3
1 645.5 - 1 646.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) MARITIME MOBILE-SATELLITE (Earth-to-space) 3685/352 3688/352D 3695A 3679A	
1 646.5 - 1 660	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) 3685/352 3688/352D 3694/352J 3679A	
1 660 - 1 660.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) RADIO ASTRONOMY 3695D 3694/352J 3679A	

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WORKING GROUP 5D

DRAFT

TWENTY-FIRST REPORT OF WORKING GROUP 5D TO COMMITTEE 5

Subject : Discussions on reports of Chairmen of ad hoc Groups 5D12 and 5D13.

1. The Working Group discussed the report of the Chairman of ad hoc Group 5D13 to Working Group 5D (DL/184) on footnotes 3705/356AB to 3707/356AC and decided to recommend the adoption of the footnotes as given in Annex 1.
2. The Working Group discussed the first report of the Chairman of ad hoc Group 5D12 (DT/152) to Working Group 5D on the allocations and footnotes in the band 1 530 - 1 660.5 MHz and decided by majority to recommend the adoption of the revised footnotes as given in Annex 2.
3. The representatives of Australia reserved their delegation's position on the compromise adopted by the Group.
4. The representative of the USSR expressed his delegation's reservation concerning the retention of footnotes 3687/352B.
5. The representative of Brazil was not satisfied with the wording of the new footnote 3695C and reserved the right to submit a new draft, or to come back to the footnote in Committee 5.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

SUP 3705

SUP 3706

SUP 3707

ADD 3707A

Subject to the agreement under the procedure set forth in Article [], the band 2 025 - 2 110 MHz may also be used for Earth-to-space and space-to-space transmissions in the space research, space operation and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.

ADD 3707B

Subject to agreement under the procedure set forth in Article [], the band 2 110 - 2 120 MHz may also be used for Earth-to-space transmissions in the space research (deep space) service.

ADD 3707C

Subject to agreement under the procedure set forth in Article [], the band 2 200 - 2 290 MHz may also be used for space-to-Earth and space-to-space transmissions in the space research, space operations and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.

A N N E X 2

MHz

1 530 - 1 660.5

Allocation to Services		
Region 1	Region 2	Region 3
1 530 - 1 535 SPACE OPERATION (Space-to-Earth) FIXED MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Mobile except aeronautical mobile [3683/350C] 3679A	1 530 - 1 535 SPACE OPERATION (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Fixed Mobile 3680C 3679A	1 530 - 1 535 SPACE OPERATION (Space-to-Earth) FIXED MARITIME MOBILE-SATELLITE (Space-to-Earth) 3695C Earth exploration satellite Mobile 3680C [3683/350C] 3679A
1 535 - 1 544	MARITIME MOBILE-SATELLITE (Space-to-Earth) 3688/352D 3679A	
1 544 - 1 545	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) MARITIME MOBILE-SATELLITE (Space-to-Earth) 3688/352D 3695A 3679A	
1 545 - 1 559	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth) 3685/352 3688/352D 3691/352G 3679A	
1 559 - 1 610	AERONAUTICAL RADIONAVIGATION 3695B RADIONAVIGATION SATELLITE (Space-to-Earth) 3685/352 3688/352D 3679A	
1 610 - 1 626.5	AERONAUTICAL RADIONAVIGATION 3695B 3685/352 3686/352A 3687/352B 3688/352D 3695/352K 3679A	
1 626.5 - 1 645.5	MARITIME MOBILE-SATELLITE (Earth-to-space) 3685/352 3688/352D 3679A	

MHz
1 530 - 1 660.5 (cont.)

Region 1	Region 2	Region 3
1 645.5 - 1 646.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) MARITIME MOBILE-SATELLITE (Earth-to-space) 3685/352 3688/352D 3695A 3679A	
1 646.5 - 1 660	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) 3685/352 3688/352D 3694/352J 3679A	
1 660 - 1 660.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) RADIO ASTRONOMY 3695D 3694/352J 3679A	

SUP 3681/350A

SUP 3682/350B

MOD 3683/350C

the ~~X~~ Different category of service : in ~~in~~ Algeria, Saudi Arabia, Bahrain, Bulgaria, Egypt, ~~X~~ United Arab Emirates, France, Hungary, Iran, Iraq, Jordan, Kuwait, Lebanon, Mongolia, Morocco, Oman, Poland, Qatar, the ~~the~~ German Democratic Republic, Roumania, Czechoslovakia, Thailand, ~~X~~ USSR, ~~X~~ PDR of Yemen and Yugoslavia, the allocation of the band 1 525 - 1 535 MHz to the mobile, except aeronautical mobile service is on a primary basis (see No. 3432/141). ~~X~~

SUP 3684/350D

ADD 3679A

In the bands 1 400 - 1 727 MHz, 101 - 120 GHz and 197 - 220 GHz 7, passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

ADD 3680C

In Region 2 in Australia and in Papua New Guinea the use of the bands 1 435 - 1 525 MHz and 1 525 - 1 535 MHz by the aeronautical mobile service for telemetering purposes has priority over other uses by the mobile services.

MOD 3685/352

Additional allocation : in ~~in~~ Bulgaria, Hungary, Mongolia ~~Poland~~, the German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 1 550 - 1 660 MHz is also allocated to the fixed service on a primary basis.

MOD 3686/352A

The bands 1 610 - 1 626.5 MHz ~~X~~ 4 200 - 4 400 MHz, 5 000 - 5 250 MHz and 15.4 - 15.6 GHz ~~X~~ are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such use and development is subject to agreement ~~and coordination between~~

obtained under the procedure set forth in Article N13A.

- MOD 3687/352B The bands 1 610 - 1 626.5 MHz ~~X~~ 5 000 - 5 250 MHz and 15.4 - 15.7 GHz ~~X~~ are also allocated to the aeronautical mobile satellite service on a primary basis. Such use and development is subject to agreement obtained under the procedure set forth in Article N13A.
- MOD 3688/352D Additional allocation : in ~~In~~ Austria, Indonesia and the Federal Republic of Germany, the band 1 540 - 1 660 MHz is also allocated to the fixed service on a primary basis.
- SUP 3689/352E
- SUP 3690/352F
- MOD 3691/352G Transmissions in the band 1 545 - 1 559 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.
- SUP 3692/352H
- SUP 3693/352I
- MOD 3694/352J Transmissions in the band 1 646.5 - 1 660.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.
- MOD 3695/352K The band 1 610.6 - 1 613.8 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/1164 and 3281A and Article N33A).
- ADD 3695A The uses of the bands 1 544 - 1 545 MHz (Space-to-Earth) and 1 645.5 - 1 646.5 (Earth-to-space) by the aeronautical mobile-satellite and maritime mobile-satellite services is limited to distress and safety operations. The bands are also allocated to the land mobile-satellite service on a primary basis for the same use.
- ADD 3695B Alternative allocation : in Sweden, the band 1 590 - 1 626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.
- ADD 3695C The allocation to the maritime mobile-satellite service in the band 1 530 - 1 535 MHz may not be used before 1 January 1990. From this date the fixed service will be on a secondary basis.
- ADD 3695D In making assignments to stations of other services to which the band 1 660 - 1 660.5 MHz is allocated. Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N33A).

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/183-E

6 November 1979

Original : English

WORKING GROUP 5D

DRAFT

TWENTY-FIRST REPORT OF WORKING GROUP 5D TO COMMITTEE 5

Subject : Discussions on reports of Chairmen of ad hoc Groups 5D12 and 5D13.

1. The Working Group discussed the report of the Chairman of ad hoc Group 5D13 to Working Group 5D (DL/184) on footnotes 3705/356AB to 3707/356AC and decided to recommend the adoption of the footnotes as given in Annex 1.
2. The Working Group discussed the first report of the Chairman of ad hoc Group 5D12 (DT/152) to Working Group 5D on the allocations and footnotes in the band 1 530 - 1 660.5 MHz and decided by majority to recommend the adoption of the revised footnotes as given in Annex 2.
3. The representatives of Australia reserved their delegation's position on the compromise adopted by the Group.
4. The representative of the USSR expressed his delegation's reservation concerning the retention of footnotes 3687/352B.
5. The representative of Brazil was not satisfied with the wording of the new footnote 3695C and reserved the right to submit a new draft, or to come back to the footnote in Committee 5.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

SUP 3705

SUP 3706

SUP 3707

ADD 3707A

Subject to the agreement under the procedure set forth in Article [], the band 2 025 - 2 110 MHz may also be used for Earth-to-space and space-to-space transmissions in the space research, space operation and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.

ADD 3707B

Subject to agreement under the procedure set forth in Article [], the band 2 110 - 2 120 MHz may also be used for Earth-to-space transmissions in the space research (deep space) service.

ADD 3707C

Subject to agreement under the procedure set forth in Article [], the band 2 200 - 2 290 MHz may also be used for space-to-Earth and space-to-space transmissions in the space research, space operations and Earth exploration-satellite services. The services using space-to-space transmissions shall operate in accordance with the provisions 6055/47ONE - 6058/47ONGA and shall not cause harmful interference to the other space services.

A N N E X 2

- SUP 3681/350A
- SUP 3682/350B
- MOD 3683/350C / Different category of service : In Algeria, Saudi Arabia, Bahrain, Bulgaria, Egypt, United Arab Emirates, France, Hungary, Iran, Iraq, Jordan, Kuwait, Lebanon, Mongolia, Morocco, Oman, Poland, Qatar, German Democratic Republic, Roumania, Czechoslovakia, Thailand, USSR, PDR of Yemen and Yugoslavia, the allocation of the band 1 525 - 1 535 MHz to the mobile, except aeronautical mobile service is on a primary basis (see No. 3432/141)._/
- SUP 3684/350D
- ADD 3679A In the bands 1 400 - 1 727 MHz, / 101 - 120 GHz, and 197 - 220 GHz, / passive research is being conducted by some countries in a programme for the search for space signals of artificial origin.
- ADD 3680A In Region 2 and in Papua New Guinea where the mobile service is authorized in the bands / 1 435 - 1 525 MHz / and 1 525 - 1 535 MHz the principal use of this allocation is by the aeronautical mobile service for telemetering purposes.
- MOD 3685/352 Additional allocation : In Bulgaria, Hungary, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 1 550 - 1 660 MHz is also allocated to the fixed service on a primary basis.
- MOD 3686/352A The bands 1 610 - 1 626.5 MHz / 4 200 - 4 400 MHz, 5 000 - 5 250 MHz and 15.4 - 15.6 GHz / are reserved on a world-wide basis for the use and development of airborne-electronic-aids-to air navigation and any directly associated ground-based or satellite-borne facilities. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected.
- MOD 3687/352B The bands 1 610 - 1 626.5 MHz / 5 000 - 5 250 MHz and 15.4 - 15.7 GHz / are also allocated to the aeronautical mobile satellite service on a primary basis. Such use and development is subject to agreement and coordination between the Administrations concerned and those having services, operating and planned in accordance with the Table, which may be affected.
- 3688/352D In Austria, Indonesia and the Federal Republic of Germany, the band 1 540 - 1 660 MHz is also allocated to the fixed service.
- SUP 3689/352E
- SUP 3690/352F
- MOD 3691/352G Transmissions in the band 1 545 - 1 559 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

SUP 3692/352H

SUP 3693/352I

MOD 3694/352J

Transmissions in the band 1 646.5 - 1 660.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

MOD 3695/352K

The band 1 610.6 - 1 613.8 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see No. 3280/116).

ADD 3695A

The uses of the bands 1 544 - 1 545 MHz (Space-to-Earth) and 1 645.5 - 1 646.5 (Earth-to-space) by the aeronautical mobile-satellite and maritime mobile-satellite services is limited to distress and safety operations. The bands are also allocated to the land mobile-satellite service on a primary basis for the same use.

ADD 3695B

Alternative allocation : In Sweden the band 1 590 - 1 610 [- 1 626.5] MHz is allocated to the aeronautical radionavigation service on a primary basis.

ADD 3695C

The allocation to the maritime mobile-satellite service in the band 1 530 - 1 535 MHz may not be used before 1 January 1990. From this date the fixed service will be on a secondary basis.

ADD 3695D

In making assignments to stations of other services to which the band 1 660 - 1 660.5 MHz is allocated. Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N [-]).

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/184-E

7 November 1979

Original : English

WORKING GROUP 6A

Note by the Chairman of Working Group 6A

In Document No. 425, reference is made to updating the present entries in the Master International Frequency Register according to the new method for designating emissions (Article N3 and Appendix 5 revised by WARC, 1979).

The draft Resolution in the attached Annex incorporates Recommendation A appearing in B.1 page 7 (Blue Document No. 424) and extends the subject of preparation of explanatory information on the new method of designating emissions to include a procedure for updating the Master Register.

J.K. BJÖRNSJÖ
Chairman of Working Group 6A

Annex

Information copies to:

Mr. P. Bassole, Chairman of Committee 9
Mr. M. Joachim, Chairman of Committee 6
Mr. N. Morishima, Chairman of Committee 4



ANNEX

DRAFT

RESOLUTION No.

/ex-Rec.A
Blue
Doc. 424
B.1-77
ADD

Relating to the Preparation of Explanatory Information by the
International Frequency Registration Board of the Application
of the New Method for Designating Emissions in Notification Procedures
and the Consequential Revision of the
Master International Frequency Register

The World Administrative Radio Conference, Geneva, 1979,

having adopted

/ex-Rec.A
cons.a)7

Article N3 and Appendix [5 MOD] containing a new system for
the designation of emissions;

considering

/ex-Rec.A
cons.b)7

a) that such designations are fundamental to the notification
procedures detailed in the Radio Regulations;

ADD

b) that it is essential for this new system of designating emissions
to be applied not only to new frequency assignments but also to existing
entries;

ADD

c) that certain new designations are more detailed than the former
designations;

ADD

d) that the IFRB does not have the means to replace automatically
all former designations by the new designations;

noting

/ex-Rec.A
noting a)7

a) that some administrations may have difficulties in implementing
the new method of designating emissions when it first comes into use;
and

/noting b)7

b) that these administrations need explanatory information well in
advance of the entry into force of the Final Acts of this Conference;

resolves

/ex-Rec.A
requests 1
and 27

1. that the IFRB shall prepare explanatory information on the
application of the new method of designation, including examples, as
it applies to the notification procedures specified in the Radio
Regulations and shall make this information available to administrations
before [a date approximately one year before the Final Acts of this
Conference come into force];

p.t.o.

- ADD 2. that the IFRB shall proceed with the conversion of the data appearing in the Master Register by applying the procedures outlined in the following sub-paragraphs:
- ADD 2.1 the conversion shall be conducted step by step as follows:
- for the bands above 10 GHz, by the end of 1980,
 - for the bands between 100 MHz and 10 GHz, by the end of 1981,
 - for the bands between 28 MHz and 100 MHz, by the end of 1982,
 - for the bands below 28 MHz, by the end of 1983;
- ADD 2.2 in dealing with each band, the IFRB shall replace the designation appearing in the Master Register by new designations wherever this can be done without ambiguity;
- ADD 2.3 the IFRB shall send relevant extracts from the Master Register to the Administrations concerned requesting them
- a) to verify the new designations chosen by the Board and,
 - b) where the existing designations have not been converted by the Board, to supply the new designations according to Article N3 and Appendix [5 MOD] adopted by the present Conference;
- ADD 2.4 if, by thirty days after each of the above date limits, the IFRB has not received the new designation of emissions for the band concerned, the Board shall convert the data appearing in the Master Register as accurately as possible and insert in the Remarks Column a remark referring to the fact that the conversion was made under the terms of the present sub-paragraph;
- ADD 3. that, with effect from the entry into force of the present revision of the Radio Regulations, the IFRB shall accept in the co-ordination and notification procedures only designations contained in the revised Article N3.

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/185(Rev.1)-E

10 November 1979

Original : English

WORKING GROUP 5D

DRAFT

TWENTY-SECOND REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 22 - 23.6 GHz; 25.25 - 27.5 GHz; 34.2 - 35.2 GHz; 36 - 40 GHz.

1. Frequency bands between 22 and 23.6 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The delegation of France reserved the right to come back in Committee 5 to footnotes relating to radio astronomy service in the band 22.01 - 22.28 GHz.

3. The delegations of Australia, Canada and the United States of America reserved the right to come back to allocations of the band 22.21 - 22.5 GHz to Earth-exploration-satellite (passive) and space research (passive) services on a secondary basis.

4. Frequency bands between 25.25 and 27.5 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex.

5. The Working Group decided to defer the final decision on standard frequency-satellite service (Earth-to-space) in the band 25.25 - 27.5 GHz pending a definition of this service in Working Group 5A.

6. The delegation of the United States of America reserved the right to come back in Committee 5 to the allocation to Earth-exploration-satellite service (space-to-space) in the band 25.25 - 27.5 GHz, pending a definition of this service in Working Group 5A.

7. Frequency band between 34.2 and 35.2 GHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

8. Frequency bands between 36 and 40 GHz

All proposals relating to these bands, as well as the Note of the Chairman of Working Group 5E to the Chairman of Working Group 5D were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 4.

9. The delegation of the United Kingdom reserved the right to come back in Committee 5 to the allocation of the band 36 - 37 GHz to Earth-exploration-satellite and space research services on a primary basis.

10. The Working Group decided to suppress footnotes 3801/410A, 3792/407, 3805/412 and 3809/412D.



A N N E X 1

GHz
22 - 23.6

Allocation to Services		
Region 1	Region 2	Region 3
22 - 22.21	FIXED MOBILE except aeronautical mobile 3801A	
22.21 - 22.5	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 3801A 3801B [Earth-exploration-satellite (passive)] [Space research (passive)]	
22.5 - 22.55 FIXED MOBILE	22.5 - 22.55 BROADCASTING-SATELLITE 3802/410B FIXED MOBILE 3801C	
22.55 - 23 FIXED INTER-SATELLITE MOBILE 3801D	22.55 - 23 BROADCASTING-SATELLITE 3802/410B 3801C FIXED INTER-SATELLITE MOBILE 3801D	
23 - 23.55	FIXED INTER-SATELLITE MOBILE 3801E	
23.55 - 23.6	FIXED MOBILE	

- ADD 3801A In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 22.01 - 22.28 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116 and 3281/116A and Article N33A).
- ADD 3801B In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 22.21 - 22.5 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116 and 3281/116A and Article N33A).
- SUP 3801/410A
- ADD 3801C Additional allocation : in Japan, the band 22.5 - 23 GHz is also allocated to the broadcasting service on a primary basis.
- ADD 3801D In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 22.81 - 22.86 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116 and 3281/116A and Article N33A).
- MOD 3802/410B In Region-3 Regions 2 and 3, the broadcasting-satellite service is authorized in the band 22.5 - 23.0 GHz, subject to power flux density limits for the protection of the terrestrial services in this band.
- ADD 3801E In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 23.07 - 23.12 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116 and 3281/116A and Article N33A).

A N N E X 2

GHz
25.25 - 27.5

Region 1	Region 2	Region 3
25.25 - 27	FIXED MOBILE [Standard frequency satellite (Earth-to-space)]	
27 - 27.5 FIXED MOBILE [Standard frequency- satellite (Earth-to-space)]	27 - 27.5 FIXED FIXED SATELLITE (Earth-to-space) MOBILE [Standard frequency-satellite (Earth-to-space)]	

A N N E X 3

GHz
34.2 - 35.2

Region 1	Region 2	Region 3
34.2 - 35.2	RADIOLOCATION	
	Space research 3808/412C 3808A	
	3794/408	

SUP 3792/407

MOD 3794/408

Additional allocation : in Algeria, Saudi Arabia, Bangladesh, Cameroon, Gabon, Iran, Iraq, Israel, Jordan, Kuwait, Mali, Morocco, Mauritania, Pakistan, Senegal, Sweden, Singapore, Thailand and Tunisia, the bands 13.4 - 14 GHz, 15.7 - 17.7 GHz and 33.4 - 36 GHz are also allocated to the fixed and mobile services on a primary basis.

SUP 3805/412

SUP 3809/412D

MOD 3808/412C

Different category of service : in Bulgaria, Cuba, Hungary, Poland, Mongolia, the German Democratic Republic, Czechoslovakia and the USSR, the allocation of the band 34.2 - 35.2 GHz to the space research service is on a primary basis (see No. 3432/141).

ADD 3808A

Different category of service : in Australia and the United States of America, the allocation of the band 34.2 - 34.7 GHz to the space research (deep-space) (Earth-space) is on a primary basis (see No. 3432/141).

MOD 3761/391A

In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 36.43 - 36.50 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N33A).

MOD 3810/412E

Additional allocation : in Bulgaria, Cuba, Hungary, Poland, Mongolia, the German Democratic Republic, Roumania, Czechoslovakia, Yugoslavia and the USSR, the band 36.5 - 37.5 GHz is also allocated to the radio astronomy service on a primary basis.

ADD 3807C

Subject to agreement obtained under the procedure set forth in Article N13A, the band 37 - 39 GHz may also be used in Japan for Earth-to-space transmission in the fixed-satellite service, up to 31 December 1990.

A N N E X 4

GHz
36 - 40

Region 1	Region 2	Region 3
36 - 37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 3761/391A 3810/412E	
37 - 37.5	FIXED MOBILE 3807CA 3810/412E	
37.5 - 39.5	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE 3810/412E 3807CA	
39.5 - 40 <u>7</u> - 40.5 <u>7</u>	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE MOBILE-SATELLITE (Space-to-Earth)	

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/185-E

7 November 1979

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WORKING GROUP 5D

DRAFT

TWENTY-SECOND REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 22 - 23.6 GHz; 25.25 - 27.5 GHz; 34.2 - 35.2 GHz; 36 - 40 GHz.

1. Frequency bands between 22 and 23.6 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The delegation of France reserved the right to come back in Committee 5 to footnotes relating to radio astronomy service in the band 22.01 - 22.28 GHz.

3. The delegations of Australia, Canada and the United States of America reserved the right to come back to allocations of the band 22.21 - 22.5 GHz to Earth-exploration-satellite (passive) and space research (passive) services on a secondary basis.

4. Frequency bands between 25.25 and 27.5 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in the Annex.

5. The Working Group decided to defer the final decision on standard frequency-satellite service (Earth-to-space) in the band 25.25 - 27.5 GHz pending a definition of this service in Working Group 5A.

6. The delegation of the United States of America reserved the right to come back in Committee 5 to the allocation to Earth-exploration-satellite service (space-to-space) in the band 25.25 - 27.5 GHz, pending a definition of this service in Working Group 5A.

7. Frequency band between 34.2 and 35.2 GHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

8. Frequency bands between 36 and 40 GHz

All proposals relating to these bands, as well as the Note of the Chairman of Working Group 5E to the Chairman of Working Group 5D were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 4.

9. The delegation of the United Kingdom reserved the right to come back in Committee 5 to the allocation of the band 36 - 37 GHz to Earth-exploration-satellite and space research services on a primary basis.

10. The Working Group decided to suppress footnotes 3801/410A, 3792/407, 3805/412 and 3809/412D.



A N N E X 1

GHz
22 - 23.6

Allocation to Services		
Region 1	Region 2	Region 3
22 - 22.21	FIXED MOBILE except aeronautical mobile 3801A	
22.21 - 22.5	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 3801A 3801B [Earth-exploration-satellite (passive)] [Space research (passive)]	
22.5 - 22.55	22.5 - 22.55	
FIXED	BROADCASTING-SATELLITE 3802/410B	
MOBILE	FIXED	
	MOBILE	
	3801C	
22.55 - 23	22.55 - 23	
FIXED	BROADCASTING-SATELLITE 3802/410B 3801C	
INTER-SATELLITE	FIXED	
MOBILE	INTER-SATELLITE	
	MOBILE	
3801D	3801D	
23 - 23.55	FIXED INTER-SATELLITE MOBILE 3801E	
23.55 - 23.6	FIXED MOBILE	

- ADD 3801A In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 22.01 - 22.28 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).
- ADD 3801B In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 22.21 - 22.5 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).
- SUP 3801/410A
- ADD 3801C Additional allocation : In Japan, the band 22.5 - 23 GHz is also allocated to the broadcasting service on a primary basis.
- ADD 3801D In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 22.81 - 22.86 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).
- MOD 3802/410B In Region-3 Regions 2 and 3, the broadcasting-satellite service is authorized in the band 22.5 - 23.0 GHz, subject to power flux density limits for the protection of the terrestrial services in this band.
- 3801E In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 23.07 - 23.12 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

A N N E X 2

GHz
25.25 - 27.5

Region 1	Region 2	Region 3
25.25 - 27.5 FIXED MOBILE	25.25 - 27 FIXED MOBILE [Standard frequency- satellite (Earth-to- space)]	25.25 - 27 FIXED MOBILE
	27 - 27.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE [Standard frequency- satellite (Earth-to- space)]	27 - 27.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE

A N N E X 3

GHz
34.2 - 35.2

Region 1	Region 2	Region 3
34.2 - 35.2	RADIOLOCATION Space research 3808/412C 3808A 3794/408	

SUP 3792/407

MOD 3794/408
(16. Report)

Additional allocation : In Algeria, Saudi Arabia, Bangladesh, Cameroon, Gabon, Iran, Iraq, Jordan, Kuwait, Mali, Morocco, Mauritania, Pakistan, Senegal, Sweden, Singapore, Thailand and Tunisia, the bands / 13.4 - 14 GHz, 15.7 - 17.7 GHz and / 33.4 - 36 GHz are also allocated to the fixed and mobile services on a primary basis.

SUP 3805/412

SUP 3809/412D

MOD 3808/412C

Different category of service : In Bulgaria, Cuba, Hungary, Poland, Mongolia, the German Democratic Republic, Czechoslovakia and the USSR, the allocation of the band 34.2 - 35.2 GHz to the space research service is on a primary basis (see No. 3432/141).

ADD 3808A

Different category of service : In Australia and the United States of America, the allocation of the band 34.2 - 34.7 GHz to the space research (deep-space) (Earth-space) is on a primary basis.

A N N E X 4GHz
36 - 40

Region 1	Region 2	Region 3
36 - 37	EARTH EXPLORATION-SATELLITE (passive)	
	FIXED	
	MOBILE	
	SPACE RESEARCH (passive)	
	3761/391A 3810/412E	
37 - 37.5	FIXED	
	MOBILE	
	3807AA 3810/412E	
37.5 - 39.5	FIXED	
	FIXED-SATELLITE (Space-to-Earth)	
	MOBILE	
	3810/412E 3807AA	
39.5 - 40 <u>[- 40.5_7</u>	FIXED	
	FIXED-SATELLITE (Space-to-Earth)	
	MOBILE	
	MOBILE-SATELLITE (Space-to-Earth)	

MOD 3761/391A

In making assignments to services, Administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 36.43 - 36.5 GHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see also No. 3280/116).

MOD 3810/412A

Additional allocations : In Bulgaria, Cuba, Hungary, Poland, Mongolia, the German Democratic Republic, Roumania, Czechoslovakia, Yugoslavia and the USSR, the band 36.5 - 37.5 GHz is allocated to the radio astronomy service on a primary basis.

ADD 3807AA

Subject to agreement obtained under the procedure set forth in article [N 7], the band 37 - 39 GHz may also be used in Japan for Earth-to-space transmission in the fixed-satellite service, up to 31 December 1990.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/186-E

7 November 1979

Original : English

WORKING GROUP 4B

DRAFT

FIFTH REPORT OF WORKING GROUP 4B TO COMMITTEE 4

Subject : Article N27

1. All proposals relating to this Article were examined and the Working Group agreed to recommend to Committee 4 that the revised text in the Annex be adopted. The value of 0.3 degree in MOD 6111/470 VF was agreed by majority decision but in all other respects the revised text was agreed unanimously.
2. Square brackets have been inserted around specific frequency bands and services where these particulars depend on decisions in Committee 5. After that Committee has concluded its discussion, the appropriate frequency bands and services may then be inserted.
3. New Sections VI and VII are proposed to be added to Article 27 to take account of protection of the radio astronomy service in the shielded portion of the moon and to call attention to the need to encourage that the e.i.r.p. emitted by earth stations in the direction of the geostationary satellite orbit be maintained at low levels.

E.R. CRAIG
Chairman of Working Group 4B

Annex : 1



A N N E X

ARTICLE N27

Special Rules Relating to Space Radiocommunication Services

Section I. Cessation of Emissions

NOC 6105/470V § 1. Space stations shall be fitted with devices to
Spa2 ensure immediate cessation of their radio emissions by telecommand,
whenever such cessation is required under the provisions of these
Regulations.

MOD Section II. Control of Interference ^{into} ~~between~~ Geostationary-Satellite
Systems ~~and non-synchronous-inclined-orbit-satellite-systems~~

NOC 6106/470VA § 2. Non-geostationary space stations in the
Spa2 fixed-satellite service shall cease or reduce to a negligible level
radio emissions, and their associated earth stations shall not
transmit to them whenever there is insufficient angular separation
between the non-geostationary satellite and geostationary satellites
and unacceptable interference¹ to geostationary satellite space
systems operating in accordance with these Regulations.

[ADD] 6106A In the frequency band [27.5 - 30] GHz space
stations in the Earth exploration-satellite service on board
geostationary satellites and operating with space stations in
the Earth exploration-satellite service on board non-geostationary
satellites shall have the following restriction :

Whenever the emissions from the geostationary
satellites are directed towards the geostationary satellite orbit
and cause unacceptable interference¹ to any geostationary satellite
space system in the fixed-satellite service, these emissions shall
be reduced to a level at or less than accepted interference¹.

[ADD] 6106.1

¹The level of accepted interference shall be
fixed by agreement between the Administrations concerned, using the
relevant CCIR Recommendations as a guide.

NOC Section III. Station Keeping of Space Stations¹

- | | | |
|-----|--------------------|---|
| MOD | 6107/470VB
Spa2 | § 3.1
Space stations on geostationary satellites which use any frequency band allocated to the fixed-satellite service or the broadcasting-satellite service ² : |
| MOD | 6108/470VC
Spa2 | - shall have the capability of maintaining their positions within ± 0.1 degree of the longitude of their nominal positions; |
| MOD | 6109/470VD
Spa2 | - shall maintain their positions within ± 0.1 degree of longitude of their nominal positions; but |
| ADD | 6109A | - experimental stations on geostationary satellites need not comply with No. 6108 nor No. 6109, but shall maintain their positions within ± 0.5 degree of longitude of their nominal positions; |
| MOD | 6110/470VE
Spa2 | - however, space stations need not comply with No. 6109/470VD nor No. 6109A as appropriate as long as the satellite network to which the space station belongs does not produce an unacceptable level of interference ³ into any other satellite network whose space station complies with the limits given in No. 6109/470VD and No. 6109A. |
| ADD | 6110A | § 3.2
Space stations on geostationary satellites which do not use any frequency band allocated to the fixed-satellite service or the broadcasting-satellite service : |
| ADD | 6110B | - shall have the capability of maintaining their positions within ± 0.5 degree of the longitude of their nominal positions; |
| ADD | 6110C | - shall maintain their positions within ± 0.5 degree of longitude of their nominal positions; but |

NOC A.N27.Spa2 S.III

¹In the case of space stations on geosynchronous satellites with orbits having an angle of inclination greater than 5 degrees the positional tolerance shall relate to the nodal point.

ADD 6107.1 ²Space stations in the broadcasting-satellite service on geostationary satellites operating in the band 11.7 - 12.5 GHz are exempted from these provisions but shall maintain their positions in accordance with the Final Acts of WARC-77.

MOD 6110.1/470VE.1
Spa2

- ADD 6110D - need not comply with No. 6110C as long as the satellite network to which the space station belongs does not produce an unacceptable level of interference⁴ into any other satellite network whose space station complies with the limits given in No. 6110C.
- ADD 6110E § 3.3 Space stations⁵ on geostationary satellites which are put into service prior to / 5 years from date of entry into force of the Final Acts of WARC-79 / with the advance publication information for the network having been published before / the date of entry into force of the Final Acts of WARC-79 / are exempted from provisions of No. 6107 to No. 6110D inclusive; however they
- ADD 6110F - shall have the capability of maintaining their positions within ± 1 degree of the longitude of their nominal positions, but efforts should be made to achieve a capability of maintaining their positions at least within ± 0.5 degree of the longitude of their nominal positions;
- ADD 6110G - shall maintain their positions within ± 1 degree of longitude of their nominal positions; but
- ADD 6110H - need not comply with No. 6110G as long as the satellite network to which the space station belongs does not produce unacceptable interference⁶ into any other satellite network whose space station complies with the limits given in No. 6110G.

ADD 6110D.1 ⁴See No. 6106.1.

ADD 6110E.1 ⁵See No. 6107.1.

ADD 6110H.1 ⁶See No. 6106.1.

**Section IV. Pointing Accuracy of Antennae
on Geostationary Satellites**

/ MOD 6111/470VF
Spa2

§ 4. The pointing direction of maximum radiation of any earthward beam of antennae on geostationary satellites¹ shall be capable of being maintained within:

10 % of the half power beamwidth relative to the nominal pointing direction, or
0.3
~~0.5~~ degree relative to the nominal pointing direction.

whichever is greater. This provision applies only when such a beam is intended for less than global coverage.

In the event that the beam is not rotationally symmetrical about the axis of maximum radiation, the tolerance in any plane containing this axis shall be related to the half power beamwidth in that plane.

This accuracy shall be maintained only if it is required to avoid unacceptable interference² to other systems.

Section V. Power Flux Density at the Geostationary Satellite Orbit

6112/470VG
Spa2

§ 5. In the frequency band [8 025 to 8 400 MHz,] which the [Earth exploration-satellite service using non-geostationary satellites shares with the fixed-satellite service (Earth-to-space) or the meteorological-satellite service (Earth-to-space)] the maximum power flux density produced at the geostationary satellite orbit by any earth exploration-satellite service space station shall not exceed -174 dBW/m² in any 4 kHz band.

ADD 6111.1

¹Transmitting antennae of space stations in the broadcasting-satellite service operating in the band [11.7 - 12.5 GHz] are not subject to these provisions but shall maintain their pointing accuracy in accordance with [paragraph 3.14.1 of Annex 8 of the Final Acts of WARC-77].

MOD 6111.2/470VF.1
Spa2

²See No. 6106.1.

ADD

Section VI. Radio Astronomy in the Shielded Zone of the Moon

ADD

6113

§ 6. (1) In the shielded zone of the Moon¹ emissions creating harmful interference for radio astronomy observations² and other passive users as defined in the Radio Regulations shall be prohibited in the entire frequency spectrum with the following exceptions :

1. the frequency bands allocated to the space research [(active)] service
2. the frequency bands allocated to the space operations service, the earth exploration satellite [(active)] service, and radiolocation stations on spaceborne platforms, that are required a) to support space research, and b) for radiocommunications and space research transmissions within the lunar shielded zone.

ADD

6114

(2) In frequency bands in which emissions are not prohibited by ADD 6113, radio astronomy observations and passive space research in the shielded zone of the Moon may be protected from harmful interference by agreement between Administrations concerned.

Section VII. Earth Station Off-axis Power Limitations

ADD

6115

The level of equivalent isotropically radiated power (e.i.r.p.) emitted by an earth station at angles in the direction of the geostationary satellite orbit off the main-beam axis has a significant impact on interference into other geostationary satellite networks. Enhanced utilization of the geostationary satellite orbit and easier coordination would be attained by minimizing such off-axis radiation and Administrations are encouraged to achieve the lowest values practicable bearing in mind the latest CCIR Recommendations. Minimizing such levels is particularly important in intensively used up-link bands.

ADD

6113.1

¹The shielded zone of the Moon comprises the area of the Moon's surface and an adjacent volume of space which are shielded from emissions originating within a distance of 100,000 km from the centre of the Earth.

ADD

6113.2

²The level of harmful interference is determined by agreement between the Administrations concerned, with the guidance of the relevant CCIR Recommendations.

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/187-E

7 November 1979

Original : English

WORKING GROUP 5E

DRAFT CORRIGENDUM TO THE
FIFTH REPORT OF WORKING GROUP 5E TO COMMITTEE 5
(ALLOCATIONS)

On page 2 of the Annex to Document No. 450 replace the band 149 - 164 GHz by the bands shown in the attached Annex.

Dr. A.W. ADEY
Chairman of Working Group 5E

Annex : 1



A N N E X

GHz
149 - 164

Region 1	Region 2	Region 3
149 - 150	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE	
150 - 151	EARTH EXPLORATION-SATELLITE (Passive) FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE SPACE RESEARCH (Passive) 3816E	
151 - 164	FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE	

ADD 3816E

The bands 150 - 151 GHz, 174.42 - 175.02 GHz, 177 - 177.4 GHz, 178.2 - 178.6 GHz, 181 - 181.46 GHz and 186.2 - 186.6 GHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to other services, Administrations are urged to take all practicable steps in these bands to protect radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N / _/).

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/188-E

7 November 1979

Original : English

WORKING GROUP 5BB

DRAFT NOTE TO THE CHAIRMAN OF COMMITTEE 6

In considering further the proposals concerning the reallocation to the Broadcasting or Maritime Mobile Service of some parts of the bands presently allocated to the Fixed Service, Working Group 5BB agreed on the following principles which should serve as guidelines for Committee 6 in the development of procedures concerning the transfer of assignments to fixed stations :

- 1) the transfer procedures should be compatible with the objectives mentioned in the two footnotes which appear in the Annex and which would apply to each of the bands concerned;
- 2) the status of transferred assignments should be maintained;
- 3) the Master Register should be brought up to date in order to reflect actual frequency usage in the bands concerned;
- 4) requests for assignments of frequencies in the bands concerned and subject to the transfer procedure should continue to be accepted until the commencement of the application of these procedures;
- 5) in the period between the commencement of the application of the procedures of transfer and the date of completion only the urgent requirements for new assignments in the bands concerned should be accepted by the IFRB.

If feasible, a graphic presentation of the procedures might be useful.

P.D. BARNES
Chairman of Working Group 5BB

Annex : 1



A N N E X

ADD 3511A The use of the bands [] by the broadcasting service will be subject to a broadcasting plan to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service [see Recommendation No.]. Within these bands, the date of commencement of operations in the broadcasting service on a planned channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedure described in [Resolution No.], of all assignments to fixed stations operating in accordance with the provisions of the Radio Regulations and recorded in the Master Register and which may be affected by broadcasting operations on that channel.

ADD 3511B The use of the bands [] by the maritime mobile service will be subject to provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in [Resolution No.], of all assignments to fixed stations operating in accordance with the provisions of the Radio Regulations and recorded in the Master Register and which may be affected by maritime mobile operations on that frequency.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. DT/189-E
8 November 1979
Original : English

WORKING GROUP 5A

NOTE BY THE CHAIRMAN OF WORKING GROUP 5A

Please amend Document No. DT/189 as shown below :

1. Replace paragraph 4.6 of the Report by the following :

"4.6 By a small majority, the Working Group decided not to adopt the proposal PNG/39A/357(Add.1). USSR and some delegations, however, felt that the subject matter did not concern Working Group 5A and, as such, the proposal in question should be referred to Working Group 5BA/5BB for proper consideration. In case of a favourable response to the essence of the proposal by the Working Groups, Committee 4 could subsequently be requested to examine the technical aspect of the proposal.

4.7 The Working Group decided to refer proposal IND/93/164 to Committee 5 with the request that the advice of Committee 4 may be sought concerning the power limit mentioned therein."

2. Add a new paragraph to the Report, as follows :

"7. Earth exploration service

After a lengthy discussion of the proposals CAN/60A/6 and F/57A/509, the Working Group, unanimously decided that no such definition was required in the Radio Regulations."

V. QUINTAS
Chairman of the Working Group 5A



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/189-E

7 November 1979

Original : English

WORKING GROUP 5A

DRAFT

NINTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

The Working Group 5A presents its ninth report to Committee 5.

1. The texts adopted by the Working Group for the approval of Committee 5 are shown in the Annex.

2. Article N5/3 (General rules for the assignment and use of frequencies).

2.1 The consideration of proposals relating to RR 3281/116A is kept in abeyance until the report of Sub-Working Group 5A1 (Radio Astronomy) is available.

2.2 Proposal G/53A/67, relating to the protection to be afforded to space research (passive) and Earth exploration-satellite (passive) services, is still under the consideration of the Working Group.

3. Article N6/4 (Special / Agreements /)

3.1 The examination of a proposal to amend reference to Article 31 of the Convention in RR 3310/120 led to a general discussion of the interpretation to be given to these provisions. As a result of this discussion, the Working Group arrived at the following conclusions :

3.1.1 - the reference to Article 31 in RR 3310/120 is appropriate and correct;

3.1.2 - the objective of Radio Regulations 3310/120 is to enable the conclusion of special arrangements among Members of the Union through means other than Administrative Conferences; and

3.1.3 - the phrases ".....on a world-wide basis" and "as a result of a Conference...." should be understood within the meaning of the whole Article N6/4. RR 3310/120 authorizes the conclusion of the special agreements subsequent to, and as a result of the decisions of, a Conference to which all Members of the Union had been invited. The Final Acts of the WARC (Aeronautical Mobile), 1978, and subsequent action under ICAO, were mentioned in the Working Group as example of the application of the provisions of RR 3310/120.

3.2 The Working Group decided that the Editorial Committee should be requested to amend the French and Spanish versions of RR 3310/120 so as to bring them in concordance with the English version.



4. Article N28 - Section I (broadcasting service)

4.1 In the discussion relating to Article N28 - (Section I), the Working Group disregarded the following proposals :

CAN/60A/157	S/15/350
CAN/60A/158	S/15/351
CAN/60A/159	S/15/352
GRC/86A/455	THA/18/3
GRC/86A/456	USA/47/437(Corr.2)
PHL/92A/52	USA/47/438
PHL/92A/53	USA/47/439
PHL/92A/54	USA/47/440
PHL/92A/55	USA/47/441(Corr.2)
S/15/349	USA/47/442(Corr.2)

This action is justified on the basis of the decision taken by Committee 5 on Document No. 422.

4.2 The Working Group decided that the Editorial Committee be invited to align in the three languages the text of RR 6214/422.

4.3 The version of RR 6215/423 given in the Annex was adopted by a significant majority. The main difficulty concerns the retention or deletion of the words "in principle" at the beginning of the text.

4.5 The Working Group considers that proposals NIG/105/7 and NIG/105/8 have repercussions on the Table of Frequency Allocations and, consequently, should be examined in the other appropriate Working Group.

/ 4.6 The Working Group requests Committee 5 to forward to Committee 4, for advice, proposals IND/93/164 and PNG/39A/357. _/

5. Radio astronomy

The Sub-Working Group 5A1 is examining the proposals relating to the writing of an article on radio astronomy for inclusion in the Radio Regulations.

6. Article N29 (fixed service)

The Working Group has proposals CAN/60A/161 and CAN/60A/162 before it which require to change the title of the Article N29 to "fixed service and land mobile service" and to introduce a provision relating to land mobile service in the article. The majority view in the group is that it would not be appropriate to introduce, in Article N29, provisions relating to land mobile service. The proposal relating to the

prohibition of the use of DSB-AM by land mobile service below 25 MHz (CAN/60A/162) was received sympathetically but the Working Group is uncertain on the manner to treat it. Guidance is sought from Committee 5 in this respect.

V. QUINTAS
Chairman of Working Group 5A

Annex : 1

A N N E X

ARTICLE N5

General Rules for the Assignment and Use of Frequencies

- ADD 3276 Members shall endeavour to limit the number of frequencies and the spectrum space used to the minimum essential to provide in a satisfactory manner the necessary services. To that end they shall endeavour to apply the latest technical advances as soon as possible (CONV).
- (MOD) 3277/113 undertake
↓
The Members ~~and Associate-Members~~ of the Union ~~agree~~ that in assigning frequencies to stations which are capable of causing harmful interference to the services rendered by the stations of another country, such assignments are to be made in accordance with the Table of Frequency Allocations and other provisions of these Regulations.
- NOC 3278/114 Any new assignment or any change of frequency or other basic characteristic of an existing assignment (see Appendix I or Appendix IA) shall be made in such a way as to avoid causing harmful interference to services rendered by stations using frequencies assigned in accordance with the Table of Frequency Allocations in this Chapter and the other provisions of these Regulations, the characteristics of which assignments are recorded in the Master International Frequency Register.
- (MOD) 3279/115 Administrations of the Members of the Union shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations given in this Chapter or the other provisions of these Regulations, except on the express condition that harmful interference shall not be caused to services carried on by stations operating in accordance with the provisions of the Convention and of these Regulations.
- NOC 3280/116 The frequency assigned to a station of a given service shall be separated from the limits of the band allocated to this service in such a way that, taking account of the frequency band assigned to a station, no harmful interference is caused to services to which frequency bands immediately adjoining are allocated.
- NOC 3282/117 Where, in adjacent Regions or sub-Regions, a band of frequencies is allocated to different services of the same category (see Sections I and II of Article N7/5), the basic principle is the equality of right to operate. Accordingly, the stations of each service in one Region or sub-Region must operate so as not to cause harmful interference to services in the other Regions or sub-Regions.
- ADD 3283 No provision of these Regulations prevents the use by a station in distress of any means of radiocommunications at its disposal to attract attention, make known its condition and location, and obtain assistance.
- ADD 3284 No provision of these Regulations prevents the use by a station, in the exceptional circumstances described in No. 3283, of any means of radiocommunications at its disposal to assist a station in distress.

ARTICLE N6

Special Agreements

- (MOD) 3308/118 Two or more Members ~~or Associate Members~~ of the Union may, in accordance with Article 31 of the Convention, conclude special agreements regarding the sub-allocation of bands of frequencies to the appropriate services of the participating countries.
- (MOD) 3309/119 Two or more Members ~~or Associate Members~~ of the Union ^{concerned} may, in accordance with Article 31 of the Convention, conclude special agreements, as a result of a Conference to which all those Members ~~and Associate Members~~ of the Union affected have been invited, regarding the assignment of frequencies to those of their stations which participate in one or more specific services within the frequency bands allocated to these services by Article N7/5, either below 5 060 kHz or above 27 500 kHz, but not between those limits.
- (MOD) 3310/120 The Members ~~and Associate Members~~ of the Union may, in accordance with Article 31 of the Convention, conclude, on a world-wide basis, and as a result of a Conference to which all Members ~~and Associate Members~~ of the Union have been invited, special agreements concerning the assignment of frequencies to those of their stations participating in a specific service, on condition that such assignments are within the frequency bands allocated exclusively to that service in Article N7/5.
- NOC 3311/121 Special agreements concluded in accordance with the provisions of Nos. 3308/118 to 3310/120 shall not be in conflict with any of the provisions of these Regulations.
- NOC 3312/122 The Secretary General shall be informed, in advance, of any Conference to be convened to conclude such an agreement; he shall also be informed of the terms of the agreement when concluded; and he shall inform the Members and Associate Members of the Union of the existence of such agreements.
- NOC 3313/123 In accordance with the provisions of Article N9/8 the International Frequency Registration Board may be invited to send representatives to participate in an advisory capacity in the preparation of these agreements and in the proceedings of the Conferences, it being recognized that in the majority of cases such participation is desirable.
- NOC 3314/124 If, besides the action they may take in accordance with No. 3309/119, two or more Members or Associate Members of the Union co-ordinate the use of individual frequencies in any of the frequency bands covered by Article N7/5 before notifying the frequency assignments concerned, they shall in all appropriate cases inform the Board of such co-ordination.

ARTICLE N8

Special Rules for the Assignment and Use of Frequencies

- ADD 3916 Members of the Union recognize that the safety aspects of radionavigation and other safety services, in particular /aeronautical services/ require special measures to ensure their freedom from harmful interference; it is necessary therefore to take this factor into account in the assignment and use of frequencies.
- (MOD) 3917 /413 ~~Members and Associate Members~~ of the Union recognize that among frequencies which have long-distance propagation characteristics, those in the bands between 5 000 and 30 000 kHz are particularly useful for long-distance communications: they agree to make every possible effort to reserve these bands for such communications. Whenever frequencies in these bands are used for short or medium-distance communications, the minimum power necessary shall be employed.
- NOC 3918 /414 To reduce requirements for frequencies in the bands between 5 000 and 30 000 kHz and thus to prevent harmful interference to long-distance radiocommunications, administrations are encouraged to use, whenever practicable, any other possible means of communication.
- MOD 3919 /415 When special circumstances make it indispensable to do so, an administration may, as an exception to the normal methods of working authorized by these Regulations, have recourse to the special methods of working enumerated below, on the sole condition that the characteristics of the stations still conform to those inserted in the Master International Frequency Register:
- a) a fixed station in the ~~terrestrial~~ radiocommunication fixed service or an Earth station in the fixed-satellite service may, ~~on a secondary basis~~, under the conditions defined in No. 3430/139 transmit to mobile stations on its normal frequencies;
 - b) a land station may communicate, ~~on a secondary basis~~ under the conditions defined in No. 3430/139 with fixed stations in the fixed service or Earth stations in the fixed satellite service or other land stations of the same category.
- NOC 3921 /417 Any administration may assign a frequency in a band allocated to the fixed service or allocated to the fixed-satellite service to a station authorized to transmit, unilaterally, from one specified fixed point to one or more specified fixed points provided that such transmissions are not intended to be received directly by the general public.

MOD 3925/421

Any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the international distress and emergency frequencies established for this purpose by these Regulations is prohibited. Supplementary distress frequencies available on less than the world-wide basis should be afforded suitable protection.

ARTICLE N28

Broadcasting Service and
Broadcasting-Satellite Service

NOC 6214/422

The establishment and use of broadcasting stations (sound broadcasting and television broadcasting stations) on board ships, aircraft or any other floating or airborne objects outside national territories is prohibited.

[NOC] 6215/423

In principle, except in the frequency band 3 900-4 000 kHz broadcasting stations using frequencies below [5 060 kHz] or above 41 MHz shall not employ power exceeding that necessary to maintain economically an effective national service of good quality within the frontiers of the country concerned.

NOC 6217/424

In these Regulations, the expression "broadcasting in the Tropical Zone" indicates a type of broadcasting for internal national use in countries in the zone defined in Nos. 3425/135 and 3426/136, where it may be shown that because of the difficulty of high atmospheric noise level and propagation it is not possible to provide economically a more satisfactory service by using low, medium, or very high frequencies.

NOC 6218 425

The use by the broadcasting service of the bands listed below is restricted to the Tropical Zone:

2 300 - 2 498 kHz (Region 1)
2 300 - 2 495 kHz (Regions 2 and 3)
3 200 - 3 400 kHz (All Regions)
4 750 - 4 995 kHz (All Regions)
5 005 - 5 060 kHz (All Regions)

NOC 6219/426

Within the Tropical Zone, the broadcasting service has priority over the other services with which it shares the bands listed in No. 6218/425.

NOC 6220/427

However, in that part of Libya north of parallel 30° North the broadcasting service in the bands listed in No. 6218/425 has equal rights to operate with other services in the Tropical Zone with which it shares these bands.

NOC 6221/428

The broadcasting service operating inside the Tropical Zone, and other services operating outside the Zone, are subject to the provisions of No. 3282/117.

WORLD ADMINISTRATIVE RADIO CONFERENCE

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DRAFT

COMMITTEE 7

NOTE FROM THE VICE-CHAIRMAN OF COMMITTEE 7 TO THE CHAIRMAN OF COMMITTEE 4

The attention of Committee 4 is drawn to the additional terms and definitions in the provisions 3021A, 3021B, 3021C and 3021D which concern:

single-sideband transmission (3021A)
full carrier single-sideband transmission (3021B)
reduced carrier single-sideband transmission (3021C)
suppressed carrier single-sideband transmission (3021D)

and which were adopted unanimously by Committee 7.

The texts of the above-mentioned provisions can be found in document No. 528.

H.L. VENHAUS

Vice-Chairman of Committee 7



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

TWENTY THIRD REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 2 655 - 2 690 MHz and 5 470 - 7 250 MHz

1. Frequency band between 2 655 - 2 690 MHz

All proposals relating to this band were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The delegation of Canada reserved the right to come back to the allocations of the fixed-satellite service (space-to-Earth) in the band 2 655 - 2 690 MHz, in Committee 5.

3. Frequency bands between 5 470 - 7 250 MHz

All proposals relating to these bands were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

4. The Working Group decided to allocate a band of 20 MHz bandwidth to the amateur-satellite service (space-to-Earth) on a secondary basis in the band 5 750 - 5 850 MHz / 5 725 - 5 745 MHz /.

5. The Working Group postponed the decision on the footnotes and on the feeder link of the maritime mobile-satellite service in the band 5 925 - 6 425 MHz.

6. The Working Group postponed the discussion on footnote MOD 3743/379A (S/15/287) because it is in connection with the maritime mobile-satellite service mentioned in paragraph 6.

7. The Working Group decided unanimously to suppress footnotes 3697/354, 3759/390, 3762/392AA, 3767/393 and 3761/391A for the band 5 750 - 5 770 MHz only.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

MHz
2 655 - 2 690

Allocation to Services		
Region 1	Region 2	Region 3
2 655 - 2 690 FIXED 3721/364C 3722/364D / MOBILE except aeronautical mobile / BROADCASTING-SATELLITE 3715/361B 3726/364H Earth exploration- satellite (Passive) Space research (Passive) 3726/364H 3717/363 3718/364 3724/364F 3725/364G	2 655 - 2 690 FIXED 3721/364C 3722/364D FIXED-SATELLITE (Earth-to-space) 3723/364E MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3726/364H Earth exploration-satellite (Passive) Space Research (Passive) 3724/364F 3725/364G 3723A 3726/364H	

- NOC 3715/361B The use of the band 2 500 - 2 690 MHz by the broadcasting-satellite service is limited to domestic and regional systems for community reception and such use is subject to agreement between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions Nos. Spa2 - 2 and Spa2 - 3). The power flux density at the Earth's surface shall not exceed the values given in Nos. 6059/470NH-6062/470NK.
- MOD 3717/363 Alternative allocation : in the Federal Republic of Germany, Austria and Greece, the band 2 500 - 2 690 MHz is allocated to the fixed service on a primary basis.
- NOC 3721/364C When planning new tropospheric scatter radio-relay links in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.
- MOD 3723/364E The use of the band 2 500 - 2 690 MHz in Region 2 and 2 500 - 2 535 MHz and 2 655 - 2 690 MHz in Region 3 by the fixed-satellite service is limited to domestic and regional systems and such use is subject to agreement between the administrations concerned and those having services operating in accordance with the Table, which may be affected (see Articles N11 and N13/9A). In the direction space-to-Earth, the power flux density at the Earth's surface shall not exceed the values given in No. 6055/470NE.

obtained under the procedure set forth in Article N13A.

- MOD 3724/364F Alternative allocation : in Bulgaria, Iran and the USSR, the band 2 500 - 2 690 MHz is allocated to the fixed service and the mobile except aeronautical mobile service on a primary basis.
- MOD 3718/364 In Region 1, tropospheric scatter systems may operate in the band 2 550 - 2 690 MHz, subject to agreement ~~between the administrations concerned and those having terrestrial radiocommunication services, operating and planned in accordance with the Table, which may be affected.~~ obtained under the procedure set forth in Article N13A.
- NOC 3722/364D Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 655 - 2 690 MHz.
- ADD 3723A Subject to agreement obtained under the procedure set forth in Article N13A the band 2 655 - 2 690 MHz may also be used in Region 3 for the mobile-satellite (Earth-to-space) service.
- MOD 3725/364G In making assignments to services, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 2 655 - 2 690 MHz. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service (See Nos. 3280/116 and 3281/116A and Article N33A).
- NOC 3726/364H In the design of systems in the broadcasting-satellite service, Administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690 - 2 700 MHz.

A N N E X 2

MHz
5 470 - 7 250

Region 1	Region 2	Region 3
5 470 - 5 650	MARITIME RADIONAVIGATION Radiolocation 3754/386 3755/387 / 3730A / 3755A	
5 650 - 5 670	RADIOLOCATION Amateur Space research (Deep space) 3757/389 3755A 3644/320A 3757A	
5 670 - 5 725	RADIOLOCATION Amateur Space research (Deep space) 3757/389 3758/389A 3755A 3757A 3758A	
5 725 - 5 850 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 3756/388 3760/391 / 3761AA / 3755A 3758A 3757/389 3761A	5 725 - 5 850 RADIOLOCATION Amateur 3757/389 3760/391 / 3761AA / 3761A 3758A	
5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 3760/391	5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation 3760/391	5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Radiolocation 3760/391
5 925 - 7 075	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 3743/379A / 3761B / 3741A /	
7 075 - 7 250	FIXED MOBILE 3763/392B / 3761B /	

3 400 - 3 410 MHz

MOD 3644/320A

In the bands / 435 - 438 MHz, / 1 260 - 1 270 MHz, 2 400 - 2 450 MHz, ~~3 390 - 3 400 MHz~~ (in Regions 2 and 3 only) ~~3~~ 5 650 - 5 670 MHz, ~~10 475 - 10 500 MHz~~, / and 240 - 250 GHz / the amateur-satellite service may operate subject to not causing harmful interference (see No. 3442/148).

Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 6362/1567A.

The service ~~shall be only in the Earth-to-space direction~~ in the bands 1 260 - 1 270 MHz, ~~The service in bands 1-250 and 1-260 MHz~~ and 5 650 - 5 670 MHz shall be only in the Earth-to-space direction.

SUP 3697/354

ADD 3680D

The bands 1 370 - 1 400 MHz, 2 640 - 2 655 MHz, 4 950 - 4 990 MHz, 6 725 - 7 250 MHz and 15.2 - 15.35 GHz are also allocated to the space research (passive) and Earth exploration-satellite (passive) services on a secondary basis.

MOD 3743/379A
S/15/287

/ The standard frequency-satellite service and the time signal-satellite service may be authorized to use the frequency 4-202 / 4 217 MHz / for space-to-Earth transmissions and the frequency 6-427 6 442 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies and shall be subject to agreement ~~between the administrations concerned and those having services operating in accordance with the Table, which may be affected, /~~ obtained under the procedure set forth in Article N13A.

ADD 3730A

In the bands 2 900 - 3 100 MHz, 5 470 - 5 650 MHz and 9 500 - 9 800 MHz, the use of maritime transponder systems shall be confined to the sub-bands 2 930 - 2 950 MHz, 5 470 - 5 480 MHz and 9 500 - 9 520 MHz.

ADD 3755A

Additional allocation : in the United Kingdom the band 5 470 - 5 850 MHz is also allocated to the land mobile service on a secondary basis.

MOD 3754/386

Additional allocation : in Austria, Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 5 470 - 5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

NOC 3755/387

Between 5 600 and 5 650 MHz ground-based radars used for meteorological purposes are authorized to operate on the basis of equality with stations of the maritime radionavigation service.

MOD 3757/389

Cameroon,
Additional allocation : in China, the Republic of Korea, Gabon, Guinea, India, Indonesia, Iraq, Jamaica, Japan, Pakistan and Thailand, the band 5 650 - 5 850 MHz is also allocated to the fixed and mobile services on a primary basis.

ADD 3757A

Additional allocation : in Saudi Arabia the band 5 650 - 5 725 is also allocated to the fixed and mobile services on a primary basis.

- MOD 3758/389A Different category of service : in Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the USSR, the allocation of the band 5 670 - 5 725 MHz to the space research service is on a primary basis (see No. 3432/141).
- ADD 3758A Additional allocation : in Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the USSR, the band 5 670 - 5 850 MHz is also allocated to the fixed service on a primary basis.
- SUP 3761/391A (In the band 5 750 - 5 770 MHz)
- ADD 3761AA / Allocation of 20 MHz to the amateur-satellite service (Space-to-Earth) on a secondary basis in the band 5 750 - 5 850 MHz /
/ 5 725 - 5 745 MHz /
- MOD 3756/388 Additional allocation : in the Federal Republic of Germany the band 5 755 - 5 850 MHz is also allocated to the fixed service on a primary basis.
- SUP 3759/390
- MOD 3760/391 The band 5 725 MHz - 5 875 MHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 5 800 MHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A.
- ADD 3761B In the band 6 425 - 7 075 MHz, passive microwave sensor
(USA/45/193) measurements are carried out over the Earth's oceans. In the band 7 075 - 7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (Passive) and space research (Passive) services in their future planning of this band.
- SUP 3767/393
- SUP 3762/392AA
- MOD 3763/392B Subject to agreement obtained under the procedure set forth in Article N13A, the band 7 145 - 7 235 MHz may be used for Earth-to-space transmissions in the space research service. The band 7 145 - 7 190 MHz is restricted to deep space; no emissions to deep space shall be affected in the band 7 190 - 7 235 MHz.
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**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

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WORKING GROUP 5D

DRAFT

TWENTY THIRD REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands between 2 655 - 2 690 MHz and 5 470 - 7 250 MHz

1. Frequency band between 2 655 - 2 690 MHz

All proposals relating to this band were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The delegation of Canada reserved the right to come back to the allocations of the fixed-satellite service (space-to-Earth) in the band 2 655 - 2 690 MHz, in Committee 5.

3. The Working Group decided to add footnote 3723B to the band 2 500 - 2 535 MHz.

3723B Subject to agreement obtained under the procedure set forth in Article N13A the band 2 500 - 2 535 MHz may also be used in Region 3 for the land mobile-satellite (space-to-Earth) service.

4. Frequency bands between 5 470 - 7 250 MHz

All proposals relating to these bands were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

5. The Working Group decided to allocate a band of 20 MHz bandwidth to the amateur-satellite service (space-to-Earth) on a secondary basis in the band 5 750 - 5 850 MHz [5 725 - 5 745 MHz].

6. The Working Group postponed the decision on the footnotes and on the feeder link of the maritime mobile-satellite service in the band 5 925 - 6 425 MHz..

7. The Working Group postponed the discussion on footnote MOD 3743/379A (S/15/287) because it is in connection with the maritime mobile-satellite service mentioned in paragraph 6.

8. The Working Group decided unanimously to suppress footnotes 3697/354, 3759/390, 3762/392AA, 3767/393 and 3761/391A for the band 5 750 - 5 770 MHz only..

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 2



A N N E X 1

MHz
2 655 - 2 690

Allocation to Services		
Region 1	Region 2	Region 3
2 655 - 2 690 FIXED 3721/364C 3722/364D / MOBILE except aeronautical mobile / BROADCASTING-SATELLITE 3715/361B 3726/364H Earth exploration- satellite (Passive) Space research (Passive) 3717/363 3718/364 3724/364F 3725/364G	2 655 - 2 690 FIXED 3721/364C 3722/364D FIXED-SATELLITE (Earth-to-space) 3723/364E MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3726/364H Earth exploration-satellite (Passive) Space Research (Passive) 3724/364F 3725/364G 3723A	

NOC 3715/361B The use of the band 2 500 - 2 690 MHz by the broadcasting-satellite service is limited to domestic and regional systems for community reception and such use is subject to agreement between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions Nos. Spa2 - 2 and Spa2 - 3). The power flux density at the Earth's surface shall not exceed the values given in Nos. 6059/470NH-6062/470NK.

MOD 3717/363 Alternative allocation : in the Federal Republic of Germany, Austria and Greece, the band 2 500 - 2 690 MHz is allocated to the fixed service on a primary basis.

NOC 3721/364C When planning new tropospheric scatter radio-relay links in the band 2 500 - 2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

MOD 3723/364E / The use of the band 2 500 - 2 690 MHz in Region 2 and 2 500 - 2 535 MHz and 2 655 - 2 690 MHz in Region 3 by the fixed-satellite service is limited to domestic and regional systems and such use is subject to agreement between the administrations concerned and those having services operating in accordance with the Table, which may be affected (see Articles N11 and N13/9A). In the direction space-to-Earth, the power flux density at the Earth's surface shall not exceed the values given in No. 6055/470NE. /

obtained under the procedure set forth in Article N13A.

- MOD 3724/364F Alternative allocation : in Bulgaria, Iran and the USSR, the band 2 500 - 2 690 MHz is allocated to the fixed service and the mobile except aeronautical mobile service on a primary basis.
- MOD 3718/364 In Region 1, tropospheric scatter systems may operate in the band 2 550 - 2 690 MHz, subject to agreement ~~between the administrations concerned and those having terrestrial radiocommunication services, operating and planned in accordance with the Table, which may be affected.~~

obtained under the procedure set forth in Article N13A.
- NOC 3722/364D Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 655 - 2 690 MHz.
- ADD 3723A Subject to agreement obtained under the procedure set forth in Article N13A the band 2 655 - 2 690 MHz may also be used in Region 3 for the land mobile-satellite (Earth-to-space) service.
- MOD 3725/364G In making assignments to stations of other services to which the band 2 655 - 2 690 MHz is allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service. (See Nos. 3280/116 and 3281/116A and Article N33A).
- NOC 3726/364H In the design of systems in the broadcasting-satellite service, Administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690 - 2 700 MHz.

A N N E X 2

MHz
5 470 - 7 250

Region 1	Region 2	Region 3
5 470 - 5 650	MARITIME RADIONAVIGATION Radiolocation 3754/386 3755/387 \int 3730A \int 3755A	
5 650 - 5 670	RADIOLOCATION Amateur Space research (Deep space) 3757/389 3755A 3644/320A 3757A	
5 670 - 5 725	RADIOLOCATION Amateur Space research (Deep space) 3757/389 3758/389A 3755A 3757A 3758A	
5 725 - 5 850 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 3756/388 \int 3760/391 \int \int 3761AA \int 3755A 3758A 3757/389 3761A	5 725 - 5 850 RADIOLOCATION Amateur 3757/389 \int 3760/391 \int \int 3761AA \int 3761A 3758A	
5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE \int 3760/391 \int	5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation \int 3760/391 \int	5 850 - 5 925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Radiolocation \int 3760/391 \int
5 925 - 7 075	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 3743/379A \int 3761B \int \int 3741A \int	
7 075 - 7 250	FIXED MOBILE 3763/392B \int 3761B \int	

3 400 - 3 410 MHz

MOD 3644/320A

In the bands / 435 - 438 MHz, 1 260 - 1 270 MHz, 2 400 - 2 450 MHz, ~~3 390 - 3 400 MHz~~ (in Regions 2 and 3 only) / 5 650 - 5 670 MHz, ~~10 475 - 10 500 MHz~~, / and 240 - 250 GHz / the amateur-satellite service may operate subject to not causing harmful interference (see No. 3442/148).

Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 6362/1567A.

The service ~~shall be only in the Earth-to-space direction in the bands 1 260 - 1 270 MHz. The service in bands 1-250 and 1-260 MHz and 5 650 - 5 670 MHz shall be only in the Earth-to-space direction.~~

SUP 3697/354

ADD / 3741A /
(CAN/60B/425)

/ In the bands / 3 600 - 3 700 MHz / and 6 425 - 6 525 MHz the fixed-satellite service is restricted to single-channel-per-carrier or other frequency-division multiple-access systems. /

MOD 3743/379A
S/15/287

/ The standard frequency-satellite service and the time signal-satellite service may be authorized to use the frequency ~~4-262~~ / 4 217 MHz / for space-to-Earth transmissions and the frequency ~~6-427~~ 6 442 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies and shall be subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected, / obtained under the procedure set forth in Article N13A.

ADD 3730A

/ The Drafting Group 5D4 will provide the text of the footnote in the band 5 470 - 5 650 MHz. /

ADD 3755A

Additional allocation : in the United Kingdom the band 5 470 - 5 850 MHz is also allocated to the land mobile service on a secondary basis.

MOD 3754/386

Additional allocation : in Austria, Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the USSR, the band 5 470 - 5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

NOC 3755/387

Between 5 600 and 5 650 MHz ground-based radars used for meteorological purposes are authorized to operate on the basis of equality with stations of the maritime radionavigation service.

MOD 3757/389

Additional allocation : in China, the Republic of Korea, Gabon, Guinea, India, Indonesia, Iraq, Jamaica, Japan, Pakistan and Thailand, the band 5 650 - 5 850 MHz is also allocated to the fixed and mobile services on a primary basis.

ADD 3757A

Additional allocation : in Saudi Arabia the band 5 650 - 5 725 is also allocated to the fixed and mobile services on a primary basis.

- MOD 3758/389A Different category of service : in Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the USSR, the allocation of the band 5 670 - 5 725 MHz to the space research service is on a primary basis (see No. 3432/141).
- ADD 3758A Additional allocation : in Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the USSR, the band 5 670 - 5 850 MHz is also allocated to the fixed service on a primary basis.
- ADD 3761A In the band 5 725 - 5 850 MHz the amateur-satellite service may operate within the band 5 750 - 5 850 on a secondary basis.
- SUP 3761/391A (In the band 5 750 - 5 770 MHz)
- ADD 3761AA / Allocation of 20 MHz to the amateur-satellite service (Space-to-Earth) on a secondary basis in the band 5 750 - 5 850 MHz /
/ 5 725 - 5 745 MHz /
- MOD 3756/388 Additional allocation : in the Federal Republic of Germany the band 5 755 - 5 850 MHz is also allocated to the fixed service on a primary basis.
- SUP 3759/390
- MOD 3760/391 / The Drafting Group 5D5 will provide the text of the footnote for the frequency 5 800 MHz ~~5-75-MHz~~. /
- ADD 3761B / In the band 6 425 - 7 075 MHz, passive microwave sensor (USA/45/193) measurements are carried out over the Earth's oceans. In the band 7 075 - 7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (Passive) and space research (Passive) services in their future planning of this band. /
- SUP 3767/393
- SUP 3762/392AA
- MOD 3763/392B Subject to agreement obtained under the procedure set forth in Article N13A, the band 7 145 - 7 235 MHz may be used for Earth-to-space transmissions in the space research service. The band 7 145 - 7 190 MHz is restricted to deep space; no emissions to deep space shall be affected in the band 7 190 - 7 235 MHz.
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(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

TWENTY-FOURTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5 (ALLOCATIONS)

Subject : Frequency bands 12.75 - 13.25, 14.3 - 14.4, 15.35 - 15.7 GHz

1. Frequency band between 12.75 and 13.25 GHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The Working Group postponed the final decision on footnotes 3789A, 3789AA and 3788B pending a decision on broadcasting-satellite uplink allocation.

3. Frequency band between 14.3 and 14.4 GHz

All proposals relating to this band were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

4. The delegation of the USSR reserved the right to come back in Committee 5 to the footnote 3795/408A and to the suppression of the radionavigation-satellite service in the band 14.3 - 14.4 GHz.

5. The delegations of Bulgaria and the USSR reserved the right to come back in Committee 5 to the allocations to the fixed and mobile except aeronautical mobile services in the band 14.3 - 14.4 GHz.

6. Frequency bands between 15.35 and 15.7 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

7. The Working Group decided to form Drafting Group 5D14 under the chairmanship of Mr. A. Greco (I) (Box No. 766) to formulate the text of a footnote which is applicable in the exclusive passive bands.

8. The delegation of the USSR reserved the right to come back in Committee 5 to the footnote 3750/383B in the band 15.4 - 15.7 GHz and to the retention of footnote 3687/352B.

9. The Working Group decided to suppress footnotes 3796/408B, 3686/352A, 3792/407.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 3



A N N E X 1

GHz
12.75 - 13.25

Region 1	Region 2	Region 3
12.75 - 13.25	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space research (Deep space) (Space-to-Earth) <u>3789AA</u> <u>3789A</u>	

ADD 3789AA
URS/63B/343

 The band 12.5 - 13.25 GHz in Region 1 and the band 12.75 - 13.25 GHz in Regions 2 and 3 are earmarked for the organization of uplinks to broadcasting-satellites operating in the bands 11.7 - 12.5 GHz and 11.7 - 12.2 GHz respectively.

ADD 3789A
F/57B/402

 No feeder links are authorized in the bands 12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1 and 12.75 - 13.25 GHz in the three Regions.

A N N E X 2

GHz
14.3 - 14.5

Region 1	Region 2	Region 3
14.3 - 14.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile [3795/408A]	14.3 - 14.4 FIXED-SATELLITE (Earth-to-space) [3795/408A] [3788B]	14.3 - 14.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile [3795/408A]
14.4 - 14.47	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Space research (Space-to-Earth)	
14.47 - 14.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Radio astronomy 3797/408C	

MOD 3795/408A

[The use of the bands 14 - 14.3 GHz and 14.3 - 14.4 GHz by the radionavigation service and radionavigation-satellite service respectively, shall be such as to provide sufficient protection to space stations of the fixed-satellite service (see Recommendation No. Spa2 - 15, paragraph 2.14).]

ADD 3789A
F/57B/402

No feeder links are authorized in the bands
[12.5 - 12.75 GHz, 14 - 14.25 GHz and] 14.25 - 14.5 GHz in Region 1 [and
12.75 - 13.25 GHz in the three Regions.]

ADD 3788B (3789AB modified in Corrigendum No. 1 to Document No. 60B)

Use of the frequency bands 14 - 14.5 GHz [and
17.2 - 17.7 GHz] in Region 2 in the fixed-satellite service and as
Earth-to-space connections to systems in the broadcasting-satellite service
are to be in accordance with the conditions set out in Resolution No. D.

SUP 3796/408B (in the band 14.4 - 14.5 GHz)

MOD 3797/408C In making assignments to stations of other services to
which the band 14.47 - 14.5 GHz is allocated, Administrations are urged to
take all practical steps to protect the radio astronomy service from harmful
interference. Emissions from space and airborne stations can be particularly
serious sources of interference to the radio astronomy service
(See Nos. 3280/116 and 3281/116A and Article N33A).

A N N E X 3

GHz
15.35 - 15.7

Region 1	Region 2	Region 3
15.35 - 15.4	RADIO ASTRONOMY EARTH EXPLORATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 3799/409C 3799C 3799A	
15.4 - 15.7	AERONAUTICAL RADIONAVIGATION 3686A 3687/352B 3750/383B	

ADD 3799A 1 Drafting Group 5D14 will provide the text of the footnote in the band 15.35 - 15.4 GHz. 1

MOD 3799/409C Additional allocation : in Algeria, Saudi Arabia, Bulgaria, Cameroon, Congo, Cuba, Egypt, Gabon, Hungary, Iran, Iraq, Kuwait, Lebanon, Morocco, Mongolia, Pakistan, Poland, the German Democratic Republic, Roumania, Somalia, Czechoslovakia, the USSR and Yugoslavia, the band 15.35 - 15.4 GHz is also allocated to the fixed and mobile services on a primary basis.

ADD 3799C All emissions in the band 15.35 - 15.4 GHz are prohibited, except for those under the provisions of No. 3799/409C. The use of passive sensors by other services is also authorized.

SUP 3686/352A (in the band 15.4 - 15.7 GHz)

ADD 3686A The bands 1 565 - 1 629.5 MHz, 4 213 - 4 413 MHz and 1 15.4 - 15.7 GHz are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under the procedure set forth in Article N13A.

MOD 3687/352B The bands 1 610 - 1 626.5 MHz, 5 000 - 5 250 MHz and 15.4 - 15.7 GHz are also allocated to the aeronautical mobile ~~(R)-service~~ satellite service on a primary basis. Such use and development is subject to agreement ~~and coordination subject to agreement~~ obtained under the procedure set forth in Article N13A.

SUP 3792/407

MOD 3750/383B
(G/53B/533)

The bands 5 000 - 5 250 MHz and 15.4 - 15.7 GHz are also allocated to the fixed-satellite service and the inter-satellite service for connection between one or more Earth stations at specified fixed points on the Earth and satellites when these services are used by the aeronautical mobile (R) service and/or the radio-determination in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use and development shall be subject to ~~agreement-and-coordination-between-the Administrations-concerned-and-those-having-services,-operating-in-accordance with-the-Table,-which-may-be-affected-~~ agreement obtained under the procedure set forth in Article N13A.

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5D

DRAFT

TWENTY-FOURTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 12.75 - 13.25, 14.3 - 14.4, 15.35 - 15.7 GHz

1. Frequency band between 12.75 and 13.25 GHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The Working Group postponed the final decision on footnotes 3789A, 3789AA and 3788B pending a decision on broadcasting-satellite uplink allocation.

3. Frequency band between 14.3 and 14.4 GHz

All proposals relating to this band were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

4. The delegation of the USSR reserved the right to come back in Committee 5 to the footnote 3795/408A and to the suppression of the radionavigation-satellite service in the band 14.3 - 14.4 GHz.

5. The delegations of Bulgaria and the USSR reserved the right to come back in Committee 5 to the allocations to the fixed and mobile except aeronautical mobile services in the band 14.3 - 14.4 GHz.

6. Frequency bands between 15.35 and 15.7 GHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

7. The Working Group decided to form Drafting Group 5D14 under the chairmanship of Mr. A. Greco (I) (Box No. 766) to formulate the text of a footnote which is applicable in the exclusive passive bands.

8. The delegation of the USSR reserved the right to come back in Committee 5 to the footnote 3750/383B in the band 15.4 - 15.7 GHz and to the retention of footnote 3687/352B.

9. The Working Group decided to suppress footnotes 3796/408B, 3686/352A, 3792/407.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 3



A N N E X 1

GHz
12.75 - 13.25

Region 1	Region 2	Region 3
12.75 - 13.25	FIXED	
	MOBILE	
	Space research (Deep space) (Space-to-Earth)	
	<input type="checkbox"/> 3789AA <input type="checkbox"/> 3789A	

ADD 3789AA
URS/63B/343

☐ The band 12.5 - 13.25 GHz in Region 1 and the band 12.75 - 13.25 GHz in Regions 2 and 3 are earmarked for the organization of uplinks to broadcasting-satellites operating in the bands 11.7 - 12.5 GHz and 11.7 - 12.2 GHz respectively. ☐

ADD 3789A
F/57B/402

☐ No feeder links are authorized in the bands ☐ 12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1 and ☐ 12.75 - 13.25 GHz in the three Regions. ☐

A N N E X 2

GHz
14.3 - 14.4

Region 1	Region 2	Region 3
14.3 - 14.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile [3795/408A]	14.3 - 14.4 FIXED-SATELLITE (Earth-to-space) [3795/408A] [3788B]	14.3 - 14.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile [3795/408A]

GHz
14.4 - 14.5

14.4 - 14.47	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Space research (Space-to-Earth)
14.47 - 14.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile Radio astronomy 3797/408C

MOD 3795/408A

[The use of the bands 14 - 14.3 GHz [and 14.3 - 14.4 GHz] by the radionavigation service and radionavigation-satellite service respectively, shall be such as to provide sufficient protection to space stations of the fixed-satellite service (see Recommendation No. Spa2 - 15, paragraph 2.14).]

[ADD 3789A
F/57B/402

No feeder links are authorized in the bands [12.5 - 12.75 GHz, 14 - 14.25 GHz and 14.25 - 14.5 GHz in Region 1] and 12.75 - 13.25 GHz in the three Regions.]

ADD 3788B (3789AB modified in Corrigendum No. 1 to Document No. 60B)

[Use of the frequency bands 14 - 14.5 GHz $\overline{\text{and}}$
17.2 - 17.7 GHz $\overline{\text{in}}$ Region 2 in the fixed-satellite service and as
Earth-to-space connections to systems in the broadcasting-satellite service
are to be in accordance with the conditions set out in Resolution No. D.]

SUP 3796/408B (in the band 14.4 - 14.5 GHz)

MOD 3797/408C In making assignments to stations of other services to
which the band 14.47 - 14.5 GHz is allocated, Administrations are urged to
take all practical steps to protect the radio astronomy service from harmful
interference. Emissions from space and airborne stations can be particularly
serious sources of interference to the radio astronomy service
(See Nos. 3280/116 and 3281/116A and Article N33A).

A N N E X 3

GHz

15.35 - 15.7

Region 1	Region 2	Region 3
15.35 - 15.4	RADIO ASTRONOMY EARTH EXPLORATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 3799/409C 3799C 3799A	
15.4 - 15.7	AERONAUTICAL RADIONAVIGATION 3686A 3687/352B 3750/383B	

- ADD 3799A / Drafting Group 5D14 will provide the text of the footnote in the band 15.35 - 15.4 GHz. /
- MOD 3799/409C Additional allocation : In Algeria, Saudi Arabia, Bulgaria, Cameroon, Congo, Cuba, Egypt, Gabon, Hungary, Iran, Iraq, Kuwait, Lebanon, Morocco, Mongolia, Pakistan, Poland, the German Democratic Republic, Roumania, Somalia, Czechoslovakia, the USSR and Yugoslavia, the band 15.35 - 15.4 GHz is also allocated to the fixed and mobile services on a primary basis.
- ADD 3799C All emissions in the band 15.35 - 15.4 GHz are prohibited, except for those under the provisions of No. 3799/409C. The use of passive sensors by other services is also authorized.
- SUP 3686/352A (in the band 15.4 - 15.7 GHz)
- ADD 3686A The bands / 1 565 - 1 629.5 MHz, 4 213 - 4 413 MHz and / 15.4 - 15.7 GHz are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under the procedure set forth in Article N13A.
- MOD 3687/352B The bands [1 610 - 1 626.5 MHz, 5 000 - 5 250 MHz] and 15.4 - 15.7 GHz are also allocated to the aeronautical mobile ~~(R)-service~~ satellite service on a primary basis. Such use and development is subject to agreement ~~and coordination subject to agreement~~ obtained under the procedure set forth in Article N13A.

SUP 3792/407

MOD 3750/383B
(G/53B/533)

The bands [5 000 - 5 250 MHz] and 15.4 - 15.7 GHz are also allocated to the fixed-satellite service and the inter-satellite service for connection between one or more Earth stations at specified fixed points on the Earth and satellites when these services are used by the aeronautical mobile (R) service and/or the radio-determination in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use and development shall be subject to agreement and coordination between the Administrations concerned and those having services, operating in accordance with the Table, which may be affected. agreement obtained under the procedure set forth in Article N13A.

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5D

DRAFT

TWENTY-FIFTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Frequency bands 1 429 - 1 525 MHz, 1 660.5 - 1 670 MHz and 11.7 - 12.5 GHz

1. Frequency bands between 1 429 and 1 525 MHz

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 1.

2. The delegation of Canada reserved the right to come back in Committee 5 to footnote 3680AA in the band 1 429 - 1 525 MHz.

3. Frequency band between 1 660 and 1 670 MHz

All proposals relating to this band were considered, and the Working Group decided unanimously to recommend the adoption of the revised Table and the revised provisions as given in Annex 2.

4. Frequency bands between 11.7 and 12.5 GHz (Regions 1, 3)

All proposals relating to these bands were considered, and the Working Group decided by majority to recommend the adoption of the revised Table and the revised provisions as given in Annex 3.

5. The delegation of the USSR did not oppose to allocate the band 12.2 - 12.5 GHz to broadcasting-satellite service in Region 3 on condition that no revision of the existing broadcasting-satellite plan is required and reserved the right to come back to this allocation in Committee 5.

6. The Working Group decided to form Drafting Group 5D15 under the chairmanship of Mr. C.W. Pike (AUS) (BOX 1153), to formulate a footnote in connection with the allocation of the band 12.2 - 12.5 GHz to the broadcasting-satellite and fixed-satellite services in Region 3.

7. The Working Group decided to defer the discussion on footnotes in the band 11.7 - 12.5 GHz pending on the formulation of the new footnote by Drafting Group 5D15.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 3



A N N E X 1

MHz
1 429 - 1 525

Region 1	Region 2	Region 3
1 429 - 1 525	1 429 - 1 525	
FIXED	FIXED	
MOBILE except aeronautical mobile	MOBILE	
3679A	3679A 3680AA	

ADD 3679A

In the bands 1 400 - 1 727 MHz, 101 - 120 GHz and 197 - 220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

ADD 3680AA

In Region 2 in Australia and in Papua New Guinea the use of the bands 1 435 - 1 525 MHz and 1 525 - 1 535 MHz by the aeronautical mobile service for telemetering purposes has priority over other uses by the mobile services.

A N N E X 2

MHz
1 660.5 - 1 670

Region 1	Region 2	Region 3
1 660.5 - 1 668.4	RADIO ASTRONOMY SPACE RESEARCH (Passive) Fixed Mobile except aeronautical mobile 3696/353A 3696A 3698A 3679A	
1 668.4 - 1 670	FIXED METEOROLOGICAL AIDS MOBILE except aeronautical mobile RADIO ASTRONOMY 3696/353A 3679A 3696/353A	

SUP 3699/354B

ADD 3679A In the bands 1 400 - 1 727 MHz, [101 - 120 GHz and 197 - 220 GHz], passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

MOD 3696/353A In making assignments to stations of other services to which the band 1 660 - 1 670 MHz is allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service. (See Nos. 3280/116 and 3281/116A and Article N33A).

SUP 3697/354

ADD 3696A Additional allocation : In Afghanistan, the United States of America, India, Indonesia, Pakistan and Turkey, the band 1 660.5 - 1 668.4 MHz is also allocated to the meteorological aids service on a primary basis.

MOD 3696/353A In view of the successful detection by astronomers of two hydroxyl spectral lines in the regions of 1 665 MHz and 1 667 MHz, Administrations are urged to give all practicable protection in the band 1 660.5 - 1 668.4 MHz for future research in radio astronomy particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4 - 1 668.4 MHz as soon as practicable.

ADD 3698A

Different category of service : In Afghanistan,
Saudi Arabia, Austria, Benin, Bulgaria, Congo, Costa Rica, Ivory Coast, Cuba,
Egypt, Ethiopia, Hungary, India, Indonesia, Iran, Israel, Jordan, Kenya,
Kuwait, Lebanon, Malaysia, Mongolia, Uganda, Pakistan, Poland, Qatar, the
German Democratic Republic, Roumania, Singapore, Somalia, Syria, Tanzania,
Chad, Thailand, Czechoslovakia, Tunisia, the USSR, Yemen AR, the PDR of Yemen
and Yugoslavia, the allocation of the band 1 660.5 - 1 668.4 MHz to the fixed
service and the mobile except aeronautical mobile service is on a primary basis.

SUP 3698/354A (in the band 1 660 - 1 670 MHz)

A N N E X 3

GHz
11.7 - 12.5

Region 1	Region 2	Region 3
11.7 - 12.5	11.7 - 12.7	11.7 - 12.2
FIXED		FIXED
BROADCASTING		MOBILE except aeronautical mobile
BROADCASTING-SATELLITE		BROADCASTING
Mobile except aeronautical mobile		BROADCASTING-SATELLITE
3785/405B		3785/405B
		12.2 - 12.5
		FIXED
		FIXED-SATELLITE (Space-to-Earth)
		MOBILE except aeronautical mobile
		BROADCASTING
		BROADCASTING-SATELLITE
		3785A

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WORKING GROUP 5E

NOTE BY THE CHAIRMAN OF WORKING GROUP 5E

Subject : Draft Recommendations

- a) relating to the use of airborne radars in the frequency bands shared between the inter-satellite service and the radiolocation service
- b) relating to sharing of the frequency bands between the aeronautical mobile service and the inter-satellite service

Draft Recommendations shown in Annexes 1 and 2 are proposed for consideration by Working Group 5E to cover the two sharing questions raised in Document No. 379.

Dr. A.W. ADEY
Chairman of Working Group 5E

Annexes : 2



A N N E X 1

DRAFT RECOMMENDATION

Relating to the Use of Airborne Radars in the Frequency Bands Shared between
the Inter-Satellite Service and the Radiolocation Service

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that in the bands 59 - 64 GHz and 126 - 134 GHz the use of airborne radars is prohibited to avoid interference with the inter-satellite service;
- b) that the foregoing bands are located in parts of the radio frequency spectrum close to peaks of atmospheric absorption;
- c) that, nevertheless, the atmospheric absorption may not permit sharing between space stations of the inter-satellite service and radars operating on aircraft flying at high altitude;
- d) that, in the absence of precise information, this Conference, as a matter of prudence, has decided to prohibit the use of airborne radars in the afore-mentioned bands;
- e) that, therefore, it is necessary to investigate this sharing possibility;

recommends

that, as a matter of urgency, studies should be made of the sharing possibility and criteria for these two services in the frequency bands listed above;

requests the CCIR

to carry out these studies;

recommends further

that a future competent World Administrative Radio Conference review the allocations of these bands, taking into account the results of the studies of the CCIR.

A N N E X 2

DRAFT RECOMMENDATION

Relating to Sharing of Frequency Bands between the
Aeronautical Mobile Service and the Inter-Satellite Service

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the bands 54.25 - 58.2 GHz, 59 - 64 GHz, 116 - 126 GHz, 126 - 134 GHz, 168 - 170 GHz, 170 - 174.5 GHz, 174.5 - 176.5 GHz, 176.5 - 182 GHz and 185 - 190 GHz have been allocated to both the inter-satellite and the mobile services;
- b) that the foregoing bands are located in parts of the radio frequency spectrum close to peaks of atmospheric absorption;
- c) that, nevertheless, the atmospheric absorption may not permit sharing between space stations of the inter-satellite service and the stations on aircraft flying at high altitude;
- d) that, in the absence of precise information, this Conference, as a matter of prudence, has avoided making allocations to the aeronautical mobile service in the afore-mentioned bands;
- e) that, therefore, it is necessary to investigate this sharing possibility;

recommends

that, as a matter of urgency, studies should be made of the sharing possibility and criteria for these two services in the frequency bands listed above;

requests the CCIR

to carry out these studies;

recommends further

that a future competent World Administrative Radio Conference review the allocations of these bands, taking into account the results of the studies of the CCIR.

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

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WORKING GROUP 5E

NOTE BY THE CHAIRMAN OF WORKING GROUP 5E

Subject : Draft Recommendations

- a) relating to the use of airborne radars in the frequency bands shared between the inter-satellite service and the radiolocation service
- b) relating to sharing of the frequency bands between the aeronautical mobile service and the inter-satellite service

Draft Recommendations shown in Annexes 1 and 2 are proposed for consideration by Working Group 5E to cover the two sharing questions raised in Document No. 379.

Dr. A.W. ADEY
Chairman of Working Group 5E

Annexes : 2



A N N E X 1

DRAFT RECOMMENDATION TO CCIR

Relating to the Use of Airborne Radars in the Frequency Bands between the
Shared Inter-Satellite Service and the Radiolocation Service

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that in the bands 59 - 64 GHz and 126 - 134 GHz the use of airborne radars is prohibited to avoid interference with the inter-satellite service;
- b) that all of the foregoing bands are located in parts of the radio frequency spectrum close to peaks of atmospheric absorption;
- c) that, nevertheless, the atmospheric absorption may not permit sharing between space stations of the inter-satellite service and the aircraft stations carrying radars and flying at high altitudes;
- d) that therefore it is necessary to investigate this sharing possibility further before a firm conclusion can be drawn that sharing is not possible;
- e) that, in the absence of precise information, this Conference, as a matter of prudence, has decided to prohibit the use of airborne radars in the afore-mentioned bands;

recommends

that, as a matter of urgency, further studies should be made of the sharing possibility and criteria for these two services in the frequency bands listed above;

requests the CCIR

to carry out these studies;

recommends further

that a future World Administrative Radio Conference review the allocations of these bands to the afore-mentioned services taking into account the results of the studies of the CCIR.

A N N E X 2

DRAFT RECOMMENDATION TO CCIR

Relating to Sharing of the Frequency Bands between the
Aeronautical Mobile Service and the Inter-Satellite Service

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that the bands 54.25 - 58.2 GHz, 59 - 64 GHz, 116 - 126 GHz, 126 - 134 GHz, 168 - 170 GHz, 170 - 174.5 GHz, 174.5 - 176.5 GHz, 176.5 - 182 GHz and 185 - 190 GHz have been allocated to both inter-satellite and mobile services;
- b) that all of the foregoing bands are located in parts of the radio frequency spectrum close to peaks of atmospheric absorption;
- c) that nevertheless the atmospheric absorption may not permit sharing between space stations of the inter-satellite service and the aircraft stations flying at high altitudes;
- d) that, therefore, it is necessary to investigate this sharing possibility further before a firm conclusion can be drawn that sharing is not possible;
- e) that, in the absence of precise information, this Conference, as a matter of prudence, has avoided making allocations to the aeronautical mobile service in the afore-mentioned bands;

recommends

that, as a matter of urgency, further studies should be made of the sharing possibility and criteria for these two services in the frequency bands listed above;

requests the CCIR

to carry out these studies;

recommends further

that a future World Administrative Radio Conference review the allocations to the afore-mentioned services of these bands taking into account the results of the studies of the CCIR.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5BA

DRAFT FOURTH REPORT OF WORKING GROUP 5BA TO COMMITTEE 5

1. Frequency band 1 606.5 (1 605 in Region 2) - 1 800 kHz

1.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes ADD 3484A, ADD 3484B, ADD 3485A, ADD 3485B, MOD 3488/194, MOD 3490/195A and ADD 3492B which appear in Annex 1. It also decided to recommend the deletion of Footnotes 3485/192, 3486/420, 3487/193, 3489/195 and 3491/197. Footnote 3487/193 has been replaced by Footnote MOD 3499/205 throughout the Table.

1.2 The delegations of the USSR, Bulgaria, Czechoslovakia, German Democratic Republic and Poland reserved the right to refer Committee 5 to the question of the change of allocations in Region 1 between 1 606.5 and 1 850 kHz.

1.3 The delegations of Denmark and the Netherlands reserved the right to refer to Committee 5 the question of the need for exclusive world-wide allocations to the maritime mobile service in the band 1 606.5 - 2 000 kHz.

1.4 Some delegations of Region 3 expressed the wish for a Resolution dealing with the protection of services to which the band 1 606.5 - 1 705 kHz is allocated in Region 3 with respect to the broadcasting service in Region 2.

2. Frequency band 1 800 - 2 000 kHz

2.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes MOD 3492/198, ADD 3492A, ADD 3493A and MOD 3499/205 which appear in Annex 2.

2.2 The Working Group also decided that the note 3485B would be applicable in the band 1 800 - 1 850 kHz, Region 1, that Footnote 3488/194 would be applicable in the band 1 850 - 2 000 kHz (Region 1) and that Footnote 3490/195A would be applicable in the band 1 800 - 2 000 kHz in Region 1.

2.3 The delegation of France reserved the right to refer to Committee 5 the question of the allocation of the band 1 810 - 1 850 to the amateur service in Region 1.

2.4 See also paragraphs 1.2 and 1.3 relating to the reservations made concerning the allocations in the bands 1 606.5 - 1 800 kHz and 1 606.5 - 2 000 kHz respectively.



3. Frequency band 2 000 - 2 170 kHz

3.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes MOD 3493/200 and ADD 3493B which appear in Annex 2.

3.2 / The Working Group also decided that Footnote 3490/195A would be applicable in the band 2 000 - 2 170 and that Footnote 3499/205 would be applicable in the band 2 000 - 2 045 kHz.

3.3 The delegation of Papua New Guinea reserved the right to refer to Committee 5 the question of the allocations in the band 2 107 - 2 170 kHz in Region 3, including Footnote 3493B.

4. Frequency band 2 194 - 2 850 kHz

4.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes ADD 3495A, (MOD) 3496/202 and ADD 3497A and the deletion of Footnotes 3497/203 and 3498/203A (see Annex 4).

4.2 The Working Group also decided that Footnote / 3490/195A / would be applicable in the bands 2 194 - 2 498 kHz and 2 502 - 2 850 kHz (Region 1) and that Footnote / 3499/205 / would be applicable in the bands 2 194 - 2 498 kHz, 2 502 - 2 625 kHz and 2 650 - 2 850 kHz (Region 1).

4.3 The delegation of Norway reserved the right to refer to Committee 5 the question of the allocations in the band 2 502 - 2 850 kHz in Region 1, and the delegation of the Netherlands reserved the right to refer to Committee the question of the allocations in the band 2 650 - 2 850 kHz, also in Region 1.

5. Frequency band 3 230 - 3 400 kHz

5.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes / ADD 3499C / and ADD 3500A which appear in Annex 5.

5.2 The Working Group also decided that Footnotes / 3490/195A / and 3496/202 would be applicable in this band.

6. Frequency band 3 500 - 4 000 kHz

6.1 The Working Group examined all the proposals relating to this frequency band and decided to recommend to Committee 5 the adoption of the revised Table and of Footnotes / ADD 3499A /, ADD 3500B, ADD 3500C, ADD 3501A, ADD 3502A and ADD 3502B, and the deletion of Footnotes 3501/206 and 3502/207 (see Annex 6).

6.2 The Working Group also decided that Footnote / 3490/195A / would be applicable in the band 3 500 - 3 800 kHz in Region 1.

6.3 The delegation of Jordan reserved the right to refer to Committee 5 the question of the possibility of allocating the band 3 500 - 3 800 kHz in Region 1.

6.4 The delegations of Belgium, the Federal Republic of Germany, Sweden and the United Kingdom reserved the right to refer to Committee 5 the question of the possibility of allocating the band 3 900 - 4 000 kHz to the broadcasting service on an exclusive basis in Region 1.

L. COOK

Chairman of Working Group 5BB

Annexes : 6

A N N E X 1

kHz
1 606.5 (1 605 Region 1) - 1 800

Region 1	Region 2	Region 3
1 606.5 - 1 625 MARITIME MOBILE /LAND MOBILE/ /FIXED/ <u>3490/195A</u> <u>3485A</u>	1 605 - 1 625 BROADCASTING 3484A 3484B	1 606.5 - 1 800 FIXED MOBILE RADIONAVIGATION RADIOLOCATION
1 625 - 1 635 RADIOLOCATION <u>3490/195A</u> <u>3485B</u>	1 625 - 1 705 BROADCASTING 3484A /FIXED/ /MOBILE/ Radiolocation 3484B	
1 635 - 1 800 MARITIME MOBILE /LAND MOBILE/ /FIXED/	1 705 - 1 800 FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	
3488/194 <u>3490/195A</u> <u>3485A</u>		
		3492B

3484A

In Region 2, the use of the band 1 605 - 1 705 kHz by broadcasting service stations will be subject to a Plan to be established by a Regional Administrative Radio Conference to be held not later than 1985 (see Resolution 3484A) Document No. 513.

3484B

Until the dates decided by the Regional Administrative Radio Conference referred to in No. 3484A, the bands 1 605 - 1 625 kHz and 1 625 - 1 705 kHz will be allocated to the fixed, mobile and aeronautical radionavigation services on a primary basis and to the radiolocation service on a secondary basis (see Resolution 3484B) Document No. 513.

SUP 3485/192

/ ADD 3485A Different category of services : In the USSR, in the bands 1 606.5 - 1 625 kHz and 1 635 - 1 800 kHz, the allocation to the fixed and land mobile services is on a primary basis. /

/ ADD 3485B Additional allocation : In the USSR, the bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz and 1 810 - 1 850 kHz are also allocated to the fixed and land mobile services on a primary basis. /

SUP 3486/420

SUP 3487/193

MOD 3488/194 In Czechoslovakia, the German Democratic Republic, Luxembourg, Malta, Norway, Poland and the USSR, Administrations may allocate up to 200 kHz to their amateur service in the bands 1 715 - 1 850 kHz and 1 850 - 2 000 kHz. However, when allocating bands within this range to their amateur service, Administrations shall, after prior consultation with Administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 watts.

SUP 3489/195

/ MOD 3490/195A / The countries of Region 1 use radiodetermination systems the establishment and operation of which are covered by special arrangements between Administrations having services which may be affected.

SUP 3491/197

ADD 3492B Additional allocation : In Indonesia and Singapore, the band 1 606.5 - 1 800 kHz, and in the Philippines and Thailand, the band 1 606.5 - 1 705 kHz, are also allocated to the broadcasting service on a secondary basis.

A N N E X 2

kHz
1 800 - 2 000

Region 1	Region 2	Region 3
1 800 - 1 810 RADIOLOCATION / 3485B / 3488/194 / 3490/195A /	1 800 - 1 850 AMATEUR	1 800 - 2 000 AMATEUR FIXED MOBILE except aeronautical mobile
1 810 - 1 850 AMATEUR / 3490/195A / / 3485B /	3492/198	RADIONAVIGATION Radiolocation
1 850 - 2 000 FIXED MOBILE except aeronautical mobile 3488/194 / 3490/195A / / 3493A / / 3499/205 /	1 850 - 2 000 AMATEUR 3492A FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION 3492/198 / 3493A /	/ 3493A /

/ ADD 3485B / / See Annex 1 /

MOD 3488/194 See Annex 1

/ MOD 3490/195A / / See Annex 1 /

MOD 3492/198 In Region 2, Loran stations operating in the band 1 800 - 2 000 shall cease to operate on 31 December 1982. In Region 3, the Loran system operates either on 1 850 or 1 950 kHz, the bands occupied being 1 825 - 1 875 kHz and 1 925 - 1 975 kHz respectively. Other services to which the band 1 800 - 2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 or 1 950 kHz.

ADD 3492A In Argentina, Bolivia, Chile, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 1 850 - 2 000 kHz is not allocated to the amateur service.

/ ADD 3493A / / Note PNG - 2 000 kHz /

/ MOD 3499/205 / In making assignments to stations in the fixed and mobile services in the bands / 1 605 - 2 850 kHz / Administrations should bear in mind the special requirements of the maritime mobile service and also the needs of the fixed service in / certain areas /.

A N N E X 3

kHz
2 000 - 2 170

Region 1	Region 2	Region 3
2 000 - 2 045 FIXED MOBILE except aeronautical mobile (R) [3490/195A] [3499/205] [3493A]	2 000 - 2 065 FIXED MOBILE	
2 045 - 2 170 MARITIME MOBILE /FIXED/ /LAND MOBILE/	[3493A] 2 065 - 2 107 MARITIME MOBILE 3493/200 [3493B]	
[3490/195A]	2 107 - 2 170 FIXED MOBILE	

[MOD 3490/195A]

[See Annex 1]

MOD 3493/200

In Region 2, except in Greenland, coast stations and ship stations using radiotelephony shall be limited to class A3A or A3J emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used : 2 065.0, 2 079.0, 2 082.5, 2 086.0, 2 093.0, 2 096.5, 2 100.0, 2 103.5 kHz. In Argentina, Brazil and Uruguay, the carrier frequencies 2 068.5 and 2 075.5 kHz should also be used for this purpose, while the frequencies in the band 2 072 - 2 075.5 kHz should be used as provided in No. 8096/1138.

[ADD 3493A]

[Note PNG 2 000 kHz]

ADD 3493B

Provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 and 2 107 kHz may be used by fixed service stations communicating only within national borders, whose mean power does not exceed 500 W and which are situated more than 600 kilometres from the coast. In notifying the frequencies, the attention of the International Frequency Registration Board should be drawn to these provisions.

[MOD 3499/205]

[See Annex 2]

A N N E X 4

kHz
2 194 - 2 502

Region 1	Region 2	Region 3
2 194 - 2 300 FIXED MOBILE except aeronautical mobile (R) / 3490/195A / / 3499/205 / 3495A	2 194 - 2 300 FIXED MOBILE	
2 300 - 2 498 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 3496/202 / 3490/195A / / 3499/205 /	2 300 - 2 495 FIXED MOBILE BROADCASTING 3496/202	
2 498 - 2 501 STANDARD FREQUENCY AND TIME SIGNALS (2 500 kHz)	2 495 - 2 501 STANDARD FREQUENCY AND TIME SIGNALS (2 500 kHz)	
2 501 - 2 502	STANDARD FREQUENCY AND TIME SIGNALS Space research	

kHz
2 502 - 2 850

Region 1	Region 2	Region 3
2 502 - 2 625 FIXED MOBILE except aeronautical mobile (R) [3490/195A] 3497A [3499/205]	2 502 - 2 505 STANDARD FREQUENCY AND TIME SIGNALS	
2 625 - 2 650 MARITIME MOBILE MARITIME RADIONAVIGATION [3490/195A]	2 505 - 2 850 FIXED MOBILE	
2 650 - 2 850 FIXED MOBILE except aeronautical mobile (R) [3490/195A] [3499/205]		

[MOD 3490/195A] [See Annex 1]

ADD 3495A Alternative allocation : In Belgium, Denmark, France, Greece, Italy, Malta, Norway, the Netherlands, Portugal, Spain, Sweden and the United Kingdom, the band 2 194 - 2 300 kHz is allocated to the maritime mobile service on a primary basis and to the fixed and land mobile services on a permitted basis.

(MOD) 3496/202 For the conditions for the use of the band 2 300 - 2 495 (2 498 in Region 1), 3 200 - 3 400 kHz by the broadcasting service, see numbers 3425/135, 3426/136 and 6215/423 to 6221/428.

SUP 3497/203

ADD 3497A Alternative allocation : In Bahrein, Cyprus, Ethiopia, [France,] Greece, Iraq, Italy, Kuwait, Malta, the Netherlands, Qatar, Spain and the United Arab Emirates, the band 2 502 - 2 625 kHz is allocated to the maritime mobile service on a primary basis and to the fixed and land mobile services on a permitted basis.

SUP 3498/203A

[MOD 3499/205] [See Annex 2]

A N N E X 5

kHz
3 230 - 3 400

Region 1	Region 2	Region 3
3 230 - 3 400	FIXED	
	MOBILE except aeronautical mobile	
	BROADCASTING 3496/202	
	[3490/195A] 3499C 3500A	

[MOD 3490/195A] [See Annex 1]

MOD 3496/202 See Annex 4

ADD 3499C Additional allocation : In Canada, Japan, New Zealand, Papua New Guinea and the United States, the band 3 230 - 3 400 kHz is also allocated to the radiolocation service on a secondary basis.

ADD 3500A The band 3 230 - 3 400 kHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 3 390 kHz). The use of this frequency band for ISM applications shall be subject to special authorization by the Administration concerned in agreement with other Administrations whose radiocommunication services might be affected. In applying this provision Administrations shall have due regard to the latest CCIR Recommendations.

A N N E X 6

kHz
3 500 - 4 000

Region 1	Region 2	Region 3
3 500 - 3 800 AMATEUR FIXED MOBILE except aeronautical mobile [3490/195A] [3499A]	3 500 - 3 750 AMATEUR [3499A] 3500B	3 500 - 3 900 AMATEUR FIXED MOBILE
3 800 - 3 900 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	3 750 - 4 000 AMATEUR FIXED MOBILE except aeronautical mobile (R)	[3499A]
3 900 - 3 950 AERONAUTICAL MOBILE (OR)		3 900 - 3 950 AERONAUTICAL MOBILE BROADCASTING
3 950 - 4 000 FIXED BROADCASTING	[3500B] 3500C 3502A	3 950 - 4 000 FIXED BROADCASTING 3502B

[3490/195A_7

[See Annex 1_7

ADD 3499A

(Note on natural disasters)

ADD 3500B

In Mexico and Venezuela, the band 3 500 - 3 750 kHz is allocated to the fixed, mobile and amateur services on a primary basis.

ADD 3500C

In Argentina, Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750 - 4 000 kHz is not allocated to the amateur service.

SUP 3501/206

ADD 3501A

Alternative allocation : In Botswana, Lesotho, Malawi, Namibia, the South African Republic, Swaziland, Zambia and Zimbabwe, the band 3 900 - 3 950 kHz is allocated to the broadcasting service on a primary basis.

SUP 3502/207

ADD 3502A

Alternative allocation : In Canada and Greenland, the band 3 950 - 4 000 kHz is allocated to the broadcasting service on a primary basis.

ADD 3502B

In Region 3, the stations of those services to which the band 3 998 - 4 002 kHz is allocated may transmit standard frequencies and time signals. Such stations will be protected from harmful interference.

CONFERENCE ADMINISTRATIVE
MONDIALE
DES RADIOCOMMUNICATIONS

(Genève, 1979)

Corrigendum N° 1 au ✓
Document N° DT/196-F/E/S
12 novembre 1979

GROUPE DE TRAVAIL 5D
WORKING GROUP 5D
GRUPO DE TRABAJO 5D

Projet

VINGT-SIXIEME RAPPORT DU GROUPE DE TRAVAIL 5D A LA COMMISSION 5

Page 2 : supprimer le paragraphe 7.3.

Draft

TWENTY-SIXTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5

Page 2 : delete paragraph 7.3

Proyecto

VIGÉSIMOSEXTO INFORME DEL GRUPO DE TRABAJO 5D A LA COMISIÓN 5

Página 2 : suprímase el párrafo 7.3



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/196-E

8 November 1979

Original : EnglishWORKING GROUP 5DDRAFT

TWENTY-SIXTH REPORT OF WORKING GROUP 5D

TO COMMITTEE 5

1. The Working Group discussed in detail the possibilities of allocations to the fixed-satellite service for the feeder link of the broadcasting-satellite service.

2. In the first part of the discussions after the Chairman of Working Group 5D9 made a formal presentation of his report, discussions centered around the frequency band contained therein. The Working Group tried to find a band for this purpose that would find the favour of the majority of the Working Group. In order to provide an indication of this choice to aid the Working Group to steer their approach, with a view to arriving at a compromise solution, show of cards of delegations was taken to indicate a choice for the frequency bands under consideration. The choice so indicated is as follows :

for 14.5 - 15.35 GHz	-	35 delegations
17.3 - 18.1 GHz	-	22 delegations
12.75 - 13.25 GHz	-	8 delegations
10.7 - 11.7 GHz (both directions)		10 delegations.

3. In the second part of the discussions the USSR made a proposal to provide for feeder links in two bands 10.7 - 11.7 GHz and 17.3 - 18.1 GHz with a provision for the Administrations to choose either of them according to technical and other considerations. This was supported by some Administrations and also opposed by others.

4. An alternative compromise proposal was made by India. After considerable discussion the following two proposals emerged as the potential compromises that would be considered by the Working Group. They are :

Proposal I	10.7 - 11.7 GHz)	with a provision for the Administrations to
	17.3 - 18.1 GHz)	choose either of them
Proposal II	14.5 - 15.35 GHz)	with a provision for the Administrations to
	17.3 - 18.1 GHz)	choose either of them

5. At the request of Australia and the United Kingdom, the measure of support and opposition for either proposal was subsequently taken with the following results :

Proposal I	10.7 - 11.7 GHz and 17.3 - 18.1 GHz (with provision)
	34 Administrations supported
	34 Administrations opposed
Proposal II	14.5 - 15.35 GHz and 17.3 - 18.1 GHz (with provision)
	43 Administrations supported
	29 Administrations opposed



6. Thus, one can see purely from indications of preferences for the compromise proposals the Proposal I ended in a tie. The Proposal II, on the other hand, has come out with a clear majority. However, it is referred to Committee 5 to take a final decision on this subject.

7. Some delegations wished the following points to be placed on record with a view to draw the attention of the Committee 5.

7.1 The Jamaican delegation drew attention of the Working Group to the aspect of principle involved in regard to 14.5 - 15.35 GHz band on the question of ensuring equitable access to the spectrum that needs primary consideration and this was supported by the Indian and Nigerian delegations.

7.2 The USSR delegation informed the Working Group that it will not be possible to guarantee coordination between the uplink of the broadcasting-satellite service and the existing systems in the band 14.5 - 15.35 GHz.

7.3 Indian delegation clarified the difference in the compromise approaches being proposed by the USA and other delegations on one hand and theirs on the other by stating that the approach the USA and others aimed at preventing an entry into the band 14.5 - 15.35 GHz for the up-links of broadcasting-satellite service with the sole aim of looking after their existing services. This remark he said should be viewed very carefully in relation to the principle referred to above in paragraph 7.1.

8. The Working Group discussed the report of ad hoc Group 5D7 (DL/192) "Draft Resolution on Broadcasting Satellite (sound) in the Region 0.5 - 2 GHz". After a detailed discussion the Working Group decided to request the Chairman of ad hoc Group 5D7 to re-draft the Resolution in accordance with the comments expressed during the discussions.

Dr. B.S. RAO
Chairman of Working Group 5D

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/197-E

9 November 1979

Original : English

WORKING GROUP 5A

DRAFT

TENTH REPORT OF WORKING GROUP 5A TO COMMITTEE 5

1. The Working Group 5A presents the texts, annexed hereto, for the approval of Committee 5.
2. The delegation of Japan had difficulty in accepting the definition of the term Transportable Earth Station for regulatory reasons.

V. QUINTAS
Chairman of Working Group 5A

Annex : 1



A N N E X

ARTICLE N1.

Terms and Definitions

ADD	3033A	Transportable Earth Station : An earth station located on the Earth's surface intended to be used in the fixed-satellite service or mobile-satellite service at unspecified fixed points on a determinated area.
NOC	3042 /76	<i>Meteorological Aids Service:</i> A radiocommunication service used for meteorological, including hydrological, observations and exploration.
NOC	3043 /77	<i>Radiosonde:</i> An automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.
NOC	3120 /74	<i>Radio Astronomy:</i> Astronomy based on the reception of radio waves of cosmic origin.
NOC	3121/ 75	<i>Radio Astronomy Service:</i> A service involving the use of radio astronomy.
NOC	3122/ 75A	<i>Radio Astronomy Station:</i> A station in the radio astronomy service.

ARTICLE N29

NOC

Fixed Service

Section I. General

MOD

6323/465

Administrations are urged to discontinue, in the fixed service, the use of double sideband radiotelephone transmissions, in the bands below 30 MHz, if possible as from 1 January 1970.

(class / A3 /)

(NOC)

6324/466

Class [F3] emissions are prohibited in the fixed service in the bands below 30 MHz.

Section II. Frequencies for the
International Exchange of Police Information

NOC

6325/467

The frequencies necessary for the international exchange of information to assist in the apprehension of criminals shall be selected from the bands allocated to the fixed service, if necessary by special agreement among interested administrations, in accordance with Article 31 of the Convention.

NOC

6326/468

To obtain economy in the use of frequencies, the International Frequency Registration Board should be consulted by the administrations concerned whenever such agreements are under discussion on a regional or world-wide basis.

Section III. Frequencies for the International Exchange of
Synoptic Meteorological Information

NOC

6327/469

The frequencies necessary for the international exchange of synoptic meteorological information shall be selected from the bands allocated to the fixed service, if necessary by special agreement among interested administrations, in accordance with Article 31 of the Convention.

NOC

6328/470

To obtain economy in the use of frequencies, the International Frequency Registration Board should be consulted by the administrations concerned whenever such agreements are under discussion on a regional or world-wide basis.

PROPOSED ARTICLE N33A

Radio Astronomy Service

Section I. General Provisions

§ 1. Administrations shall cooperate in protecting the radio astronomy service from interference, bearing in mind

- a) the exceptionally high sensitivity of radio astronomy stations,
- b) the frequent need for long periods of observation without harmful interference, and
- c) that the small number of radio astronomy stations in each country and their known locations often make it practicable to give special consideration to the avoidance of interference.

§ 2. The locations of the radio astronomy stations to be protected and their frequencies of observation shall be notified to the Secretary-General for communication to Members of the Union.

Section II. Measures to be taken in the Radio Astronomy Service

§ 3. The locations of radio astronomy stations shall be selected with regard to the possibility of harmful interference to these stations.

§ 4. All practicable technical means shall be adopted at radio astronomy stations to reduce susceptibility to interference. The development of improved techniques for reducing susceptibility to interference shall be pursued, including participation in cooperative studies through the CCIR.

Section III. Protection of the Radio Astronomy Service

§ 5. The status of the radio astronomy service in the various frequency bands is specified in the Table of Frequency Allocations, Article N7/5. Administrations shall provide protection from interference for stations in the radio astronomy service at least in accordance with its status in those bands. (See also RR No. 3281/116A.)

§ 6. In providing protection from interference to the radio astronomy service on a permanent or temporary basis, Administrations, as appropriate, shall, for example, use such means as geographical separation, site shielding, antenna directivity and the use of time-sharing and the minimum practicable transmitter power.

§ 7. In bands adjacent to those in which observations are carried out in the radio astronomy service, operating in accordance with the Radio Regulations, Administrations shall, when assigning frequencies to stations of other services, take all practicable steps to protect the radio astronomy service from harmful interference. In addition to the measures referred to in § 6, technical means for minimizing the power radiated at frequencies within the band used for radio astronomy shall be given special consideration. (See also RR No. 3281/116A.)

§ 8. Administrations, when assigning frequencies to stations in other bands shall, as far as is practicable avoid harmonic and other spurious emissions which could cause harmful interference to the radio astronomy service operating in accordance with the Radio Regulations. (See also RR No. 3281/116A).

§ 9. In applying the measures outlined in this section, Administrations shall bear in mind that the radio astronomy service is extremely susceptible to interference from space and airborne transmitters.

§ 10. Administrations shall take note of the relevant CCIR Recommendations with the aim of limiting interference to the radio astronomy service from other services.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/198-E

6 November 1979

Original : English

WORKING GROUP 5C

DRAFT

TWELFTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject : Frequency bands between 420 and 470 MHz

1. Working Group 5C considered all proposals to the bands 420 - 470 MHz. It was agreed by a majority to recommend the revised Table in the Annex to this Report to Committee 5 for adoption.
2. The United States of America reserved their position on the downgrading of the radiolocation service in the bands 420 - 430 MHz and 440 - 450 MHz. They also reserved their position on the introduction of the fixed and mobile services into these bands.
3. China and the U.S.S.R. reserved their position on the status of the service in footnote 3636/318 which they wished to see as primary and not secondary.
4. With regard to the proposed modification of footnote 3643/320, there were divergent views on whether the needs of the fixed and mobile except aeronautical mobile services should be covered by an allocation in the Table or in the footnote. The suggestion that the band 430 - 440 MHz should be allocated separately to these services in Region 3 was not carried, the majority view being that an undivided Table for Regions 2 and 3 should be maintained.
5. Roumania reserved its position on the proposed additional footnotes 3646C and 3646E.

K. OLMS

Chairman of Working Group 5C

Annex : 1



ANNEX

420 - 470 MHz

REG. 1	REG. 2	REG. 3
420 - 430 FIXED MOBILE except aeronautical mobile Radiolocation 3640A 3636/318 3640/319		
430 - 440 AMATEUR RADIOLOCATION 3636/318 3643/320 3644/320A 3646/322 3646A 3646B 3646C 3646D 3646E /3645A/ 3642/319B 3645/321	430 - 440 RADIOLOCATION Amateur 3640B 3642/319B 3643/320 3644/320A 3646C	430 - 440 RADIOLOCATION Amateur 3636/318 3642/319B 3643/320 3644/320A
440 - 450 FIXED MOBILE except aeronautical mobile Radiolocation 3640A 3636/318 3640/319 3641/319A 3640C		
450 - 460 FIXED MOBILE 3636/318 3641/319A 3638/318B 3639/318C		
460 - 470 FIXED MOBILE Meteorological-Satellite (space-to-Earth) 3650/324B 3637/318A 3638/318B 3639/318C		

ADD 3640A

Additional allocation: in Australia, the United States of America, Jamaica and the Philippines, the bands 420 - 430 MHz and 440 - 450 MHz are also allocated to the amateur service on a secondary basis.

ADD 3640B

Different category of service: in Argentina, the allocation of the band 430 - 440 MHz to the amateur service is on a primary basis.

- MOD 3636/318 Additional allocation: in China, India, the German Democratic Republic and the U.S.S.R., the band 420 - 460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis.
- MOD 3640/319 Different category of service: in Australia, the United States of America, India, Japan and the United Kingdom, the allocation of the bands 420 - 430 MHz and 440 - 450 MHz to the radiolocation service is on a primary basis.
- ADD 3640C Additional allocation: in Canada, New Zealand and Papua New Guinea, the band 440 - 450 MHz is also allocated to the amateur service on a secondary basis.
- MOD 3641/319A Subject to agreement obtained under the procedure set forth in Article N 13A, the band 449.75 - 450.25 MHz may be used for the Space Operation service (Earth-to-space) and the Space Research service (Earth-to-space).
- MOD 3642/319B Additional allocation: in Brazil, France and the French Overseas Departments in Region 2, and India, the band 433.75 - 434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis until 1 January 1990 and subject to agreement obtained under the procedure set forth in Article N After 1 January 1990, the band 433.75 - 434.25 MHz will be allocated in the same countries to the same services on a secondary basis.
- MOD 3643/320 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Brunei, Burundi, Cameroon, Egypt, the United Arab Emirates, Ecuador, Spain, Ethiopia, Greece, Guinea, India, Indonesia, Iraq, Ireland, Italy, Jordan, Kenya, Kuwait, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Singapore, Switzerland, Tanzania, Thailand and Togo, the band 430 - 440 MHz is also allocated to the fixed and mobile except aeronautical mobile service on a primary basis.
- NOC 3644/320A
- MOD 3645/321 In the Federal Republic of Germany, Austria, Portugal, Switzerland and Yugoslavia, the band 433.05 - 435.79 MHz is designated for industrial, scientific and medical applications (centre frequency 433.92 MHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A*.
- ADD 3645A In ... the band 433.05 - 434.79 MHz is designated for ISM applications (centre frequency 433.92 MHz). The use of this frequency band for ISM applications shall be subject to special authorization by the Administration concerned, in agreement with other Administrations whose radio services might be affected. In applying this provision, Administrations shall have due regard to the latest CCIR Recommendations.
- SUP 3647/323
- SUP 3648/324
- NOC 3650/324B

- MOD 3646/322 Alternative allocation: in Denmark, Norway and Sweden, the bands 430 - 432 MHz and 438 - 440 MHz are allocated to the fixed and mobile except aeronautical mobile services on a primary basis.
- ADD 3646A Different category of service: in Denmark, Norway and Sweden, the allocation of the bands 430 - 432 MHz and 438 - 440 MHz to the radiolocation service is on a secondary basis.
- ADD 3646B Additional allocation: in Finland, 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.
- ADD 3646C Additional allocation: in Bulgaria, Chile, Hungary, Poland, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the band 430 - 440 MHz is also allocated to the fixed service on a primary basis.
- ADD 3646D Different category of service: in France, the allocation of the band 430 - 434 MHz to the amateur service is on a secondary basis (see No. 3431/140).
- ADD 3646E Additional allocation: in Yugoslavia, the band 438 - 440 MHz is also allocated to the fixed and mobile except aeronautical mobile services on a primary basis.
- MOD 3637/318A Different category of service: in Afghanistan, Bulgaria, China, Cuba, Hungary, Japan, Poland, Czechoslovakia and the U.S.S.R., the allocation of the band 460 - 470 MHz to the meteorological satellite service (space-to-Earth) is on a primary basis (see No. 3422/141) and is subject to agreement obtained under the procedure set forth in Article N ...7.
- NOC 3638/318B
- NOC 3639/318C
-

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/199-E

9 November 1979

Original : English

COMMITTEE 4

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

TO THE CHAIRMAN OF COMMITTEE 5

In response to the Question raised in Document No. 379, Committee 4 offers the following clarification. A definitive statement is not possible at present but the results of CCIR studies offer some guidance.

The SPM Report, in paragraph 5.3.2.6.1, refers to CCIR Report 791 which concludes that frequency sharing between the inter-satellite service and the fixed and mobile service is feasible in frequency bands near the atmospheric and water vapour absorption lines. No exception is made with regard to "aeronautical mobile".

CCIR Report 791 also adds that in the case of an aeronautical mobile system, when an aircraft system antenna has a gain of 0 dB or less in the direction of the inter-satellite link, such sharing is feasible.

The SPM Report, in paragraph 6.5.2.6.1, describes frequency sharing between inter-satellite links and ground based radars in the radiolocation service at frequencies near 60 GHz. No mention is made about airborne radars.

In view of the fact that airborne radars cannot make full use of the absorption due to Earth's atmosphere, interference from such radars would be expected to be stronger than ground based radars.

Further study is obviously required on this subject.

N. MORISHIMA

Chairman of Committee 4



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/200-E

12 November 1979

Original : English, French, SpanishLIST OF DOCUMENTS
(451 - 500)*)

No.	Origin	Title	Destination
451	NZL	Proposals	C.5
452	WG 4A	Fourth report of Working Group 4A to Committee 4	C.4
453	WG 4A	Fifth report of Working Group 4A to Committee 4	C.4
454	SG	Release of call sign series	C.7
455 +Corr.1	C.5	Summary record of the sixth meeting of Committee 5 (Frequency allocations)	C.5
456	WG 5A	Seventh report of Working Group 5A to Committee 5	C.5
457	C.9	B.4	PL
458	F	Low-power radiolocation systems in the band 420 - 450 MHz	C.5
459	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 6	C.6
460	WG 4A	Sixth report of the Chairman of Working Group 4A to the Chairman of Committee 4	C.4
461	WG 4A	Note from the Chairman of Working Group 4A	C.4
462	WG 4C	Tenth report of Working Group 4C to Committee 4	C.4
463	AUS	HF band allocations for the maritime mobile service	C.5
464	C.3	Summary record of the third meeting of Committee 3 (Budget control)	C.3
465	SG	Position of WARC accounts on 31 October 1979	C.3
466	C.9	B.5	PL
467	WG 6A	Note by the Chairman of Working Group 6A	C.6
468	C.5	First report of Committee 5	PL
469	C.5	First series of texts from Committee 5 to the Editorial Committee	C.9

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr. 1
 For Documents Nos. 101 to 150, see Document No. DT/15
 For Documents Nos. 151 to 200, see Document No. DT/39
 For Documents Nos. 201 to 250, see Document No. DT/70
 For Documents Nos. 251 to 300, see Document No. DT/111
 For Documents Nos. 301 to 350, see Document No. DT/146
 For Documents Nos. 351 to 400, see Document No. DT/159
 For Documents Nos. 401 to 450, see Document No. DT/174



No.	Origin	Title	Destination
470	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 5	C.5
471	C.4	Sixth report of Committee 4	PL
472	C.4	Sixth series of texts from Committee 4 to the Editorial Committee	C.9
473	C.4	Seventh report of Committee 4	PL
474	C.4	Seventh series of texts from Committee 4 to the Editorial Committee	C.9
475	WG 4B	Second report of Working Group 4B to Committee 4	C.4
476	WG 4B	Third report of Working Group 4B to Committee 4	C.4
477	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
478	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
479 (Rev.1) + Add.1	WG 5E	Sixth report from Working Group 5E to Committee 5 (Allocations)	C.5
480	GRC	MF/HF band requirements for the maritime mobile service	C.5
481	C.6	Summary record of the sixth meeting of Committee 6 (Regulatory procedures)	C.6
482	WG Ad Hoc 2	First report of Ad Hoc Group 2 to Committee 6	C.6
483	WG 5BA	Note from the Chairman of Working Group 5BA to the Chairman of Working Group 5BB	WG 5BB
484	WG 5BA	Note from the Chairman of Working Group 5BA to the Chairman of Working Group 5BB	WG 5BB
485	WG 5BA	Note from the Chairman of Working Group 5BA to the Chairman of Working Group 5C	WG 5C
486	WG 6A	Third report of Working Group 6A	C.6
487	HVO	Proposals - Reservation of tropical broadcasting bands for exclusive use in countries belonging to the tropical zone with a view to future planning of these frequency bands	C.5, 6
488	WG 6A4	Report of Sub-Working Group 6A4 to Working Group 6A	WG 6A
489	FJI	Recommendation relating to Heterodyne Interference in the MF Broadcasting Bands	C.4
490	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 4	C.4

No.	Origin	Title	Destination
491	C.9	B.6	PL
492	SG	Coordinated universal time (UTC)	C.4, 6, 7, 9
493	4B8	Report from Drafting Group 4B8	WG 4B
494	IRN	Proposal	C.5
495	WG 5A1	Report of Sub-Working Group 5A1 - Draft article on radio astronomy	WG 5A
496 + Corr.1	C.5	Second report of Committee 5	PL
497	C.5	Second series of texts from Committee 5 to the Editorial Committee	C.9
498	WG 5E	Note from the Chairman of Working Group 5E to the Chairman of Working Group 5A	WG 5A
499 (Rev.1) + Add.1	WG 5E	Seventh report of Working Group 5E to Committee 5 (Allocations)	C.5
500	WG 4A	Seventh report of Working Group 4A to Committee 4	C.4

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/201-E

10 November 1979

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COMMITTEE 7

D R A F T

THIRD REPORT OF COMMITTEE 7

(General Administration)

Committee 7 has had nine meetings to date. In the course of discussions on the proposals and documents allocated to Committee 7 in accordance with its terms of reference, the following decisions were taken :

1. Article N1

1.1 A Working Group (7B) was set up under the Chairmanship of Mr. A.L. Witham (United Kingdom) to deal with all proposals concerning the title, the preamble and Section I of Article N1. Working Group 7B had seven meetings.

1.2 Working Group 7B, in its reports to Committee 7, submitted a series of texts for the revision of the title, the preamble and Section I of Article N1. (See Documents Nos. 395 and Corr. 1, 419 and 528.)

1.3 During the discussion, some delegates expressed the view that the definitions of "telegraphy and of certain associated terms were unsatisfactory. Since they were currently under review by the CCITT and the CCIR, a method should be found by which changes subsequently agreed to could be imported into Article N1. This applied particularly to the definition of the term "telegraphy", in view of Resolution 44 of the Plenipotentiary Conference (Malaga-Torremolinos, 1973).

1.4 In addition, while discussing the modification of provision 3013 of the French language version it was accepted that this Conference could not interfere with the Convention but since no change in meaning was intended, it might perhaps be allowable to make editorial changes in the definitions appearing in the Convention; however, a mechanism should be devised for this purpose.

2. The revised texts as adopted by Committee 7 [have been submitted to the Editorial Committee for subsequent submission to the Plenary Meeting (see Document No. [])]. (See Annex.)

H.L. VENHAUS

Vice-Chairman of Committee 7

Annex: 1



A N N E X

CHAPTER NI

Terminology

ARTICLE NI/1~~2~~

Terms and Definitions

Preamble

MOD 3001/1

For the purposes of these Regulations, the following terms shall have the meanings defined below. These terms and definitions do not, however, necessarily apply for other purposes. Definitions identical to those contained in the International Telecommunication Convention (Malaga-Torremolinos, 1973) are marked (CCNV.).

Note : If in the text of a definition below, a term is printed in italics, this means that the term itself is defined in this article.

Section I. General Terms

MOD 3002/2

Telecommunication : Any [transmission], [emission] or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, visual optical or other electromagnetic systems (CONV.).

~~Note by the General Secretariat~~

~~See also the Analytical Table of the RR under Definition~~

ADD 3002A

Public correspondence: Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission (CONV.).

SUP 3003/3

NOC 3004/9

Radiocommunication: Telecommunication by means of radio waves (CONV.).

MOD 3005 7

Radio Waves (or Hertzian Waves): Electromagnetic waves of frequencies ^{arbitrarily} lower than 3 000 GHz, propagated in space without artificial guide.

NOC 3006/8

Radio: A general term applied to the use of radio waves (CONV.).

ADD 3006A

Class of emission: The set of characteristics of an emission, designated by standard symbols, i.e. type of modulation, modulating signal, type of information to be transmitted, and also if appropriate, any additional signal characteristics.

MOD 3007 10

Telegraphy: A system of telecommunication^s which is concerned in any process providing transmission and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. ~~The foregoing definition appears in the Convention, but, for the purposes of the~~ Radio these Regulations, telegraphy shall mean, unless otherwise specified, "A system of telecommunication for the transmission of written matter by the use of a signal code" (CONV.).

however

therein, "telegraphy" shall mean

MOD 3008 11

Frequency-Shift Telegraphy: Telegraphy by frequency modulation in which the telegraph signal shifts the frequency of the carrier between predetermined values. ~~There is phase continuity during the shift from one frequency to the other.~~

SUP 3009/12

MOD 3010 13

Telegram: Written matter intended to be transmitted by telegraphy for delivery to ~~the~~ ^{the} addressee; this term also includes radiotelegrams unless otherwise specified. ~~In this~~ (CONV.).

In this definition the term Telegraphy has the meaning defined in the Convention.

MOD 3011 14
Mar2

Radiotelegram: A telegram, originating in or intended for a mobile station or a mobile earth station in the ~~maritime~~ mobile-satellite service, transmitted on all or part of its route over the radiocommunication channels of a mobile service or of the ~~maritime~~ mobile-satellite service.

MOD 3012 14A
Mar2

Radiotelex Call: A telex call, originating in or intended for a mobile station or a mobile earth station, transmitted on all or part of its route over the radiocommunication channels of the ~~maritime~~ mobile service or the ~~maritime~~ mobile-satellite service.

in the mobile-satellite service

(MOD) - only concerns the French text.

NOC 3013/17

Telephony: A system of telecommunication set up for the [transmission] of speech or, in some cases, other sounds. (CONV.).

MOD 3014/18

Radiotelephone Call : A telephone call, originating in or intended for a mobile station or a mobile Earth station in the maritime mobile-satellite service transmitted on all or part of its route over the radiocommunication channels of a mobile service or of the maritime mobile-satellite service.

NOC 3015/19

(MOD) - only concerns the French text.

Television : A system of telecommunication for the [transmission] of transient images of fixed or moving objects.

MOD 3016/20

Facsimile : A system-of-telecommunication form of telegraphy for the [transmission] of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.

In this definition the term Telegraphy has the meaning defined in the Convention.

MOD 3017/15

Telemetering Telemetry: The use of telecommunication for automatically indicating or recording measurements at a distance from the measuring instrument.

MOD 3018/16

Radiotelemetering-Radiotelemetry: Telemetering Telemetry by means of radio waves.

ADD 3018A

Telecommand : The use of telecommunication for the [transmission] of signals to initiate, modify or terminate functions of the equipment at a distance.

NOC 3019/4

Simplex Operation: Operating method in which [transmission] is made possible alternately in each direction, for example, by means of manual control.¹

NOC 3020/5

Duplex Operation: Operating method in which [transmission] is possible simultaneously in both directions.¹

3019.1 4.1
3020.1 5.1

¹ In general, duplex and semi-duplex operation require two frequencies in radiocommunication; simplex may use either one or two.

- NOC 3021/6 *Semi-duplex Operation:* Operating method which is simplex at one end of the circuit and duplex at the other.¹
- ADD 3021A Single-sideband [transmission]: An amplitude modulated [transmission] with one sideband only.
- ADD 3021B Full carrier single-sideband [transmission]: A single-sideband [transmission] without suppression of the carrier.
- ADD 3021C Reduced carrier single-sideband [transmission]: A single-sideband [transmission] in which the degree of carrier suppression could enable the carrier to be reconstituted and to be used for de-modulation.
- ADD 3021D ^PSuppressed carrier single-sideband [transmission]: A single-sideband [transmission] in which the carrier is virtually suppressed and not intended to be used for de-modulation.
- NOC 3022/26 *Tropospheric Scatter:* The propagation of radio waves by scattering as a result of irregularities or discontinuities in the physical properties of the troposphere.
- NOC 3023/27 *Ionospheric Scatter:* The propagation of radio waves by scattering as a result of irregularities or discontinuities in the ionization of the ionosphere.
- ADD 3023A Industrial, Scientific and Medical (ISM)
Applications : Operation of equipment or appliances designed to generate and use locally radio-frequency energy for industrial, scientific, medical, or similar purposes, excluding applications in the field of telecommunications.
domestic
- MOD 3095/84AW Spa Telemetry telemetry
Space Telemetry: The use of telemetry for the [transmission] from a space station of results of measurements made in a spacecraft, including those relating to the functioning of the spacecraft.
- SUP 3096/84AX Spa
- NOC 3097/84AY Spa (MOD) - only concerns the Spanish and French texts -
Space Telecommand: The use of radiocommunication for the [transmission] of signals to a space station to initiate, modify or terminate functions of the equipment on a space object, including the space station.

3021.1 6.1

¹ In general, duplex and semi-duplex operation require two frequencies in radiocommunication: simplex may use either one or two.

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WORKING GROUP 5BB

DRAFT

THIRD REPORT OF WORKING GROUP 5BB TO COMMITTEE 5

1. Bands between 4 000 and 4 650 kHz

1.1 After having considered all the proposals concerning these frequency bands the Working Group decided to recommend to Committee 5 the adoption of the revised table and of Footnotes ADD 3502A, ADD 3502B, MOD 3503/208, MOD 3504/209 and MOD 3505/209A which appear in Annex 1.

1.2 The delegation of Iran reserved the right to revert in Committee 5 to Footnotes 3503/208 and 3504/209.

1.3 Footnote 3502B was adopted on the understanding that it has also been adopted by Working Group 5BA for the band 3 998 - 4 000 kHz (see Document No. 484).

2. Bands between 5 005 - 5 480 kHz

2.1 After having considered all the proposals concerning these frequency bands, the Working Group decided to recommend to Committee 5 the adoption of the revised table which appears in Annex 2.

2.2 It was also decided that Footnote 3496/202 would be applicable to the broadcasting service in the band 5 005 - 5060 kHz.

2.3 The delegation of Papua New Guinea reserved the right to revert in Committee 5 to the question of the allocations made in the bands between 5 060 - 5 450 kHz.

2.4 The delegation of Japan reserved the right to revert in Committee 5 to the adjustment from 5 430 to 5 450 kHz of the band 5 450 - 5 480 kHz in Region 3.

3. Bands between 5 730 - 6 200 kHz

3.1 After having considered all the proposals concerning these frequency bands, the Working Group decided by majority to recommend to Committee 5 the adoption of the revised table which appears in Annex 3.

3.2 The delegations of [Botswana], China, Greece, Iran, Pakistan, the Federal Republic of Germany and the United States of America reserved the right to revert in Committee 5 on the allocations made in the bands 5 730 - 5 950 kHz.

3.3 The delegation of the United Kingdom reserved the right to revert in Committee 5 on the question of the extension of the band allocated to broadcasting in the 6 MHz,

4. Bands between 6 765 - 7 300 kHz

All the proposals concerning these bands have been considered and the Working Group decided by majority to recommend the revised table which appears in Annex 4.

It was also decided to recommend the adoption of Footnote ADD 3508A and the deletion of Footnote 3509/212 (see Annex 4).

P. BARNES
Chairman of Working Group 5BB

A N N E X 1

kHz
4 000 - 4 650

Allocation to Services		
Region 1	Region 2	Region 3
4 000 - 4 063	FIXED MARITIME MOBILE 3502B 3502C	
4 063 - 4 438	MARITIME MOBILE 3503/208 3504/209 3505/209A	
4 438 - 4 650 FIXED MOBILE except aeronautical mobile (R)		4 438 - 4 650 FIXED MOBILE except aeronautical mobile

ADD 3502B

In Region 3, the stations of those services to which the band 3 998 - 4 002 kHz is allocated may transmit standard frequencies and time signals. Such stations will be protected from harmful interference.

ADD 3502C

"The use of the band 4 000 - 4 063 kHz by the maritime mobile service is limited to radiotelephone ship stations (see No. 8220/1351D)."

4 130 - 4 133 kHz

Australia, Botswana, India
and in the USSR

4 123

MOD 3503/208

In ~~the USSR and~~ Afghanistan, in the bands 4 063 - ~~4 133~~ kHz, and 4 408 - 4 438 kHz, fixed stations of limited power may operate provided that, in order to minimize the possibility of causing harmful interference to the maritime mobile service, they are situated at least 600 km from the coast. A limited power station is one whose power and antenna characteristics are so adjusted that the field strength established at any point in any direction does not exceed that obtainable with a non-directive antenna and a peak envelope power of 1 kW.

MOD 3504/209

On condition that harmful interference is not caused to the maritime mobile service, the frequencies ~~between 4 063 and 4 438 kHz~~ may be used exceptionally by fixed stations communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 watts; however, in Regions 2 and 3, ~~between 4 238 and 4 368 kHz~~, a mean power not exceeding 500 watts may be used by such fixed stations.

in the bands

- 4 123

4 130 -

4 219.4 and 4 349.4 kHz

MOD 3505/209A

For the use of carrier frequency 4 125 kHz in the zone of Regions 1 and 2 south of latitude 15° N, including Mexico, and in the zone of Region 3 south of latitude 25° N, see No. 6643/1351E.

A N N E X 2

kHz
5 005 - 5 480

Region 1	Region 2	Region 3
5 005 - 5 060	FIXED BROADCASTING 3496/202	
5 060 - 5 250	FIXED Mobile except aeronautical mobile	
5 250 - 5 450	FIXED MOBILE except aeronautical mobile	
5 450 - 5 480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5 450 - 5 480 AERONAUTICAL MOBILE (R)	5 450 - 5 480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE

the bands [.....], 4 750 - 4 850 kHz, 5 005 - 5 060 kHz, [.....]

(MOD) 3496/202

For the conditions of use of ~~this band~~ by the broadcasting service see Nos. 3425/135, 3426/136 and 6215/423 to 6221/428.

A N N E X 3

kHz
5 730 - 6 200

Region 1	Region 2	Region 3
5 730 - 5 950 FIXED	5 730 - 5 950 FIXED MOBILE except aeronautical mobile (R)	5 730 - 5 950 FIXED Mobile except aeronautical mobile (R)
5 950 - 6 200	BROADCASTING	

A N N E X 4

kHz
6 765 - 7 300

Region 1	Region 2	Region 3
6 765 - 7 000	FIXED Land mobile 3508A	
7 000 - 7 100	AMATEUR AMATEUR-SATELLITE	
7 100 - 7 300 BROADCASTING	7 100 - 7 300 AMATEUR	7 100 - 7 300 BROADCASTING

ADD 3508A

The band 6 765 - 6 795 kHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 6 780 kHz). The use of this frequency band for ISM applications shall be subject to special authorization by the Administration concerned in agreement with other Administrations whose radiocommunication services might be affected. In applying this provision Administrations shall have due regard to the latest CCIR Recommendations.

SUP 3509/212

INTERNATIONAL TELECOMMUNICATION UNION

**WORLD ADMINISTRATIVE
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WORKING GROUP 6A3

DRAFT

REPORT BY WORKING GROUP 6A3 TO WORKING GROUP 6A

Appendix 1 - Section E

Working Group 6A3 considered all proposals concerning the above subject and /unanimously/ agreed to submit the attached texts to Working Group 6A for consideration.

A.M. CORRADO
Chairman of Working Group 6A3

Annex



ANNEX

API-5

Section E. General Instructions

1. A separate notice shall be sent to the International Frequency Registration Board for notifying :

- Each new frequency assignment,
- Any change in the characteristics of a frequency assignment recorded in the Master International Frequency Register (hereinafter called the *Master Register*),
- Any total deletion of a frequency assignment recorded in the Master Register.

ADD

1bis. When a frequency assignment is used by a station to perform different services, a separate notice shall be submitted for each class of service (e.g. FA, FB, FC, FX, etc.).

2. Frequencies prescribed by these Regulations for common use, such as 500 kHz or 2182 kHz should not be notified (see No. **[488]**).

3. Separate entries, in Columns 5a to 10, should be made for the various characteristics when they do not apply to the assignment as a whole, for instance when the class of emission or the power differ according to the localities or areas of reception.

4. When submitting notices for television broadcasting stations in Region 1, separate notices shall be submitted for the sound and vision channels. In such cases, the notice shall relate to the sound and vision carrier frequencies.

I. General Notes

(a) The name of the notifying administration should be indicated.

(b) Indicate in this box by the letter "X" when the notice reflects :

— the first use of a frequency by a station,

or

— the first use of an additional frequency by a station.

(c) Indicate in this box by the letter "X" when the notice reflects a change in the characteristics of a frequency assignment recorded in the Master Register.

(1) In the case where existing particulars (including the frequency) are changed, the new characteristics in the appropriate place should be underlined ; the original characteristics which have been changed should be shown in brackets underneath or at the side.

(2) In the case where the change is an addition to existing particulars, the additional characteristics should be shown in the appropriate place and should be underlined.

(3) In the case where the change is a cancellation of a particular characteristic or characteristics, this should be shown in the appropriate place by a dash and, underneath or at the side, the characteristics which have been cancelled should be shown in brackets.

- (d) Indicate in this box by the letter "X" when the notice reflects a deletion of an assignment, in all of its notified characteristics.
- (e) The serial number of the notice and the date on which the notice is sent to the Board shall be shown here.

II. Notes Concerning Information to be Entered in the Notice
Pertaining to Specific Columns of the Master Register

Column 1 Assigned frequency

- MOD 1. Indicate the assigned frequency as defined in Article 1, in kHz up to 28,000 kHz inclusive, in MHz above 28,000 kHz to 10,500 MHz inclusive, and in GHz above 10,500 MHz.

2. *This information is a basic characteristic.*

Column 2c Date of putting into use

- MOD 1. In the case of a new assignment, insert the date (actual or foreseen, as appropriate) of putting the frequency assignment into use.
2. Whenever the assignment is changed in any of its basic characteristics, as defined in this Appendix except in the case of a change in Columns 3 or 4a or 10a or 11, then the date to be indicated shall be that of the latest change (actual or foreseen, as appropriate).

3. *This information is a basic characteristic.*

Column 3 Call sign (Identification)

1. Indicate the call sign or other identification used in accordance with Article N23/19.
2. *This information is a basic characteristic*, except for stations referred to in Nos. [490 and 735.1] or when the frequency assignment is used for reception in the circumstances described in No. [487]

1) - For television broadcasting stations in Region 1, the frequencies to be notified are those of the sound and vision carriers.

ADD 2) For the radiotelephone maritime mobile service see No. 8045/445A7.

ADD 3) For the Aeronautical Mobile (R) Service, see Appendix 27 Aer2, revised paragraph 27/72.

MOD Column 4 Particulars of the transmitting station

ADD When the frequency assignment is used in the circumstances described in No. 4280/486, the basic characteristics to be provided in Column 4 are as follows:

4a Indicate the name of the locality by which the transmitting station is known or in which it is situated.

(MOD) 4b Indicate the country or geographical area in which the station is located. Symbols from the Preface to the International Frequency List shall be used.

MOD 4c Indicate the geographical coordinates (longitude and latitude in degrees and minutes) of the transmitter site. For frequency assignments above 1,000 MHz (1 GHz) in the bands shared between terrestrial radiocommunication and space radiocommunication services, indicate the geographical coordinates (longitude and latitude in degrees, minutes and seconds with an accuracy of one tenth of a minute) or, as an alternative, indicate the longitude and latitude in degrees and minutes and, in Columns 9a and 9b, the azimuth and elevation of maximum directivity of the antenna to an accuracy of one tenth of a degree.

When the frequency assignment is used for reception in the circumstances described in No. 487, the basic characteristics to be provided in Column 4 are as follows:

MOD 4a The letter "M".

(MOD) 4b The country or geographical area in which the transmitting mobile station is located. If the station is not located within a country, indicate the country responsible. Symbols from the Preface to the International Frequency List shall be used.

MOD 4c The geographical coordinates (longitude and latitude in degrees and minutes) of the centre of the circular transmitting area.

ADD 4d The nominal radius (in km) of the circular transmitting area.

ADD 4e Indicate a standard defined area using the symbols contained in standard references, e.g. MWARA, RDARA, geographical zones etc. (see also the Preface to the International Frequency List).

ADD When the frequency assignment is used in the circumstances in No. 4284/490, the basic characteristics to be provided in Column 4 are as follows:

ADD 4b Indicate the country or geographical area in which the station is located. Symbols from the Preface to the International Frequency List shall be used.

ADD For the remainder of Column 4 complete either 4e alone, or 4c and 4d.

ADD 4c The geographical coordinates (longitude and latitude in degrees and minutes) of the centre of the circular transmitting area.

ADD 4d The nominal radius (in km) of the circular transmitting area.

ADD 4e Indicate a standard defined area using the symbols appearing in the Preface to the International Frequency List.

ADD **Column 5 Particulars of the receiving station.**

ADD When the frequency assignment is used in the circumstances in No. 4280/486, the basic characteristics to be provided in Column 5 are as follows:

ADD **Column 5a Name of the receiving station. Indicate the name of the locality by which the receiving station is known or in which it is situated.**

ADD 1. For reception points in the fixed service, it is necessary to notify only sufficient stations to define the reception area, provided that that area is well defined and sufficiently small to make it easy to forecast the conditions of the use of the frequency from the propagation point of view.

ADD 2. However, for broadcasting, land, radionavigation land, radiolocation land and standard frequency stations, and ground-based stations in the meteorological aids service, it is not necessary to indicate any information in this column.

ADD **Column 5b Country or geographical area in which the receiving station is located. Symbols from the Preface to the International Frequency List shall be used.**

ADD However, for broadcasting, land, radionavigation land and standard frequency stations, and ground-based stations in the meteorological aids service, it is not necessary to indicate any information in this column.

ADD **Column 5c Indicate the geographical coordinates (longitude and latitude in degrees and minutes) of the site of the receiving station.**

ADD However, for broadcasting, land, radiolocation land or standard frequency stations, or for ground-based stations in the meteorological aids service, it is not necessary to indicate any information in this column.

ADD **Column 5d Locality or area(s) of the receiving station(s).**

1. For broadcasting stations, the area of reception shall be indicated. Each area should be expressed either
 - as interior (INTR),
 - or the symbol designating a country(ies) or geographical area(s) (Preface to the International Frequency List),⁷
 - or one of the geographical zones appearing on the map annexed to the present Appendix. In the event the area of reception cannot be defined in the above manner, either
 - Columns 5e and 5f shall be completed,
 - or the related characteristics specified in a pertinent Regional Agreement shall be supplied.

Column 5d (cont.)

2. For land, radionavigation land, radiolocation land, standard frequency stations, and ground-based stations in the meteorological aids service, indicate an area only if it is standardly described. If the area of reception is not standardly defined describe the area in Columns 5e and 5f.

ADD Column 5e Longitude and latitude of the center of the circular receiving area.

1. Indicate the geographical coordinates (in degrees and minutes).
2. This column is not to be used if the area of reception is adequately defined in Column 5d. If this column is used a corresponding entry must be made in Column 5f.

ADD Column 5f Nominal radius of the circular receiving area.

1. Indicate the radius (in km) of the circular receiving area.
2. This column is not to be used if the area of reception is adequately defined in Column 5d. If this column is used a corresponding entry is required in Column 5e.

ADD When the frequency assignment is used in the circumstances in No. 4281/487, the basic characteristics to be provided in Column 5 are as follows:

ADD Column 5a Name of the receiving station. Indicate the name of the locality by which the receiving station is known or in which it is situated.

ADD Column 5b Country or geographical area in which the receiving station is located. Symbols from the Preface to the International Frequency List shall be used.

ADD Column 5c Indicate the geographical coordinates (longitude and latitude in degrees and minutes) of the site of the receiving station.

ADD When the frequency assignment is used in the circumstances in No. 4284/490, no entry is required in Column 5.

Column 6 Class of station and nature of service

1. Indicate the class of station and nature of service performed, using the symbols shown in Appendix [10.]
2. When the frequency assignment is used for reception in the circumstances described in No. [487], the class of station and nature of service applicable to the mobile stations should be indicated.
3. *This information is a basic characteristic.*

Column 7 Class of emission, necessary bandwidth and description of transmission.

1. Indicate, for each locality or area of reception shown in Column 5a, the class of emission, necessary bandwidth and description of transmission, in accordance with Article [2] and Appendix [5.]
2. When the frequency assignment is used for reception in the circumstances described in No. [487], the particulars to be indicated are those applicable to the mobile stations.
3. *This information is a basic characteristic.*

Column 8 Power (in kW)

1. The power supplied to the antenna transmission line shall be notified as follows, according to the class of emission :
 - a) Carrier power $[P_c]$ for [A3] sound broadcasting (see No. [97].)
 - b) Mean power $[P_m]$ for other amplitude modulated emissions using unkeyed full carrier, and for all frequency modulated emissions (see No. [95].)
 - c) Peak envelope power $[P_p]$ for all classes of emission other than those referred to in a) or b), including [A5] television (vision) (see No. [95].)

- MOD
2. In the bands above 1 GHz allocated on a shared basis to the Space Radiocommunication and Terrestrial Radiocommunication Services, the equivalent isotropically radiated power (e.i.r.p.) shall be notified.

./..

(Column 8 contd.)

MOD 3. The appropriate symbol $[P_e, P_m]$ or $[P_p]$ shall follow the indication of the value of the power. In cases where the effective radiated power is notified, this symbol shall be followed by the letter "e". In cases where the e.i.r.p. is notified, this symbol shall be followed by the letter "i".

MOD 4. The power normally used to each locality or area of reception shall be indicated.

5. When the frequency assignment is used for reception in the circumstances described in No. [487] the power of the mobile stations should be indicated. If not all of the stations use the same power, the highest power should be indicated.

6. *This information is a basic characteristic.*

Column 9 Transmitting antenna characteristics

Column 9a Azimuth of maximum radiation

1. If a directive transmitting antenna is used, indicate the azimuth of maximum radiation of the transmitting antenna in degrees (clockwise) from True North.
2. If a transmitting antenna with non-directional characteristics is used, insert "ND" in this column.
3. *This information is a basic characteristic, except for stations referred to in No. [490] or when the frequency assignment is used for reception in the circumstances described in No. [487].*

ADD Column 9b Elevation angle of maximum directivity

This is a basic characteristic for stations in the bands above 1 GHz allocated on a shared basis to the Space Radiocommunication and Terrestrial Radiocommunication Services in those cases where the required accuracy in geographical coordinates has not been specified in Column 4c.

Column 9c and 9g

If the radiation characteristics of the antenna concerned differ from those recommended by the C.C.I.R., Columns 9c and 9g should be notified. Where the radiation characteristics are to be found in the C.C.I.R. Book "Antenna Diagrams" indicate an appropriate reference in Column 9j.

(Column 8 contd.)

MOD	Column 9c	Angular width of radiation main lobe The total angle in the horizontal plane, in degrees, within which the power radiated in any direction does not fall more than 3 dB below the power radiated in the direction of maximum radiation, should be indicated.
ADD	Column 9d	Polarization <u>This is a basic characteristic</u> for stations in the bands above 1 GHz allocated on a shared basis to the Space Radiocommunication and Terrestrial Radiocommunication Services and for broadcasting stations in the VHF/UHF bands in the African and European Broadcasting Areas.
ADD	Column 9e	Height of antenna (meters) for a simple vertical antenna <u>This is a basic characteristic</u> for broadcasting stations in the LF/MF bands in Regions 1 and 3.
ADD	Column 9f	Maximum effective height of the antenna <u>This is a basic characteristic</u> for broadcasting stations in the VHF/UHF bands in the African and European Broadcasting Areas.
MOD	Column 9g	Maximum antenna gain (isotropic, relative to a short vertical antenna or relative to a half-wave dipole, as appropriate).

1. The relative gain of the antenna in the direction of maximum radiation for the assigned frequency should be indicated (see No. [101]).
2. In the frequency bands above 28 000 kHz, the antenna gain is a basic characteristic in the case where the power notified in Column 8 is the power supplied to the antenna transmission line.
It is not a basic characteristic if the effective radiated power or the e.i.r.p. is notified in Column 8.

- ADD Column 9h Azimuths defining the sectors of limited radiation in degrees (clockwise) from True North
1. Indicate the azimuths defining the sectors of limited radiation in degrees (clockwise) from True North
 2. This is a basic characteristic for broadcasting stations in the LF/MF bands in Regions 1 and 3.
- ADD Column 9i Maximum agreed radiation in the sectors
1. Indicate the maximum agreed radiation in the sector, in dB relative to a c.m.f. of 300 V or an e.m.r.p. of 1 kW determined from the nominal power of the transmitter and the theoretical gain of the antenna without allowing for miscellaneous losses.
 2. This is a basic characteristic for broadcasting stations in the LF/MF bands in Regions 1 and 3.
- Column 9j Type of antenna (see C.C.I.R. Book "Antenna Diagrams")
- Indicate the appropriate reference from the C.C.I.R. book "Antenna Diagrams". See Columns 9c and 9g above.
- Column 10 Hours of operation
- MOD Column 10a Maximum hours of operation of the circuit to each locality or area (U.T.C.)
1. **When the frequency assignment is used for reception in the circumstances described in No. [487], the maximum hours of operation are those relating to the mobile stations.**
 2. **As complementary information, indicate by the letter "I" any part of the period during which the operation of the circuit is intermittent.**
 3. This information is not a basic characteristic.
- ADD Column 10b Regular hours of operation of the frequency assignment
1. If known indicate the regular hours of operation of the frequency assignment in U.T.C. Otherwise indicate the hours of operation as day service (HJ), night service (HN), or transition period service (HT).
 2. This is a basic characteristic.

Column 11 Coordination with other administrations

1. Identify the country or geographical area with which coordination has been successfully completed and indicate the provision (RR No., Regional Agreement, or other arrangement) requiring such coordination.
2. This is a basic characteristic for the bands and services concerned.

Column 12a Operating Administration or Company *

This information is not a basic characteristic, but it is recommended it be supplied in cases where the same agency operates in more than one country.

Column 12b Postal and telegraphic address of the administration responsible for the station *

1. The addresses required are those to which communication should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of the circuit (see Article [15].)
2. This information is not a basic characteristic.

Supplementary Information

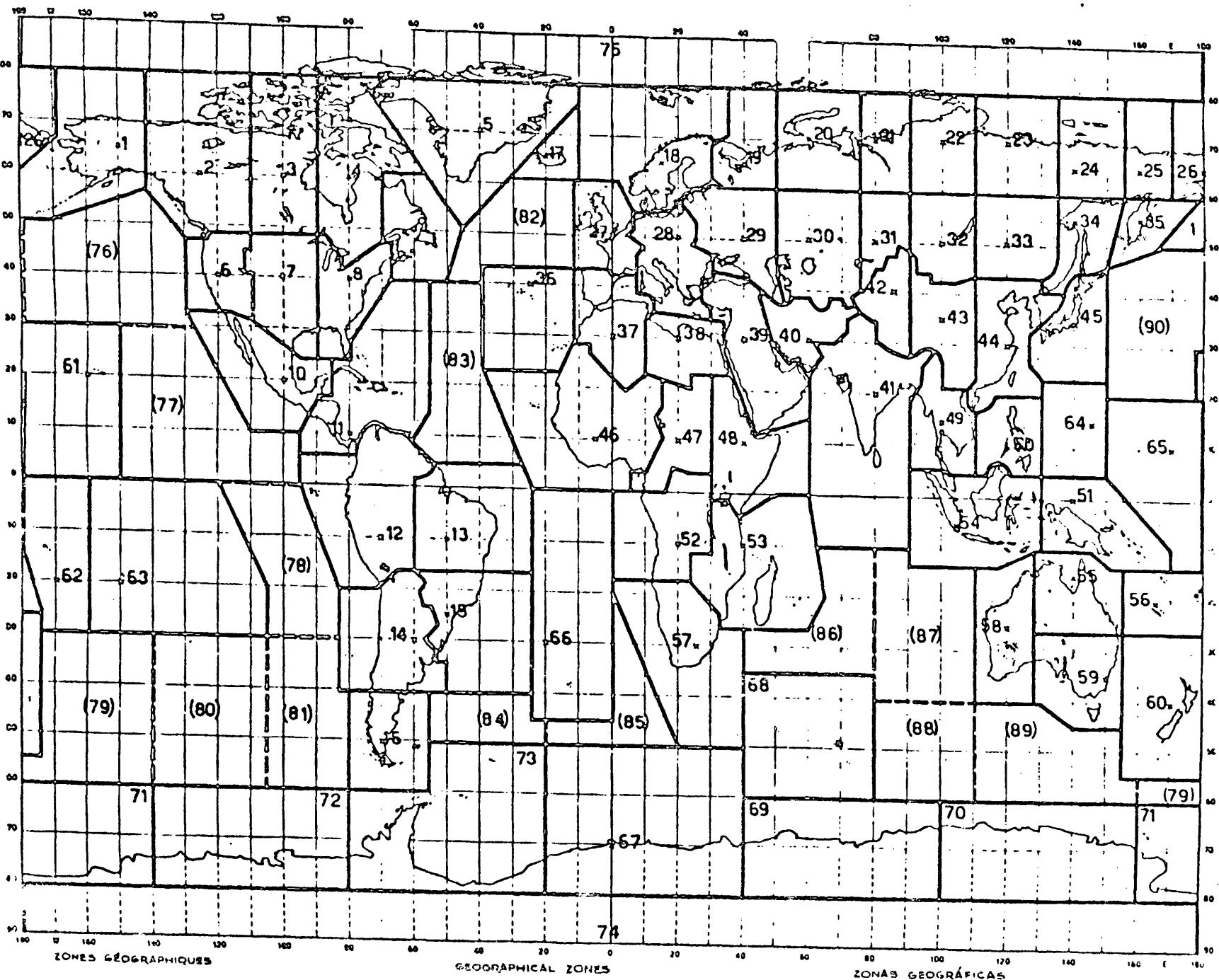
Any supplementary information supplied by the administration should be indicated within the frame provided on the notice.

1. If the assignment is made in application of a regional or service agreement, the relevant agreement shall be indicated in the appropriate place; otherwise, insert the indication "Nil".
2. In any case where there are one or more reference frequencies in a particular transmission (e.g. in the case of (a) the frequency of the reduced carrier in an independent or single sideband emission, and (b) the frequencies of the sound and vision carriers in a television emission), such reference frequencies shall be supplied. In the case of television broadcasting stations in Region 1, each notice shall include, as supplementary information, both the frequency of the other carrier and the assigned frequency. For stations in the Aeronautical Mobile (R) Service using permitted emissions other than DSB, the reference frequency together with the appropriate centre frequency of the channel listed in the Allotment Plan in Appendix 27 shall be supplied as supplementary information.

* Where this information already appears in the Preface to the International Frequency List, the appropriate reference number or letter may be used.

3. Any other information which the administration considers to be relevant should be indicated, such as, for example, an indication that the assignment concerned would be operating in accordance with No. [115] of these Regulations, or information concerning the use of the notified frequency if such use is restricted or if the frequency is not used during all the time which is possible according to propagation conditions.

2
4. Only the information specified in paragraph 3 above is a basic characteristic; it is recommended, however, that the information under paragraphs 1 ~~and 2~~ above be supplied. However, in the case of stations in the fixed or mobile service referred to in No. [492A] the name of any administration with which co-ordination of the use of the frequency has been sought and the name of any administration with which such co-ordination has been effected are basic characteristics.



ANNEXE - ANNEX - ANEXO

TCH/71/1

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/204-E

12 November 1979

Original : English

WORKING GROUP 6A3

NOTE FROM THE CHAIRMAN OF WORKING GROUP 6A3

To facilitate discussion on Document No. DT/203, the following are some suggested changes to Document No. DT/203 :

Page 8, Column 9a, add a new 4 :

- ADD 4. For frequency assignments above 1 GHz in the bands shared between terrestrial radiocommunication and space radio-communication services, the azimuth shall be provided to an accuracy of one tenth of a degree in **those** cases where the required accuracy in the geographical co-ordinates (to a tenth of a minute) has not been specified in Column 4c.

Page 8, Column 9b, replace existing text by :

MOD Column 9b Elevation angle of maximum directivity

This is a basic characteristic for stations in the bands above 1 GHz allocated on a shared basis to the space radio-communication and terrestrial radiocommunication services and shall be provided to an accuracy of one tenth of a degree.

Page 9, Column 9f, replace existing text by :

MOD Column 9f Maximum effective height of the antenna

This is a basic characteristic for broadcasting stations in the VHF/UHF bands in the African and European Broadcasting Areas and is defined in the Final Acts of these Conferences.

ADD This is a basic characteristic for terrestrial stations operating in the bands above 1 GHz that are shared between space and terrestrial services and shall be indicated in metres above mean sea level.

A.M. CORRADO
Chairman of Working Group 6A3



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/205-E

12 November 1979

Original : English

WORKING GROUP 5D

DRAFT

TWENTY-SEVENTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Provisions 3713, 3714, 3729, 3730, 3730A, 3776; draft Resolution relating to the Use for Radionavigation of the 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; provisions ISM applications.

1. The Working Group discussed the report of the Chairman of Drafting Group 5D2 (DL/206) and decided unanimously to recommend the adoption of the revised provisions as given in Annex 1.
2. The Working Group discussed the report of the Chairman of Drafting Group 5D4 (DL/199) and decided by majority, to recommend the adoption of the revised provisions as given in Annex 2 and the adoption of the draft Resolution as given in Annex 3.
3. The delegation of the Federal Republic of Germany reserved the right to come back to footnote ADD 3730A in the band 9 500 - 9 520 MHz.
4. The Working Group discussed the second report of the Chairman of Drafting Group 5D5 to Working Group 5D (DL/196) and decided unanimously to recommend the adoption of the revised provisions as given in Annex 4.
5. The Working Group discussed the Note from the Chairman of Drafting Group 5D12 to Working Group 5D (DT/157) and decided by majority (29 for, 4 against) to recommend the adoption of the provision as given in Annex 5. The frequencies x and y will be decided later.

Dr. B.S. RAO
Chairman of Working Group 5D

Annexes : 5



A N N E X 1

MOD 3713/361

In France, the band 2 450 - 2 550 MHz is allocated on a primary basis to the radiolocation service and on a secondary basis to the fixed and mobile services. Such use is subject to agreement with the Administrations having services operating or planned to operate in accordance with the Table, which may be affected.

MOD 3714/361A

Additional allocation : in Canada the band 2 500 - 2 550 MHz is also allocated to the radiolocation service on a primary basis.

A N N E X 2

- NOC 3729/367A In the bands 2 900 - 2 920 MHz and 9 300 - 9 320 MHz in the maritime radionavigation service, the use of shipborne radars other than those existing on 1 January 1976 is not permitted.
- NOC 3730/367B In the bands 2 920 - 3 100 MHz and 9 320 - 9 500 MHz in the maritime radionavigation service, the use of fixed-frequency radar beacons on land or at sea is not permitted.
- ADD 3730A In the bands 2 900 - 3 100 MHz, 5 470 - 5 650 MHz and 9 500 - 9 800 MHz, the use of maritime transponder systems shall be confined to the sub-bands 2 930 - 2 950 MHz, 5 470 - 5 480 MHz and 9 500 - 9 520 MHz.
- MOD 3776/399 The use of the band 9 300 - 9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars, and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the 9 300 - 9 320 MHz band subject to the condition that harmful interference is not caused to the maritime radionavigation service. In the 9 300 - 9 500 MHz band, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

A N N E X 3

DRAFT RESOLUTION

Relating to the Use for Radionavigation of the 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

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) the need to specify appropriate radio frequencies for adding transponders in a complementary role in the radionavigation bands 2 900 - 3 100, 5 470 - 5 650, and 9 300 - 9 500 MHz or adjacent thereto;
- b) the growing demands already being made on the frequency allocations for the radionavigation service in the bands utilized for aeronautical and maritime radionavigation arising from :
 - i) the increasing number of shipborne radars which is reinforced by the demands for compulsory carriage on an international basis;
 - ii) the increasing need for navigational aids and transponders working with primary radars;
 - iii) the need for the increasing utilization of this band by stations in the aeronautical radionavigation service noting that compulsory carriage is also demanded on an international basis;
- c) the increase in harmful interference occurring in the 9 300 - 9 500 MHz band due to these factors;
- d) that these radar applications have important safety considerations;

noting

- a) the Recommendations in Rec-12 and Mar2 - 4;
- b) the conclusions of the Special Preparatory Meeting of the CCIR;
- c) the need for additional operational and technical information in deciding the most effective frequency utilization;

resolves

1. that the next competent World Administrative Radio Conference should :
 - i) review footnotes to these radionavigation bands and make such changes as deemed appropriate in the light of additional studies;
 - ii) prepare regulatory recommendations as appropriate;
2. that the CCIR should continue to consider the technical factors and make recommendations;

invites

1. the Administrative Council to ensure that radionavigation matters of concern to the mobile services are included in the agenda of the next competent mobile conference;
2. Administrations to study the use of these bands by the radionavigation services, and to submit proposals for their efficient and effective utilization;

requests the Secretary General to refer this Resolution to the IMCO and ICAO inviting their urgent consideration of the operational requirements for the maritime and aeronautical radionavigation services using these frequency bands, and to make appropriate recommendations to assist Administrations in their preparation for the conference.

A N N E X 4

2 300 - 2 450 MHz, 2 450 - 2 500 MHz

The band 2 400 MHz - 2 500 MHz is designated for industrial, scientific and medical applications (centre frequency 2 450 MHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A.

5 725 - 5 850 MHz, 5 850 - 5 925 MHz

The band 5 725 MHz - 5 875 MHz is designated for industrial, scientific and medical applications (centre frequency 5 800 MHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A.

24 - 24.05 GHz, 24.05 - 24.25 GHz

The band 24.000 GHz - 24.250 GHz is designated for industrial, scientific and medical applications (centre frequency 24.125 GHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A.

A N N E X 5

"In the band $[x, y]$ MHz allocated to the fixed-satellite service, Administrations are urged to give preference to feeder links for the satellites of the maritime mobile service over other links of the fixed-satellite service".

In the direction space-to-Earth, the values of x and y should be fixed somewhere in the 4 GHz band to be allocated to the fixed-satellite service (space-to-Earth) and should be such that $y = x + 25$ (MHz).

In the direction Earth-to-space, the values of x and y should be fixed somewhere in the 6 GHz band to be allocated to the fixed-satellite service (Earth-to-space) and should be such that $y = x + 20$ (MHz).

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/206-E

12 November 1979

Original : English

WORKING GROUP 5D

DRAFT

TWENTY-EIGHTH REPORT OF WORKING GROUP 5D TO COMMITTEE 5
(ALLOCATIONS)

Subject : Technical issues for consideration by Working Group 4B and provision for Regions 2 and 3 in the band 3 400 - 3 600 MHz

1. The Working Group discussed the technical issues for consideration by Working Group 4B (DL/212) and decided to send the note as given in Annex 1 to Working Group 4B.
2. The Working Group discussed the second report of the Chairman of ad hoc Group 5D8 (DL/198) and the allocations in its Annex, which reads as follows :

RADIOLOCATION SECONDARY IN THE TABLE

Footnote :

In Regions 2 and 3 in the band 3 400 - 3 600 MHz, the radiolocation service is allocated on a primary basis. However, all Administrations operating radiolocation systems in this band are urged to cease operations by 1985. After this date, Administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

3. The delegations of Cuba and Ecuador expressed their view that the text of the footnote in its present form is not strong enough and their desire to strengthen it was indicated.
4. Some delegations of Region 3 countries expressed difficulties in accepting the footnote made applicable to Region 3. From the sixteen delegations (including USA, UK and France) present at the meeting representing Administrations of Region 3 countries, (listed below in paragraph 5), eight delegations (including USA, UK and France) showed preference for the footnote as worded above in paragraph 2, and four delegations showed preference for suppression of the words "Region 3" from the text and to include specific names of countries of Region 3 instead, if necessary.
5. List of delegations present at the meeting, representing Administrations of Region 3 countries : Australia, China, Republic of Korea, United States of America, France, India, Indonesia, Iran, Japan, New Zealand, Pakistan, Papua New Guinea, Philippines, United Kingdom, Singapore and Thailand.



6. The Working Group submits the footnote as given above in paragraph 2 to Committee 5 for further consideration.

Dr. B.S. RAO
Chairman of Working Group 5D

Annex : 1

A N N E X

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5D
TO THE CHAIRMAN OF WORKING GROUP 4B

1. In order to complete the work of Working Group 5D, Working Group 4B is requested to give urgent consideration and response to the following questions concerning sharing between space and terrestrial services :

1.1 Earth exploration-satellite (Passive)/space research (Passive) sharing with fixed and mobile (except aeronautical mobile) services in the band 10.6 - 10.7 GHz.

What are the minimum restrictions which would need to be placed on the fixed and mobile (except aeronautical mobile) in order to ensure successful operation of the passive service ?

What are the maximum restrictions that the fixed and mobile services can tolerate to still allow all services to operate ?

1.2 Earth exploration-satellite (Passive)/space research (Passive) sharing with fixed, mobile (except aeronautical mobile) and fixed-satellite services in the band 18.6 - 18.8 GHz.

What are the minimum restrictions which would need to be placed on the fixed, mobile (except aeronautical mobile) and fixed-satellite (Space-to-Earth) services in order to ensure successful operation of the passive service ?

What are the maximum restrictions that the fixed, mobile and fixed-satellite services can tolerate to still allow all services to operate ?

1.3 Fixed satellite sharing with the radionavigation service in the band 14 - 14.3 GHz.

What are the necessary criteria to enable sharing between the fixed-satellite (Earth-to-space) service and the radionavigation service on an equal primary basis in the above band ?

2. In view of the small amount of time now remaining for the work of Working Groups, the attention of Working Group 4B is drawn to paragraph 6 of Document No. 361(Rev.1) concerned the need for criteria for sharing between radionavigation-satellite (Space-to-Earth) and radiolocation in the band 1 215 - 1 260 MHz.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/207-E

12 November 1979

Original : English

WORKING GROUP 6A3

Note by the Chairman of Working Group 6A3

Working Group 6A has requested Working Group 6A3 to reconsider the draft Resolution appearing in Document No. 560 in the light of the discussion in Working Group 6A. The Chairman of Working Group 6A3 provides hereunder a revised text for the consideration of Working Group 6A3. The marginal annotations indicate amendments in relation to Document No. 560.

A.M. CORRADO

Chairman of Working Group 6A3

DRAFT RESOLUTION No.

Relating to Action to Facilitate Increased Use of the ITU Computer
Installation by the International Frequency Registration Board
for Frequency Management

The World Administrative Radio Conference, Geneva, 1979,
considering

- NOC a) the initiatives that have been taken to increase the utilization
of the ITU computer installation by the IFRB;
- MOD b) the necessity for the World Administrative Radio Conference,
Geneva, 1979, to further these initiatives without prejudicing the
comprehensive systems analysis and design study now being undertaken;
- SUP c)
- SUP d)
- MOD e) that certain improvements are necessary and could be made by the
IFRB progressively and without the need for prior adoption by an
Administrative Radio Conference;
- f) that the improvements obtained from the extended use of the
computer for activities of the IFRB will benefit all Administrations;

resolves

that, to gain the maximum benefit from the report of the
consultants on measures to increase utilization of the ITU computer
installation by the IFRB, the Board shall :



- MOD
/ex-4/ 1. within the scope of the Radio Regulations as revised by the
World Administrative Radio Conference, Geneva, 1979 :
- a) introduce into the Preface to the International Frequency List
a standard list of symbols for use in appropriate notices; and
 - b) prepare and introduce into the Preface to the International
Frequency List a set of essential working instructions for the
completion of notices;
- MOD
/ex-1/ 2. without affecting the basic data required by the Radio Regulations
to be given in any notice relating to a frequency assignment, develop any
necessary suggestions for the standardization and re-formatting required
to facilitate computer processing of such notices;
- MOD
/ex-2/ 3. without in any way affecting its statutory contents as prescribed
by the Radio Regulations, develop any necessary suggestions for the refine-
ment and improvement of the International Frequency List from the point of
view of presentation;
- MOD
/ex-3/ 4. submit suggestions under 2. and 3. above :
- for comment by Administrations within /six months/ from the
date of the promulgation of the suggestions /; and/
 - /- for subsequent endorsement by the Administrative Council at the
session following the comment period and prior to the incorpora-
tion of the suggestions;/
- NOC /resolves further
- that in the event of any unforeseen difficulty concerning com-
pletion of the above actions, or in the event of disagreement by
Administrations, the Board shall present to the Administrative Council and
to the next World Administrative Radio Conference, a comprehensive report
on the subject, the problems encountered and suggestions as to means to
resolve the problems; and/
- NOC /requests the Administrative Council
- in that event to place an appropriate item on the agenda of the
said Conference to permit consideration of the report of the IFRB. /

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/208-E

13 November 1979

Original : English

French

Spanish

LIST OF DOCUMENTS

(501 - 550)*)

No.	Origin	Title	Destination
501	C.5	Summary record of the seventh meeting of Committee 5 (Frequency allocations)	C.5
502	C.8	Summary record of the sixth meeting of Committee 8 (Restructure)	C.8
503	C.8	Summary record of the seventh meeting of Committee 8 (Restructure)	C.8
504 (Rev.1)	S/SUI	Article N37	C.7
505	WG 4C	Note by the Chairman of Working Group 4C	C.4
506	WG 5BA	Note by the Chairman of Working Group 5BA to the Chairman of Committee 5	C.5
507	WG 4C	Note by the Chairman of Working Group 4C	C.4
508	CAN/DNK	Proposals	C.5
509	ZAI	Request for the allocation of additional call sign series	C.7
510 (Rev.1)	WG 5BA8	Report of Sub-Working Group 5BA8 to Working Group 5BA	WG 5BA
511	C.9	B.7	PL
512	WG 4B	Note by the Chairman of Working Group 4B	C.4
513	WG 5BA7	Report of Sub-Working Group 5BA7 to Working Group 5BA	WG 5BA
514	WG 5A	Eighth report of Working Group 5A to Committee 5	C.5
515	SOM	Unfavourable change of services in the HF bands	C.5, 6
516	GRC	Resolution - Rational Use of the Frequency Spectrum	C.4, 6, 7
517	INS/MLA/ PHL/SNG/THA	Allocations of services in the frequency band 430 - 440 MHz	C.5
518	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 5	C.5
519	ISR	Proposals	C.5
520	C.5	Summary record of the eighth meeting of Committee 5 (Frequency allocations)	C.5

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr. 1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200



No.	Origin	Title	Destination
521	WG 4C	Eleventh report from Working Group 4C to Committee 4	C.4
522	6A1	Third report of Drafting Group 6A1	WG 6A
523 + Corr.1	C.9	B.8	PL
524	ARG	Proposals	C.7
525	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5
526	C.6	Summary record of the seventh meeting of Committee 6 (Regulatory procedure)	C.6
527	WG 6A	Note by the Chairman of Working Group 6A	C.6
528	WG 7B	Third and final report of the Chairman of Working Group 7B to Committee 7	C.7
529	C.4	Summary record of the fourth meeting of Committee 4 (Technical regulations)	C.4
530	C.4	Summary record of the fifth meeting of Committee 4 (Technical regulations)	C.4
531	C.6	Third report of Committee 6	PL
532	C.6	Third series of texts submitted by Committee 6 to the Drafting Committee	C.9
533	WG 4C	Twelfth report of Working Group 4C to Committee 4	C.4
534	WG 4C	Thirteenth report of Working Group 4C to Committee 4	C.4
535	WG 4C	Fourteenth report of Working Group 4C to Committee 4	C.4
536	WG 6B	Note from the Chairman of Working Group 6B to the Chairman of Committee 6	C.6
537	WG 5BA	Note from the Chairman of Working Group 5BA to the Chairman of Committee 5	C.5
538	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
539	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 7	C.7
540	GRC	Request for allocation of additional call sign series	C.7
541	WG 4C	Note by the Chairman of Working Group 4C	C.4
542	WG 5BA9	Use of radiocommunications in the event of natural disasters	WG 5BA, 5BB, 5C
543	ISR	Proposals	C.7

N°	Origin	Title	Destination
544	G	Proposals	C.5
545	EBU & ESA	Observations regarding a new sound broadcasting satellite system	C.5
546	WG 2A	Second Report by Working Group 2A - Credentials	C.2
547	C.7	Summary record of the eighth meeting of Committee 7 (General administration)	C.7
548	WG 4C	Fifteenth report of Working Group 4C to Committee 4	C.4
549	WG 4C	Sixteenth report of Working Group 4C to Committee 4	C.4
550	WG 6A	Fifth report of Working Group 6A	C.6

WORLD ADMINISTRATIVE
RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/209-E

12 November 1979

Original : English

COMMITTEES 4, 5, 7

DRAFT

REPORT OF THE COORDINATING GROUP C.4, 5, 7
WITH RESPECT TO THE REARRANGEMENT OF ARTICLE N1

1. The Coordinating Group, consisting of the Chairmen of Working Groups 4A, 5A and 7B, has examined in four meetings the proposal contained in Document No. 316 and its impact on Article N1. It came unanimously to the conclusion that the proposed approach to the definitions was impracticable for this Conference. On the other hand, there might be some merit in a revision of the structure of the Article N1, which could facilitate a possible future treatment of definitions as such.

The Coordinating Group has therefore produced an alternative layout to the present structure of Article N1 which is contained in the Annex to this document. For the better understanding of the issue, the two possible structures are given below with their main section heading as follows :

a) Present structure

- | | |
|-------------|--|
| Section I | General Terms |
| Section II | Radio Systems, Services and Stations |
| Section III | Terrestrial Radio Systems, Services and Stations |
| Section IV | Space Radio Systems, Services and Stations and Radio Astronomy |
| Section V | Space, Orbits and Types of Objects in Space |
| Section VI | Technical Characteristics |

b) Alternative structure (based on Document No. 316)

- | | |
|-------------|-----------------------------|
| Section I | General Terms |
| Section II | Specific Terms |
| Section III | Radiocommunication Services |
| Section IV | Radiocommunication Stations |
| Section V | Operational Terms |
| Section VI | Technical Terms |

2. The joint meeting of Committees 4, 5 and 7 decided to adopt / the present structure / the alternative structure as contained in the Annex to this document 7.



H.A. KIEFFER

Coordinator of Committees 4, 5 and 7

A N N E X

ALTERNATIVE STRUCTURE FOR ARTICLE N1

		<u>Document No.</u>
3001	<u>Preamble</u>	395
	<u>Section I</u> <u>General Terms</u>	
3002	Telecommunication	395
3006	Radio	395
3005	Radio Waves	395
3004	Radiocommunication	395
3025	Terrestrial Radiocommunication	325
3024	Space Radiocommunication	325
3026	Radiodetermination	325
3027	Radionavigation	325
3028	Radiolocation	325
3068	Radio-Direction Finding	382
3120	Radio Astronomy	DT/197
ADD 3023A	Industrial, Scientific and Medical (ISM) Applications	395
	<u>Section II</u> <u>Specific Terms</u>	
ADD	Allocation (of a frequency band)	514
ADD	Allotment (of a frequency channel)	514
ADD	Assignment (of a radio frequency or radio frequency channel)	514
	<u>Section III</u> <u>Radiocommunication Services</u>	
ADD	Radiocommunication Service	382
3036	Fixed Service	382
3102	Fixed-Satellite Service	514
3038	Aeronautical Fixed Service	382
3101	Inter-Satellite Service	514
3100	Space Operation Service	514

Section III (cont.)

		<u>Document No.</u>
3072	Mobile Service	382
3115	Mobile-Satellite Service	514
3087	Land Mobile Service	456
3119	Land Mobile-Satellite Service	514
3079	Maritime Mobile Service	514
3117	Maritime Mobile-Satellite Service	514
3086	Ship Movement Service	456
3084	Port Operations Service	456
3076	Aeronautical Mobile Service	382
3116	Aeronautical Mobile-Satellite Service	382
3040	Broadcasting Service	382
3103	Broadcasting-Satellite Service	514
3049	Radiodetermination Service	325
3111	Radiodetermination-Satellite Service	514
3051	Radionavigation Service	325
3112	Radionavigation-Satellite Service	514
3055	Maritime Radionavigation Service	382
3114	Maritime Radionavigation-Satellite Service	514
3054	Aeronautical Radionavigation Service	382
3113	Aeronautical Radionavigation-Satellite Service	382
3056	Radiolocation Service	325
3042	Meteorological Aids Service	DT/197
3107	Meteorological-Satellite Service	514
3106	Earth Exploration-Satellite Service	514
3046) 3048)	Standard Frequency and Time Signal Service	382
3109) 3110)	Standard Frequency and Time Signal-Satellite Service	514
3099	Space Research Service	514
3044	Amateur Service	382
3108	Amateur-Satellite Service	514
3121	Radio Astronomy Service	DT/197
3029	Safety Service	325
3030	Special Service	325

	<u>Section IV</u>	<u>Radio Stations</u>	<u>Document No.</u>
	3031	Station	325
	3034	Terrestrial Station	325
	3033	Earth Station	325
ADD		Transportable Earth Station	DT/197
	3032	Space Station	325
	3075	Survival Craft Station	382
	3037	Fixed Station	382
	3039	Aeronautical Fixed Station	382
	3074	Mobile Station	382
ADD		Mobile Earth Station	514
	3088	Base Station	456
	3073	Land Station	382
	3089	Land Mobile Station	456
	3080	Coast Station	382
ADD		Coast Earth Station	514
	3081	Ship Station	382
	3118	Ship Earth Station	514
	3082	On-Board Communication Station	456
	3085	Port Station	456
	3077	Aeronautical Station	382
	3078	Aircraft Station	382
ADD		Aircraft Earth Station	382
	3041	Broadcasting Station	382
	3050	Radiodetermination Station	382
	3053	Radionavigation Mobile Station	382
	3052	Radionavigation Land Station	382
	3058	Radiolocation Mobile Station	382
	3057	Radiolocation Land Station	382
	3069	Radio Direction-Finding Station	382
	3070	Radiobeacon Station	382
	3071	Emergency Position-Indicating Radiobeacon Station	382
	3047	Standard Frequency and Time Signal Station	382
	3045	Amateur Station	382
	3122	Radio Astronomy Station	DT/197
	3035	Experimental Station	325

	<u>Section V</u>	<u>Operational Terms</u>	<u>Document No.</u>
ADD		Public Correspondence	395
	3007	Telegraphy	419
	3010	Telegram	419
	3011	Radiotelegram	419
	3012	Radiotelex Call	419
	3008	Frequency-Shift Telegraphy	419
	3016	Facsimile	419
	3013	Telephony	419
	3014	Radiotelephone Call	419
	3019	Simplex Operation	528
	3020	Duplex Operation	528
	3021	Semi-Duplex Operation	528
	3083	Ship's Emergency Transmitter	456
	3015	Television	419
	3104	Individual Reception (in the BC-Sat. Service)	514
	3105	Community Reception (in the BC-Sat. Service)	514
MOD	3017	Telemetry	528
MOD	3018	Radiotelemetry	528
MOD	3095	Space Telemetry	528
ADD	3018A	Telecommand	528
	3097	Space Telecommand	528
	3098	Space Tracking	514
	3090	Space System	514
	3091	Satellite System	514
	3092	Satellite Network	514
	3093	Satellite Link	514
	3094	Multi-Satellite Link	514
ADD	3094A	Feeder Link	514

	<u>Section VI</u>	<u>Technical Terms</u>	<u>Document No.</u>
ADD		Radiation	429
ADD		Emission	429
ADD	3006A	Class of Emission	528
ADD	3021A	Single-Sideband Transmission	528
ADD	3021B	Full Carrier Single-Sideband Transmission	528
ADD	3021C	Reduced Carrier Single-Sideband Transmission	528
ADD	3021D	Suppressed Carrier Single-Sideband Transmission	528
ADD		Out-of-Band Emission	429
	3141	Spurious Emission	429
ADD		Unwanted Emission	429
	3148	Assigned Frequency Band	500
	3134	Assigned Frequency	500
	3135	Characteristic Frequency	472
	3136	Reference Frequency	472
	3137	Frequency Tolerance	472
	3140.	Necessary Bandwidth	429
	3139	Occupied Bandwidth	429
ADD		Right-Hand (or Clockwise) Polarized Wave	472
ADD		Left-Hand (or Anticlockwise) Polarized Wave	472
	3143	Power	554
	3144	Peak Envelope Power	460
	3145	Mean Power	460
	3146	Carrier Power	460
	3149	Gain of an Antenna	460
	3147	Effective Radiated Power(e.r.p.)	472
ADD		Equivalent Monopole Radiated Power(e.m.r.p.)	472
	3148	Equivalent Isotropically Radiated Power(e.i.r.p.)	472
	3022	Tropospheric Scatter	528
	3023	Ionospheric Scatter	528
ADD		Interference	429
ADD		Accepted Interference	460
ADD		Permissible Interference	429
	3142	Harmful Interference	429

Section VI (cont.)

		<u>Document No.</u>
ADD	Protection Ratio	472
	3157 Coordination Area	500
	3156 Coordination Contour	500
	3155 Coordination Distance	500
	3154 Equivalent Satellite Link Noise Temperature	472
	3123 Deep Space	427
	3124 Spacecraft	427
	3125 Satellite	427
	3126 Active Satellite	427
	3127 Reflecting Satellite	427
ADD	Active Sensor	
ADD	Passive Sensor	
	3128 Orbit	427
	3129 Inclination of an Orbit (of an earth satellite)	427
	3130 Period (of a satellite)	427
	3131 Altitude of the Apogee (Perigee)	427
	3132 Geosynchronous Satellite	427
	3133 Geostationary Satellite	429
ADD	3133A Geostationary Satellite Orbit	429
	3059 Radar	382
	3060 Primary Radar	382
	3061 Secondary Radar	382
	3062 Radar Beacon (racon)	382
	3066 Marker Beacon	382
	3063 Instrument Landing System (ILS)	382
	3064 Instrument Landing System Localizer	382
	3065 Instrument Landing System Glide path	382
	3067 Radio Altimeter	382
	3043 Radiosonde	DT/197

WORLD ADMINISTRATIVE RADIO CONFERENCE

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Document No. DT/210-E

12 November 1979

Original : Spanish

WORKING GROUP 5BA

DRAFT

FIFTH REPORT OF WORKING GROUP 5BA TO COMMITTEE 5

Subject : Designation of a frequency for the transmission of navigational and meteorological warnings to ships by coast stations

After considering the report of Sub-Group 5BA5 (Document No. 364 and Corr.1), the Working Group decided to submit the draft Recommendation annexed hereto to Committee 5 for approval.

L. COOK
Chairman of Working Group 5BA

Annex : 1



A N N E X

DRAFT RECOMMENDATION No. ...

Relating to the Designation of a Frequency in the Bands
415 - 490 or 510 - 526.5 kHz (525 in Region 2) on a
World-Wide Basis for the Transmission by Coast Stations
of Navigational and Meteorological Warnings to Ships,
Using Narrow-Band, Direct-Printing Telegraphy

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that for the purpose of improving the existing provisions of the present maritime distress and safety system the Intergovernmental Maritime Consultative Organization (IMCO) has recommended¹⁾ that Administrations should introduce narrow-band directing-printing broadcasts for the purpose of promulgation of navigational and meteorological warnings to shipping;
- b) that such transmissions would enhance the safety of life at sea;
- c) that the CCIR has recommended²⁾ an automated direct-printing telegraph system for transmission of navigational and meteorological information to ships;
- d) that in some countries in Europe, Administrations are already providing such transmissions on an experimental basis, using the frequency 518 kHz;
- e) that a number of Administrations have proposed to this Conference that the frequency 518 kHz be designated on a world-wide basis for this purpose;
- f) that this Conference considers this to be a matter for the next competent World Administrative Radio Conference;

recommends

- a) that the next competent World Administrative Radio Conference should consider this matter and take action as required to designate a suitable international frequency for this purpose, including the technical standards for such transmissions;
- / b) that the means of transmissions already established on this frequency should continue to operate; /

invites

Administrations to study this matter with a view to submitting appropriate proposals to the next competent World Administrative Radio Conference;

recommends

that IMCO be invited to continue its study on this matter and to make suitable recommendations to members of that organization;

requests the Secretary-General

to communicate the present Recommendation to IMCO.

1) See IMCO Assembly Resolution A-283(VIII).

2) See CCIR Recommendation 540.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/211-E

12 November 1979

Original : English

WORKING GROUP 5BB

DRAFT

FOURTH REPORT OF WORKING GROUP 5BB TO COMMITTEE 5

1. Frequency bands between 7 300 - 8 195 kHz

1.1 All proposals concerning this frequency band have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table and of footnote ADD 3509A which appear in Annex 1.

1.2 A substantial number of delegations have reserved the right to come back in Committee 5 on the question of an extension of the allocation to the broadcasting service in the band 7 300 - 7 500 kHz.

2. Frequency band 8 195 - 8 815 kHz

2.1 When considering the bands allocated exclusively to the maritime mobile service the Working Group had agreed that the question of footnotes providing for the possible use by the fixed service of some of the higher bands allocated to the maritime mobile service would be considered later. This matter was taken up again when reviewing the proposed allocations in the adjacent bands to the 8 195 - 8 815 band, and the Working Group decided by majority not to provide for the use of the band 8 195 - 8 815 kHz by the fixed service.

2.2 The delegation of India has reserved the right to revert to this question in Committee 5.

3. Frequency bands between 9 040 - 9 995 kHz

3.1 All proposals concerning these bands have been considered and the Working Group decided by a two-third majority to recommend to Committee 5 the adoption of the revised Table and of footnote 3510A which appear in Annex 2.

3.2 The delegation of the USSR reserved the right to raise the allocation issue again in Committee 5.

4. Frequency bands between 10 100 - 11 175 kHz

4.1 All proposals concerning these bands have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table which appears in Annex 3.

5. Frequency bands between 11 400 - 12 330 kHz

5.1 All proposals concerning these frequency bands have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3511A and ADD 3511B which appear in Annex 4. It was also decided to recommend the deletion of footnote 3512/216.



5.2 The delegations of Senegal and USSR have reserved the right to revert in Committee 5 to the question of the allocations proposed in the bands 11 650 - 11 700 kHz, 12 975 - 12 050 kHz and 12 230 - 12 330 kHz.

6. The delegate of Uruguay made a special plea on behalf of his country concerning the importance of retaining the fixed bands especially below 10 MHz. He emphasized that these bands were heavily used in Region 2 and were indispensable for providing communications to assist with the development of the country.

P. BARNES
Chairman of Working Group 5BB

A N N E X 1

kHz
7 300 - 8 195

Region 1	Region 2	Region 3
7 300 - 8 100	FIXED Land mobile 3509A	
8 100 - 8 195	FIXED MARITIME MOBILE	

ADD 3509A

In Region 3, the stations of those services to which the band 7 995 - 8 005 kHz is allocated may transmit standard frequencies and time signals.

A N N E X 2

kHz
9 040 - 9 995

Region 1	Region 2	Region 3
9 040 - 9 500	FIXED	
9 500 - 9 900	BROADCASTING	
	3510A	
9 900 - 9 995	FIXED	

ADD 3510A

The band 9 775 - 9 900 kHz is allocated to the fixed service on a primary basis subject to the procedures described in Resolution No. 7. The use of this band by the broadcasting service will be subject to provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service, (See Recommendation No. 422.) Within this band, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution No. 7, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations and recorded in the Master Register and which may be affected by broadcasting operations on that channel.

A N N E X 3

kHz
10 100 - 11 175

Region 1	Region 2	Region 3
10 100 - 10 150	FIXED Amateur	
10 150 - 11 175	FIXED Mobile except aeronautical mobile (R)	

A N N E X 4

kHz
11 460 - 13 360

Region 1	Region 2	Region 3
11 400 - 11 650	FIXED	
11 650 - 12 050	BROADCASTING	
	3511A	
12 050 - 12 230	FIXED	
12 230 - 13 360*	MARITIME MOBILE	
	3511B	

* For the band 12 330 - 13 360 kHz, see Document No. 403.

ADD 3511A

The bands 11 650 - 11 700 kHz and 11 975 - 12 050 kHz are allocated to the fixed service on a primary basis subject to the procedures described in / Resolution No. 7. The use of these bands by the broadcasting service will be subject to provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service. See Recommendation No. (Document No. 422). Within these bands, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in / Resolution No. 7, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations / and recorded in the Master Register / and which may be affected by broadcasting operations on that channel.

ADD 3511B

The band 12 230 - 12 330 kHz is allocated to the fixed service on a primary basis subject to the procedures described in / Resolution No. 7. The use of this band by the maritime mobile service will be subject to provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in / Resolution No. 7, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations / and recorded in the Master Register / and which may be affected by maritime mobile operations on that frequency.

SUP 3512/216

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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WORKING GROUP 5C

DRAFT

THIRTEENTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject: Frequency bands between 470 and 960 MHz

1. Working Group 5C considered all proposals to the bands 470 - 960 MHz. It was agreed by a majority to recommend the revised Tables in the Annex to this Report to Committee 5 for adoption.
2. Algeria and Tunisia reserved their position on the proposed additional footnote 3653A in view of their concern over possible interference from and to the aeronautical radionavigation service.
3. The countries mentioned in footnote 3659/331 reserved their position on the status of the aeronautical radionavigation service which they would like to see as permitted.
4. India reserved her position on the suppression of footnote 3669/339A, as she wished this to be maintained.
5. The United States of America reserved their position on the proposed addition to footnotes 3650B, 3650E, 3669A and 3670A of the words "subject to agreement obtained under the procedure set forth in Article N.13A". These they would like to see deleted.

The United States of America also made a statement of principle concerning the world-wide needs of the mobile services referring to Documents Nos. 588, 15(Add.1) and 16(Add.1) and reserved their right to come back to this matter in Committee 5.

6. Norway and Sweden reserved their position on footnote 3662G, which they would wish to see extended to Region 1 so as to have a world-wide allocation.
7. Argentina, China and Iran reserved their position on the acceptability of the proposed additional footnotes 3662G and 3670B.
8. The United Kingdom reserved its position on footnote 3662B.
9. Several delegations reserved their position on footnote 3662F, which they believed would result in interference to the broadcasting service in Africa.

K. OLMS
Chairman of Working Group 5C

Annex



ANNEX.

MHz

470 - 890

REG. 1	REG. 2	REG. 3
470 - 790	470 - 512 BROADCASTING Fixed Mobile 3650B 3650BA	470 - 585 FIXED MOBILE BROADCASTING
BROADCASTING	512 - 608 BROADCASTING 3650E	3650CA 3650C 3650D 3650F 585 - 610 FIXED MOBILE BROADCASTING RADIONAVIGATION
	608 - 614 RADIO ASTRONOMY Mobile-Satellite (except aeronautical mobile)(Earth-to- Space)	3660/332 3660A
	614 - 806 BROADCASTING Fixed Mobile 3650B 3661/332A 3657B	610 - 890
790 - 862 FIXED BROADCASTING 3659/331 3662A 3662B 3662D 3662/333 3661A	806 - 890 FIXED MOBILE BROADCASTING 3662C	FIXED MOBILE BROADCASTING 3657A 3660A 3660/332 3661/332A 3662C
862 - 890 FIXED MOBILE except aeronautical mobile BROADCASTING 3662E 3659/331, 3662/333 3662F 3662G		

MHz
890 - 942

REG. 1	REG. 2	REG. 3
890 - 942 FIXED MOBILE except aeronautical mobile BROADCASTING 3662E Radiolocation 3662F 3662G 3659/331 3662/333	890 - 902 FIXED MOBILE except aeronautical mobile Radiolocation 3669A	890 - 942 FIXED MOBILE BROADCASTING Radiolocation 3669B
	902 - 928 FIXED Amateur Mobile except aeronautical mobile Radiolocation 3669A 3670/340	
	928 - 942 FIXED MOBILE except aeronautical mobile Radiolocation 3669A	
942 - 960 FIXED MOBILE except aeronautical mobile BROADCASTING 3662E 3662F 3662G 3659/331 3662/333	942 - 960 FIXED Mobile 3670A	942 - 960 FIXED MOBILE BROADCASTING 3670B

- ADD 3650A Additional allocation : in Ethiopia and Kenya, the band 470 - 582 MHz is also allocated to the fixed service on a permitted basis and subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650AA Additional allocation: in Iraq and Qatar, the band 470 - 500 MHz is also allocated to the mobile service on a primary basis and subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650B Different category of service : in Ecuador, the United States of America and Jamaica, the allocation of the bands 470 - 512 MHz and 614 - 806 MHz to the fixed and mobile services is on a primary basis (see No. 3432/141), subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650BA Different category of service : in Mexico and Venezuela, the allocation of the band 470 - 512 MHz to the fixed and mobile services is on a primary basis (see No. 3432/141), subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650C Additional allocation : in China, the band 470 - 485 MHz is also allocated to the space research (Space-to-Earth) and the space operation (Space-to-Earth) services on a primary basis subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650CA Alternative allocation : in Singapore, the band 470 - 585 MHz is allocated to the broadcasting service on a primary basis.
- ADD 3650D Different category of service : in Iran, the allocation of the band 470 - 585 MHz to the fixed and mobile services is on a secondary basis (see No. 3431/140).
- ADD 3650E Additional allocation : in Costa Rica, Ecuador, the United States of America, Jamaica and Venezuela, the band 512 - 608 MHz is also allocated to the fixed and mobile services on a primary basis subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3650F Additional allocation : in India, the band 549.75 - 550.25 MHz is also allocated to the space operation service (Space-to-Earth) on a secondary basis.
- MOD 3651/325 Additional allocation : in the United Kingdom, the band 590 - 598 MHz is also allocated to the aeronautical radionavigation service on a primary basis.
- ADD 3651A Additional allocation : in the United Kingdom, the following bands are also allocated to the aeronautical radionavigation service on a primary basis: 582 - 590 MHz until 31 December 1987; 598 - 606 MHz until 31 December 1994.
- All new assignments in these bands are subject to the agreement of the Administrations of the following countries: Belgium, France, Ireland, Luxembourg and the Netherlands.
- SUP 3652/327

- MOD 3653/328 Additional allocation : in Belgium, the band 582 - 606 MHz is also allocated to the radionavigation service on a primary basis until 31 December 1984.
- ADD 3653A Additional allocation : in France, Italy and Oman, the band 582 - 606 MHz is also allocated to the radionavigation service on a primary basis until 1 January 1990.
- ADD 3653B Additional allocation : in Denmark, the band 590 - 598 MHz is also allocated to the aeronautical radionavigation service on a primary basis until 1 January 1995.
- MOD 3654/329 Additional allocation : in Egypt (A.R.) and Israel, the band 582 - 790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.
- SUP 3655/329A
- SUP 3656/330
- SUP 3656.1/330.1
- MOD 3657/330A Additional allocation : in the African Broadcasting Area (see No. 3422A), the band 606 - 614 MHz is also allocated to the radio-astronomy service on a permitted basis.
- ADD 3657A Additional allocation : in New Zealand, the band 610 - 620 MHz is also allocated to the amateur service on a secondary basis.
- ADD 3657B Different category of service : in Costa Rica, the allocation of the band 614 - 806 MHz to the fixed service is on a primary basis (see 3432/141), subject to agreement obtained under the procedure set forth in Article N13A.
- SUP 3658/330B
- MOD 3659/331 Additional allocation : in Bulgaria, Hungary, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the U.S.S.R., the band 645 - 960 MHz is also allocated to the aeronautical radio-navigation service on a secondary basis.
- MOD 3660/332 In Regions 1 and 3, except in the African Broadcasting Area (see No. 3422A) and in Thailand, the band 608 - 614 MHz is also allocated to the radio astronomy service on a secondary basis. In making assignments to stations of other services to which the band is allocated, Administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 3280/116 and 3281/116A and Article N33A).
- ADD 3660A Additional allocation : in China, the band 606 - 614 MHz is also allocated to the radio astronomy service on a primary basis.
- NOC 3661/332A

- ADD 3661A Alternative allocation : in Italy, the band 790 - 838 MHz is allocated to the broadcasting service on a primary basis.
- MOD 3662/333 In Region 1, stations of the fixed service using tropospheric scatter may operate in the band 790 - 960 MHz subject to agreement obtained under the procedure set forth in Article N. 13A. Such operations in the band 790 - 862 MHz shall be on a basis secondary to those of the broadcasting service.
- ADD 3662A Alternative allocation : in France, the band 790 - 830 MHz is allocated to the broadcasting service on a primary basis.
- ADD 3662B Additional allocation : in the Federal Republic of Germany, Denmark, Norway, the Netherlands and Sweden, the band 790 - 862 MHz is also allocated to the mobile, except aeronautical mobile service on a primary basis and subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3662C Additional allocation : in Regions 2 and 3, the band 806 - 890 MHz is also allocated to the mobile satellite, except aeronautical mobile satellite, service on a primary basis. The operation of satellite systems in this band is limited to national use and subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3662D Additional allocation : in France, the band 830 - 862 MHz is also allocated to the mobile, except aeronautical mobile, service on a primary basis and subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3662E Stations of the broadcasting service shall be operated only in the African Broadcasting Area (see No. 3422A) excluding Algeria, Egypt, Lybia and Morocco. Such operations shall be in accordance with the decisions in the Final Acts of the African VHF/UHF Broadcasting Conference, Geneva 1963.
- ADD 3662F Additional allocation : in the Federal Republic of Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Norway, the Netherlands, Sweden, Switzerland and Yugoslavia, the band 862 - 960 MHz is also allocated to the aeronautical mobile service on a primary basis. The operation of aeronautical and aircraft stations in this band shall be limited to the few channels required in a public radio-telephone system and shall be subject to agreement obtained under the procedure set forth in Article N13A.
- ADD 3662G Additional allocation : in Saudi Arabia, the band 862 - 960 MHz is also allocated to the broadcasting service on a primary basis.
- SUP 3663/334
- SUP 3664/335
- SUP 3665/336
- SUP 3666/337

SUP 3667/338

SUP 3668/339

SUP 3669/339A

ADD 3669A

Different category of service : in the United States of America, the allocation of the band 890 - 942 MHz to the radiolocation service is on a primary basis and subject to agreement obtained under the procedure set forth in Article N13A.

ADD 3669B

Different category of service : in Australia, the allocation of the band 890 - 942 MHz to the radiolocation service is on a primary basis.

MOD 3670/340

In Region 2, the band 902 - 928 MHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 915 MHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A.

ADD 3670A

Different category of service : in the United States of America, the allocation of the bands 942 - 947 MHz and 952 - 960 MHz to the mobile service is on a primary basis and subject to agreement obtained under the procedure set forth in Article N13A.

ADD 3670B

Additional allocation : in Region 3, the band 942 - 960 MHz is also allocated to the mobile satellite, except aeronautical mobile satellite, service on a primary basis. The operation of satellite systems in this band is limited to national use and subject to agreement obtained under the procedure set forth in Article N13A.

INTERNATIONAL TELECOMMUNICATION UNION
WORLD ADMINISTRATIVE
RADIO CONFERENCE
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COMMITTEE 2

DRAFT

REPORT OF COMMITTEE 2 TO THE PLENARY MEETING

Credentials

1. Terms of reference of the Committee

The Committee's terms of reference are contained in Document No. 2.

2. Meetings

Committee 2 held

The Working Group established by the Committee with the task of examining, pursuant to the provisions of the Convention, the credentials deposited at the Conference, met on

The Chairman and Vice-Chairman of the Committee and the delegates of the Algerian Democratic and Popular Republic, the Federal Republic of Germany, the Republic of Colombia, the Hungarian People's Republic and the Thailand participated in the meetings of the Working Group.

3. Conclusions

The Committee's conclusions, contained in annex, are submitted to the Plenary Meeting for adoption.

4. Committee 2 took note of paragraph 3 in the first report of Working Group 2A, concerning the credentials of the delegation of Democratic Kampuchea (see Document No. 264) 7

5. Final remarks

The Committee recommends to the Plenary Meeting that the Chairman and the Vice-Chairman of Committee 2 should be empowered to examine any credentials received after the date of this report and to convey their findings to the Plenary Meeting.

C.J. MARTINEZ
Chairman of Committee 2



A N N E X

CONCLUSIONS OF COMMITTEE 2

SUBMITTED TO THE PLENARY MEETING FOR APPROVAL

1. Credentials deposited

1.1 Credentials found to be in order

- 1.1.1 Credentials from countries which have ratified (or have acceded to) the Convention or to which the provisions of No. 97 of the Convention do not apply.

Afghanistan (Democratic Republic of)
Albania (Socialist People's Republic of)
Algeria (Algerian Democratic and Popular Republic)
Germany (Federal Republic of)
Angola (People's Republic of)
Saudi Arabia (Kingdom of)
Argentine Republic
Australia
Austria
Bangladesh (People's Republic of)
Belgium
Byelorussian Soviet Socialist Republic
Botswana (Republic of)
Brazil (Federative Republic of)
Bulgaria (People's Republic of)
Burundi (Republic of)
Cameroon (United Republic of)
Canada
Cape Verde (Republic of)
Chile
China (People's Republic of)
Cyprus (Republic of)
Vatican City State
Colombia (Republic of)
Congo (People's Republic of the)
Korea (Republic of)
Costa Rica
Ivory Coast (Republic of the)
Cuba
Denmark
Egypt (Arab Republic of)
El Salvador (Republic of)
Ecuador
Spain
United States of America
Ethiopia
Fiji
Finland
France
Gabon Republic
Gambia (Republic of the)
Ghana

Greece
Guinea (People's Revolutionary Republic of)
Guinea-Bissau (Republic of)
Guyana
Haiti (Republic of)
Upper Volta (Republic of)
Honduras (Republic of)
Hungarian People's Republic
India (Republic of)
Indonesia (Republic of)
Iran (Islamic Republic of)
Iraq (Republic of)
Ireland
Iceland
Israel (State of)
Italy
Jamaica
Japan
Jordan (Hashemite Kingdom of)
Kenya (Republic of)
Kuwait (State of)
Lesotho (Kingdom of)
Lebanon
Libya (Socialist People's Libyan Arab Jamahiriya)
Liechtenstein (Principality of)
Luxembourg
Madagascar (Democratic Republic of)
Malaysia
Malawi
Mali (Republic of)
Malta (Republic of)
Morocco (Kingdom of)
Mexico
Monaco
Mongolian People's Republic
Mozambique (People's Republic of)
Nepal
Niger (Republic of the)
Nigeria (Federal Republic of)
Norway
New-Zealand
Oman (Sultanate of)
Uganda (Republic of)
Pakistan (Islamic Republic of)
Papua New Guinea
Paraguay (Republic of)
Netherlands (Kingdom of the)
Philippines (Republic of the)
Poland (People's Republic of)
Portugal
Qatar (State of)
Syrian Arab Republic
German Democratic Republic
Democratic People's Republic of Korea
Ukrainian Soviet Socialist Republic
Roumania (Socialist Republic of)

United Kingdom of Great Britain and Northern Ireland
Rwanda (Republic of)
San Marino (Republic of)
Senegal (Republic of the)
Singapore (Republic of)
Somali Democratic Republic
Sweden
Switzerland (Confederation of)
Swaziland (Kingdom of)
Tanzania (United Republic of)
Czechoslovak Socialist Republic
Thailand
Togolese Republic
Tonga (Kingdom of)
Tunisia
Turkey
Union of Soviet Socialist Republics
Uruguay (Oriental Republic of)
Venezuela (Republic of)
Yemen Arab Republic
Yemen (People's Democratic Republic of)
Yugoslavia (Socialist Federal Republic of)
Zambia (Republic of)

Conclusion : the delegations of these countries are entitled to
vote and to sign the Final Acts.

1.1.2 Countries which have not ratified (or which have not acceded to)
the Convention or to which the provisions of No. 97 of the Convention
apply (see Document No. 145).

Benin (People's Republic of)
Guatemala (Republic of)
[Democratic Kampuchea] *
Liberia (Republic of)
Mauritania (Islamic Republic of)
Nicaragua
Sierra Leone
Sudan (Democratic Republic of the)
Chad (Republic of the)
Zaire (Republic of)

Conclusion : the delegations of these countries are not entitled
to vote; they are entitled to sign the Final Acts.

* See page 1, paragraph 4.

2. Provisional credentials deposited

The provisional credentials deposited by the delegations of the following countries were found to be in order.

2.1 Credentials from countries which have ratified (or have acceded to) the Convention or to which the provisions of No. 97 of the Convention do not apply.

Conclusion : The delegations of these countries are entitled to vote; they are not entitled to sign the Final Acts.

2.2 Credentials from countries which have not ratified (or which have not acceded to) the Convention or to which the provisions of No. 97 of the Convention apply (see Document No. 145)

Conclusion : The delegations of these countries are not entitled to vote; they are not entitled to sign the Final Acts.

3. Delegations which have not deposited credentials

Conclusion : The delegations of these countries are not entitled to vote; they are not entitled to sign the Final Acts.

INTERNATIONAL TELECOMMUNICATION UNION

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No DT/214 has not been published
(E/F/S)

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/215-E

13 November 1979

Original : English

WORKING GROUP 5BB

DRAFT

FIFTH REPORT OF WORKING GROUP 5BB TO COMMITTEE 5

1. Frequency bands 13 360 - 14 990 kHz

1.1 All proposals concerning these frequency bands have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3499A, ADD 3512A, MOD 3513/217, ADD 3513A, MOD 3514/218 which appear in Annex 1.

1.2 The delegation of USSR, opposing the allocation for the broadcasting service of 200 kHz in the band 13 410 - 14 00 kHz, reserves its right to return to this question in Committee 5.

1.3 The delegations of Chile, Mexico, Kenya, Senegal and Tanzania have also reserved the right to come back in Committee 5 on the question of the allocation to the broadcasting service, either on the question of allocation itself or on the location of the band chosen.

2. Frequency bands 15 100 - 17 410 kHz

2.1 All proposals concerning these frequencies have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3515A, ADD 3515B and ADD 3515C which appear in Annex 2.

2.2 The delegation of Japan reserved the right to revert to the question of the extension of the band allocated to the broadcasting and maritime services until the procedures of transfer are known.

2.3 The delegation of USSR expressed a similar reservation on the same subject.

P. BARNES
Chairman of Working Group 5BB

Annexes : 2



A N N E X 1

kHz
13 360 - 14 990

Region 1	Region 2	Region 3
13 360 - 13 410	FIXED RADIO ASTRONOMY 3512A	
13 410 - 13 600	FIXED Mobile except aeronautical mobile (R) 3513/217	
13 600 - 13 800	BROADCASTING 3513A	
13 800 - 14 000	FIXED Mobile except aeronautical mobile (R)	
14 000 - 14 250	AMATEUR AMATEUR-SATELLITE 3499A	
14 250 - 14 350	AMATEUR 3499A 3514/218	
14 350 - 14 990	FIXED Mobile except aeronautical mobile (R)	

- ADD 3499A For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz and 144 MHz in the event of natural disasters, see Resolution
- ADD 3512A In making assignments to stations of other services to which the band 13 360 - 13 410 kHz is allocated, Administrations are urged to take all practical steps to protect the radio astronomy service from harmful interference. Emissions from space and airborne stations can be particularly serious sources of interference to the radio astronomy service. (See Nos. 3280/116 and 3281/116A and Article N33A.)
- MOD 3513/217 "The band 13 553 - 13 567 kHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 13 560 kHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A*)."
- ADD 3513A The band 13 600 - 13 800 kHz is allocated to the fixed service on a primary basis subject to the procedures described in Resolution No. The use of these bands by the broadcasting service will be subject to provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service. See Recommendation No. (Document No. 422). Within these bands, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution No. ..., of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations and recorded in the Master Register and which may be affected by broadcasting operations on that channel.
- MOD 3514/218 Additional allocation : in Afghanistan, Ivory Coast, Iran, and USSR, the band 14 250 - 14 350 kHz is also allocated to the fixed service on a primary basis.

A N N E X 2

kHz

15 100 - 17 410

Region 1	Region 2	Region 3
15 100 - 15 600	BROADCASTING	
	3515A	
15 600 - <u>16 310</u>	FIXED	
	3515B	
<u>16 310</u> - 17 410*	MARITIME MOBILE	
	3515C	

* For the band 16 360 - 17 360 kHz, see Document No. 403.

ADD 3515A

The band 15 450 - 15 600 kHz is allocated to the fixed service on a primary basis subject to the procedures described in Resolution No. 7. The use of these bands by the broadcasting service will be subject to provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service. See Recommendation No. (Document No. 422). Within these bands, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution No. 7, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations and recorded in the Master Register and which may be affected by broadcasting operations on that channel.

ADD 3515B

In Region 3, the stations of services to which the band 15 995 - 16 005 kHz is allocated may transmit standard frequencies and time signals.

ADD 3515C

The bands 16 310 - 16 460 kHz and 17 360 - 17 410 kHz are allocated to the fixed service on a primary basis subject to the procedures described in Resolution No. 7. The use of this band by the maritime mobile service will be subject to provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in Resolution No. 7, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations and recorded in the Master Register and which may be affected by maritime mobile operations on that frequency.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/216-E

14 November 1979

Original : English

WORKING GROUP 5C

Note from the Chairman of Working Group 5C

During its 19th meeting, during which frequency allocations in the bands 470 - 960 MHz were examined, the question was raised on the possibility of allowing a small frequency band to be used by low-power stations for personal communications over short distances. To this end the Working Group decided to set up a small drafting group to discuss and draft a suitable text.

The following draft Recommendation is hereby submitted to the Working Group for consideration.

K. OLMS

Chairman of Working Group 5C

DRAFT RECOMMENDATION No. ...

Relating to UHF low-power stations for personal
communications over short distances

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that a very high number of low-power stations already exists mainly in the 27 MHz band;
- b) that the 27 MHz band, as a HF band with long-range propagation characteristics, is not optimal for the use in short-distance communications;
- c) that there is a growing demand in several countries for personal communications over short distances;
- d) that it is highly desirable to harmonize at an early stage, preferably worldwide, the selection of a more suitable frequency band in the UHF spectrum and of basic technical characteristics of low-power stations;

recommends

- 1. that Administrations which contemplate the possibility of using a small portion of the band 862 - 960 MHz for personal radiocommunications over short distances by means of low-power stations should select and use as far as possible the same frequency band of about 2 MHz for this purpose;



2. that Administrations should study basic technical characteristics of low-power stations (i.e. channel spacing, type of modulation, output power, spurious emission suppression) with a view to agreeing, as far as possible, preferably worldwide, upon common characteristics;

3. that Administrations should make proposals to the next World Administrative Radio Conference for Mobile Services;

invites

the next World Administrative Radio Conference for Mobile Services to make appropriate decisions on this subject.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/217-E

14 November 1979

Original : English

WORKING GROUP 5C

DRAFT

FOURTEENTH REPORT OF WORKING GROUP 5C TO COMMITTEE 5

Subject : Frequency bands 87 - 108 MHz

1. Working Group 5C, after continued consideration of the band 100 - 108 MHz, agreed to present Annex 1 to this Report to Committee 5 for adoption. This Annex shows a revised and corrected Table of frequency allocations between 87 and 108 MHz and associated footnotes. It replaces Annex 1 of Document No. 409.

Denmark reserved its position on footnote 3563/264.

2. The related Resolution B is presented as Annex 2 to this Report, for adoption by Committee 5. This Resolution concerns the convening of a Planning Conference for Sound Broadcasting in the band 87.5 - 108 MHz.

Jordan reserved its position on this Resolution.

3. A Recommendation relating to the compatibility between the broadcasting service and the aeronautical radionavigation service is presented as Annex 3, for adoption by Committee 5.

K. OLMS
Chairman of Working Group 5C

Annexes : 3



A N N E X 1

MHz
87 - 108

Region 1	Region 2	Region 3
		87 - 100
87.5 - 100		BROADCASTING
BROADCASTING	88 - 100	FIXED
3563/264 3564/265	BROADCASTING	MOBILE
		3566A 3566/267
100 - 108	BROADCASTING	
	3566/267 3564/265 3571/272 3566A 3569A 3570A 3570B 3570C 3570D	

SUP 3554/255

SUP 3555/256

SUP 3557/258

MOD 3566/267

Alternative allocation : in New Zealand, the bands
87 - 88 MHz and 100 - 108 MHz are allocated to the land mobile service on a
primary basis.

ADD 3566A

Different category of service : in New Zealand, the
allocation of the band 100 - 108 MHz to the broadcasting service is on a
secondary basis (see No. 3431/140).

MOD 3563/264

Additional allocation : in the Federal Republic of Germany,
France, Ireland, Italy, Liechtenstein, the United Kingdom, Switzerland and
Yemen (P.D.R. of) the band 87.5 - 88 MHz is also allocated to the land mobile
service on a permitted basis.

SUP 3567/268

MOD 3571/272

Additional allocation : in China, the Republic of Korea,
the Philippines and Singapore, the band 100 - 108 MHz is also allocated to the
fixed and mobile services on a permitted basis.

- MOD 3564/265 Additional allocation : in the United Kingdom the band 97.6 - 102.1 MHz is also allocated to the land mobile service on a permitted basis, until 31 December 1989. The use of this band by the land mobile service is restricted to those stations in operation on 1 January 1980. The withdrawal of land mobile stations will be arranged in consultation with the Administrations concerned and affected.
- ADD 3569A In Region 1 existing systems in the fixed and mobile except aeronautical mobile (R) services may continue to use the band 100 - 104 MHz on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution B or 1 January 1985 whichever is the earlier date.
- ADD 3570B Additional allocation : in Austria, Bulgaria, Hungary, Israel, Kenya, Mongolia, Poland, Roumania, Syria, the German Democratic Republic, the United Kingdom, Somalia, Czechoslovakia and the USSR, the band 104 - 108 MHz is also allocated to the mobile except aeronautical mobile (R) service on a permitted basis until 31 December 1995 and, thereafter, on a secondary basis.
- ADD 3570C Additional allocation : in France, Italy, Sweden, Turkey, and Yugoslavia, the band 104 - 108 MHz is also allocated to the mobile, except aeronautical mobile (R) service on a permitted basis until 31 December 1995.
- ADD 3570A Broadcasting stations in the band 100 - 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 - 108 MHz to be drawn up by a regional broadcasting conference (see Resolution B). Prior to the date of entry into force of this agreement, broadcasting stations may be introduced by agreement between Administrations concerned and affected, on the understanding that such an operation shall in no case prejudice the establishment of the plan.
- ADD 3570D Additional allocation : in Finland and Yugoslavia, the band 104 - 108 MHz is also allocated to the fixed service on a permitted basis, until 31 December 1995. The effective radiated power of any station shall not exceed 25 watts.

A N N E X 2

RESOLUTION B

Concerning the Convening of a Planning Conference
for Sound Broadcasting in the Band 87.5 - 108 MHz
for Region 1 and Certain Countries Concerned in Region 3

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) the extension of the primary allocation to the broadcasting service in Region 1 from 87.5 - 100 MHz to 87.5 - 108 MHz;
- b) that in Region 1 the band 100 - 108 MHz is at present allocated to the mobile except aeronautical mobile (R) service and in some countries also to the fixed service;
- c) that several countries in Region 3 with land boundaries adjoining Region 1 also use this band for the broadcasting service;
- d) that for those countries in Region 1 which use or intend to use the band 87.5 - 100 MHz for frequency modulated sound broadcasting there is a need to establish a new sound broadcasting plan for the whole of the band 87.5 - 108 MHz;
- e) that for the other countries in Region 1 there is a need to establish a sound broadcasting plan for the band 100 - 108 MHz;
- f) that this new plan should in no way affect existing or planned assignments to television stations in the band 87.5 - 100 MHz made in accordance with the Regional Agreement, Stockholm, 1961;
- g) the requirement to introduce sound broadcasting stations in the band 100 - 108 MHz in accordance with this plan at the earliest possible date;
- h) the desirability of modifying the relevant parts of existing agreements dealing with sound broadcasting in the band 87.5 - 104 MHz to take into account the latest technical standards;
- i) that radio equipment used by aircraft for automatic landing purposes, which operate in the band 108 - 112 MHz, can be subject to serious interference from nearby broadcasting stations operating in the band 87.5 - 108 MHz if the frequencies of the latter stations are not selected with extreme care, and that such interference can put human life at risk; 7

resolves

- 1. that a regional conference shall be convened before 31 December 1983 to draw up an agreement for Region 1 and the countries concerned in Region 3, and an associated plan for sound broadcasting in the band 87.5 - 108 MHz for Region 1 and Afghanistan, Iran and Pakistan;

2. that this conference shall take place in two sessions :

- the first session will establish the technical bases for the preparation of the plan, including the establishment of mutual criteria for sharing between sound broadcasting and other services, including television broadcasting, operating within the band 87.5 - 108 MHz;

- the second session, preferably to be separated from the first session by a period of more than six months, but not more than 12 months, will draw up the agreement and associated plan;

3. that countries concerned in Region 3 must be given the opportunity to participate in this conference;

requests

the CCIR as a matter of urgency to study the technical bases for consideration in planning, and for the determination of the protection criteria between sound broadcasting stations and television broadcasting stations and between sound broadcasting stations and stations in the fixed and mobile except aeronautical mobile (R) services;

invites

the Administrative Council to fix the dates and agenda for this conference;

/ calls upon Administrations

to ensure that such problems of compatibility with radionavigation stations are taken into account when planning the use of the band 87.5 - 108 MHz, and, to this end, to include in their delegations to the conference, experts in aeronautical radionavigation.]

A N N E X 3

RECOMMENDATION NO.

Relating to the Compatibility between the
Broadcasting Service in the Band 100 - 108 MHz and the
Aeronautical Radionavigation Service in the Band 108 - 117.975 MHz

The Administrative Radio Conference, Geneva, 1979,

considering

- a) the increasing use of VHF broadcasting, with relatively high powers, in the band 100 - 108 MHz;
- b) that the band 108 - 117.975 MHz is used on a world-wide basis for internationally agreed aeronautical radionavigation systems;
- c) that the portion of the band 108 - 111.975 MHz is used for Instrument Landing Systems (ILS) which is used by aircraft for automatic landing purposes;
- d) that the portion of the band 111.975 - 117.975 MHz is used for the VHF Omnidirectional Radio Range (VOR) system;
- e) that interference problems between the broadcasting and aeronautical services have occurred in parts of Regions 2 and 3;

realizing

- a) that intermodulation products from combinations of broadcasting transmissions may fall in the aeronautical radionavigation band 108 - 117.975 MHz;
- b) that the intermodulation products may be formed in the radionavigation receiver;
- c) that high power broadcasting transmissions could result in blocking of the radionavigation receivers;
- d) that the emissions of the aeronautical radionavigation service may cause interference to the broadcasting service;

requests the CCIR

- a) to study urgently the problem of interference between the two services;
- b) to establish suitable criteria for the protection of both services;

invites

the International Civil Aviation Organization and other appropriate international organizations to study urgently the problem and communicate the results of these studies to the CCIR;

recommends

that Administrations, in assigning frequencies to the broadcasting service in the band 100 - 108 MHz, and to the aeronautical radionavigation service in the band 108 - 117.975 MHz, should take note of the potential interference problems that could exist and apply appropriate protective measures.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/218-E

15 November 1979

Original: English,
French,
Spanish

LIST OF DOCUMENTS (551 - 600)*)

No.	Origin	Title	Destination
551	E	Draft resolution concerning the concentration in the radio spectrum of systems using tropospheric scatter	C.5
552	WG 6A	Fourth report of Working Group 6A	C.6
553	WG 5BB	Note to the Chairman of Committee 6	C.6
554	WG 4 ad hoc 1	Report by Working Group 4 ad hoc 1 to Committee 4	C.4
555	CME	Resolution relating to the Transfer of technology	C.7
556	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
557	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
558	C.4	Summary record of the sixth meeting of Committee 4 (Technical regulations)	C.4
559	C.6	Summary record of the eighth meeting of Committee 6 (Regulatory procedures)	C.6
560	WG 6A3	Report from Working Group 6A3 to Working Group 6A	WG 6A
561	C.9	B.9	PL
562	C.9	B.10	PL
563	IARU	Use of the band 435 - 438 MHz by the amateur-satellite service	C.5
564	C.4	Eighth report of Committee 4	PL
565	C.4	Eighth series of texts from Committee 4 to the Editorial Committee	C.9

- *) For Documents Nos. 1 to 100, see Document No. 100 + Corr. 1
 For Documents Nos. 101 to 150, see Document No. DT/15
 For Documents Nos. 151 to 200, see Document No. DT/39
 For Documents Nos. 201 to 250, see Document No. DT/70
 For Documents Nos. 251 to 300, see Document No. DT/111
 For Documents Nos. 301 to 350, see Document No. DT/146
 For Documents Nos. 351 to 400, see Document No. DT/159
 For Documents Nos. 401 to 450, see Document No. DT/174
 For Documents Nos. 451 to 500, see Document No. DT/200
 For Documents Nos. 501 to 550, see Document No. DT/208



No.	Origin	Title	Destination
566	THA	Request for allocation of additional call sign series	C.7
567	C.4	Ninth report of Committee 4	PL
568 +Corr.1	C.4	Ninth series of texts from Committee 4 to the Editorial Committee	C.9
569	C.9	B.11	PL
570	C.4	Tenth report of Committee 4	PL
571	C.4	Tenth series of texts from Committee 4 to the Editorial Committee	C.9
572	LBY	Request for the allocation of additional call sign series	C.7
573	WG 6A	Note from the Chairman of Committee 6 to the Chairman of Committee 7	C.7
574	C.7	Second report of Committee 7 (General administration)	PL
575	C.7	Second series of texts from Committee 7 to the Editorial Committee	C.9
576	SYR	Draft resolution concerning HF broadcasting	C.4, 6
577	GRC	MF band requirements for the maritime mobile service	C.5
578	WG 5A	Ninth report of Working Group 5A to Committee 5	C.5
579	WG 6A	Note from the Chairman of Committee 6 to the Chairman of Committee 4	C.4
580	WG 4B	Note from the Chairman of Working Group 4B to the Chairman of Committee 4	C.4
581	C.3	Summary record of the fourth meeting of Committee 3 (Budget control)	C.3
582	WG 5E	Eighth and last report from Working Group 5E to Committee 5	C.5
583	WG 5E	Eighth and last report from Working Group 5E to Committee 5	C.5
584 (Rev.1)	Reg.2 ad hoc g	Report of Region 2 ad hoc Group	WG 5D
585	WG 5D	Note from the Chairman of Working Group 5D to the Chairman of Working Group 4B	WG 4B
586	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 4	C.4
587	AFG	Request for allocation of additional call signs	C.7
588	NOR	Resolution relating to Automated VHF/UHF Communications Systems Including Public Correspondence in the Maritime Mobile Service	C.5

No.	Origin	Title	Destination
589	BOT	Proposals	C.5
590	WG 5D	Ninth report of Working Group 5D to Committee 5 (Allocations)	C.5
591	WG 5D	Tenth report of Working Group 5D to Committee 5 (Allocations)	C.5
592	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5
593	WG 5D	Eleventh report of Working Group 5D to Committee 5 (Allocations)	C.5
594	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
595	WG 5D	Twelfth report of Working Group 5D to Committee 5 (Allocations)	C.5
596 + Add.1 Add.2 Corr.1	WG 6A3	Report by Working Group 6A3 to Working Group 6A	WG 6A
597	WG 5D	Thirteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
598	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
599	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C.5
600	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 5 and the Chairman of Committee 6	C.5, 6

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/219-E

15 November 1979

Original : Spanish

WORKING GROUP 5BA

DRAFT

SIXTH REPORT OF WORKING GROUP 5BA
TO COMMITTEE 5

1. Frequency bands 130 - 285 kHz (Region 1)

1.1 After considering all proposals relating to the above bands and also the reports of Sub-Working Groups 5B1 (see Document No. 237) and 5BA1 (see Document No. 445) which had been set up to study these matters, the Working Group was unable to reach agreement on the allocations to be made in the bands 130 - 285 kHz in Region 1.

1.2 It was therefore decided to refer the question to Committee 5 for decision. The proposals on which the Working Group was not able to formulate a Recommendation are shown in square brackets in the Table annexed hereto.

1.3 The Working Group, however, provisionally adopted footnotes MOD 3461/167, MOD 3465/172, MOD 3466/173, ADD 3468A, MOD 3469/176, ADD 3469A and / MOD 3470/177_7. These footnotes may require further amendment in the light of the decisions adopted on allocations in Committee 5. It is also recommended that footnotes 3467/174 and 3468/175 should be deleted (see the Annex).

L. COOK
Chairman of Working Group 5BA

Annex : 1



A N N E X

kHz
130 - $\overline{148.5}$

Region 1	Region 2	Region 3
<p>130 - $\overline{148.5}$</p> <p>MARITIME MOBILE 3465/172</p> <p>/FIXED/</p> <p>3461/167 3466/173</p>	<p>For the allocations in Regions 2 and 3, see Document No. 388.</p>	
<p>$\overline{148.5}$ - 160</p> <p>BROADCASTING</p> <p>3468A</p>		
<p>160 - 255</p> <p>BROADCASTING</p> <p>3468A 3469/176 3469A</p>		
<p>255 - $\overline{283.5}$</p> <p>BROADCASTING</p> <p>$\overline{1}$/AERONAUTICAL RADIONAVIGATION/$\overline{1}$</p> <p>3468A 3469/176 3469A 3470/177</p>		

SUP 3457/163

MOD 3461/167

Only classes A1 or F1, A4 or F4 emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 and $\overline{148.5}$ kHz and for stations of the maritime mobile service in the bands allocated to this service between 110 and $\overline{148.5}$ kHz. Exceptionally, class A7J emissions are also authorized in the bands between 110 and $\overline{148.5}$ kHz for stations of the maritime mobile service.

MOD 3465/172

The use of the band 130 - $\overline{148.5}$ kHz is limited to ship stations. However the bands between 140 - 146 kHz may also be used for coast stations on a permitted basis.

MOD 3466/173

Additional allocation : in Bulgaria, Hungary, Poland, Roumania, Czechoslovakia and the USSR, the band 130 - $\overline{148.5}$ kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have equal right to operate.

SUP 3467/174

SUP 3468/175

- ADD 3468A The assignment and use of frequencies in the band 148.5 - 285 kHz shall be determined only within the framework of a plan (see Resolution No.).
- MOD 3469/176 Alternative allocation : In Rwanda, South Africa and Zaire, the band 160 - 200 kHz is allocated to the fixed service on a primary basis.
- ADD 3469A Alternative allocation : In Angola, Botswana, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Sudan, South Africa, Swaziland, Tanzania and Zimbabwe, the band 200 - 283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. In Burundi, Rwanda and Zaire, the band 200 - 283.5 kHz is allocated to the aeronautical mobile and aeronautical radionavigation services on a primary basis.
- MOD 3470/177 In the western part of the European Broadcasting Area, the band 255 - 283.5 kHz is used solely by the aeronautical radionavigation service except that in the United Kingdom frequencies are also assigned, by special agreement, to stations of the maritime mobile service.
-

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/220-E

14 November 1979

Original : French

COMMITTEE 6

Note by the Chairman of Committee 6

ESTABLISHMENT OF WORKING GROUPS, AD HOC GROUPS AND SUB-GROUPS -
STATUS OF WORK ON 14 NOVEMBER 1979

COMMITTEE 6 - Chairman : Mr. M. JOACHIM, Vice-Chairman : Mr. E.J. WILKINSON

- * Committee 6/ad hoc 1 - Mr. P.V. LARSEN - Resolution on the publication of CCIR Recommendations
- Committee 6/ad hoc 2 - Mr. E.J. WILKINSON - Resolution on use of the geostationary satellite orbit
- WORKING GROUP 6A - Mr. J.K. BJÖRNSJÖ - Articles N11, N12, N13 and Resolutions
- Working Group 6A/ad hoc 1 - Mr. N. BOUHIRED - Revision of Article N12 and Resolutions
- * Working Group 6A/ad hoc 2 - Mr. Y. KABA - Resolution on assistance to the developing countries in frequency management
- Drafting Group 6A1 - Mr. J.K. BJÖRNSJÖ
- Sub-Working Group 6A2 - Mr. J.A. LEWIS - Existing Resolutions and Recommendations
Resolutions on assistance in the use of computers
- Sub-Working Group 6A3 - Mr. A.M. CORRADO - Appendices 1, 1A and 1B
- Sub-Working Group 6A4 - Mr. N. BOUHIRED - General principles for the revision of Article N12
- * WORKING GROUP 6B - Mrs. L. GARCIA de DAVIS - Articles N9, N10, N18, N19, N20
Resolutions and Recommendations
- * Drafting Group - Mr. J.A. LEWIS
- * Sub-Working Group 6B1 - Mr. R. BINZ - Consideration of Nos. 3953, 3953A, 3960A and 3960A.1
- * Sub-Working Group 6B2 - Mr. A. M. CORRADO - Appendices 6, 7 and 8
- DRAFTING GROUP 6R - Mr. D. GARIDOU
Mr. R.J. DUNN
Mr. R. FERNANDEZ CABRERA

* These groups have completed their work.

M. JOACHIM
Chairman of Committee 6



WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/221-E

16 November 1979

Original : French

COMMITTEE 3

DRAFT

FINAL REPORT OF THE BUDGET CONTROL COMMITTEE

TO THE PLENARY MEETING

The Budget Control Committee held meetings during the Conference. Under the provisions of Chapter XI, Article 77, No. 442, of the International Telecommunication Convention, Malaga-Torremolinos, 1973, the Committee's terms of reference were :

- a) to determine the organization and the facilities available to the delegates and
- b) to examine and approve the accounts for expenditure incurred throughout the duration of the Conference.

1. Determination of the organization and facilities available to the delegates

No delegation having presented any criticisms or comments on this matter, the Committee found that the organization and facilities available to delegates gave full satisfaction.

2. Budget of the Conference

The Budget Control Committee took note of the Conference budget approved by the Administrative Council at its 33rd (1978) and 34th (1979) sessions, i.e.

5,145,000	Swiss francs for the preparatory work of the Conference itself and
240,000	Swiss francs for finalization work, or a total of

5,385,000 Swiss francs.

The Committee also noted that the Conference budget did not comprise expenditure relating to common services. Under a decision taken by the Administrative Council in 1976, such expenditure is now charged to a special section of the ordinary budget. The portion relating to the WARC in this section is estimated at 3,026,600 Swiss francs.

The Committee further noted that in accordance with the provisions of Administrative Council Resolution No. 647, the Conference budget (5,385,000 Swiss francs) had been adjusted to take into account the changes introduced in the common system of



the United Nations and the specialized agencies in Geneva with regard to the salaries and allowances of short-term staff. These adjustments increased the total budget of the WARC to 5,474,000 Swiss francs, i.e. by 89,000 Swiss francs.

3. Position of Conference expenditure

In accordance with the provisions of the Convention, the Budget Control Committee has to submit to the Plenary Meeting a report indicating as exactly as possible the estimated amount of Conference expenditure.

Annex 1 accordingly contains a statement showing the budget of the Conference with the estimated breakdown by budget subheads and items, possible transfers of credits and actual expenditure up to November. The statement also shows commitments to expenditure up to that date and estimated expenditure until the close of the Conference.

It will be seen from the statement that the total expenditure is estimated at 5,471,000 Swiss francs, leaving virtually no margin compared with the budget allocation. It should, however, be emphasized that despite the large volume of documentation produced and the many additional interpretation days which had to be included, it will probably be possible not to exceed the budget allocation provided that the Conference ends by the date set by the Administrative Council.

Under the Union's Financial Regulations, the Secretary-General may transfer credits from one item to another within the same budget subhead. Moreover, the Budget Control Committee may authorize transfers of credits from one subhead to another. By virtue of these provisions and on the proposal of the Secretary-General, the Budget Control Committee authorized the transfer of a credit of 60,000 Swiss francs from subhead 2 (expenditure on premises and equipment) to subhead 1 (staff). The reason for this transfer is the Secretary-General's decision to recruit a third team for the reprography service so that the service could work 24 hours per day, thus increasing internal production and reducing the volume of documentation to be run off by printers outside the Union accordingly.

4. Final Acts of the Conference

Under the provisions of Administrative Council Resolution No. 83 (amended) :

"... if a conference ... prints, for its own use, documents of which typographical composition can subsequently be used, in whole or in part, for the printing of the Final Acts, it must bear a percentage of the composition costs and the whole of the printing costs of the said documents;

... the percentage of the composition cost mentioned in a) above
... shall be decided by the plenary meeting of the conference ...".

The texts constituting the Final Acts of the Conference submitted to delegations for signature are produced by the Union workshops. These texts will be used for the production of the Final Acts offered for sale and the subsequent publication of the new Radio Regulations. The Plenary Meeting of the Conference will therefore have to determine the percentages of the composition cost to be borne by the Conference budget and by the Supplementary Publications Budget.

In the light of the decisions adopted by previous conferences and by the Administrative Council on approving the budget of the Conference, the Budget Control Committee proposes the following allocation :

1/3 to be charged to the budget of the Conference and

2/3 to be charged to the Supplementary Publications Budget.

The estimate of expenditure in Annex 1 is based on the above 1/3 - 2/3 allocation.

5. Contributions by recognized private operating agencies and non-exempt international organizations

Under the provisions of Article 16 of the Union's Financial Regulations, the report of the Budget Control Committee to the Plenary Meeting must include a list of

the recognized private operating agencies and the international organizations which are required to contribute to the defrayal of the expenses of the Conference. To this list must be added a list of the international organizations which have been exempted from payment in accordance with No. 548 of the Convention.

The list in question will be found in Annex 2 to this document.

* * *

In accordance with the provisions of No. 445 of the Convention, this report, together with the observations of the Plenary Meeting, will be transmitted to the Secretary-General for submission to the Administrative Council at its next annual session.

* * *

The Plenary Meeting is requested to approve this report.

Z. KUPCZYK
Chairman of Committee 3

Annexes : 2 (Annex 1 will be added later)

A N N E X 2

LIST OF RECOGNIZED PRIVATE OPERATING AGENCIES AND INTERNATIONAL ORGANIZATIONS
PARTICIPATING IN THE WORK OF THE CONFERENCE

Number of
contributory units

A. Recognized private operating agencies

The Marconi International Marine Co., Ltd. 1
2

B. International organizations1. United Nations and specialized agencies

United Nations	*)
United Nations Educational, Scientific and Cultural Organization (UNESCO)	*)
International Civil Aviation Organization (ICAO)	*)
World Meteorological Organization (WMO)	*)
World Health Organization (WHO)	*)
Intergovernmental Maritime Consultative Organization (IMCO)	*)

2. Other international organizations

Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA)	1 2
European Space Agency (ESA)	1 2
Association of State Telecommunication Undertakings of the Andean Sub-Regional Agreement (ASETA)	*)
International Air Transport Association (IATA)	*)
International Association of Lighthouse Authorities (IALA)	1 2
Inter-American Association for Broadcasters (IAAB)	*)
World Association for Christian Communication (WACC)	1 2
North American National Broadcasters' Association (NANBA)	1 2
Intergovernmental Bureau for Informatics (IBI)	1 2
International Chamber of Shipping (ICS)	1 2
International Committee of the Red Cross (ICRC)	*)
International Maritime Radio Association (CIRM)	*)
International Special Committee on Radio Interference (CISPR)	*)
Inter-Union Commission on Frequency Allocations for Radioastronomy and Space Science (IUCAF)	*)
International Electrotechnical Commission (IEC)	*)
International Astronautical Federation (IAF)	*)
International Transport Workers' Federation (ITF)	1 2
Arab Satellite Communications Organization (ARABSAT)	1 2
Ibero American Television Organization (OTI)	*)

	<u>Number of contributory units</u>
Organization of African Unity (OAU)	*)
International Criminal Police Organization (INTERPOL)	*)
International Radio and Television Organization (OIRT)	*)
International Telecommunications Satellite Organization (INTELSAT)	1
International Space Telecommunication Organization (INTERSPUTNIK)	$\frac{1}{2}$
African Postal and Telecommunication Union (APTU)	*)
Arab Telecommunication Union (UAT)	*)
International Astronomical Union (IAU)	*)
Panafrican Telecommunication Union (UPAT)	*)
Asian-Pacific Broadcasting Union (ABU)	*)
Arab States Broadcasting Union (ASBU)	*)
Union of National Radio and Television Organizations of Africa (URTNA)	*)
European Broadcasting Union (EBU)	*)
International Amateur Radio Union (IARU)	*)
International Union of Radio Science (URSI)	*)

*) Exempted from all contributions under Administration Council Resolution No. 574.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/222-E

15 November 1979

Original : English

WORKING GROUP 7 AD HOC 2

DRAFT

REPORT OF WORKING GROUP 7 AD HOC 2 TO COMMITTEE 7

Resolution No. Sat-4

Working Group 7 ad hoc 2 considered all proposals concerning Resolution No. Sat-4 relating to the annexing to the Radio Regulations of the provisions and associated Plan contained in the Final Acts of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977.

Participating in the work of the Group were the delegations of Argentina, Brazil, Canada, Cuba, France, Japan, the United Kingdom and Venezuela and a representative of the IFRB.

[The Working Group unanimously agreed on the texts contained in the Annex to the present report comprising :

- new Article N13B
- footnotes to the titles of Articles N11, N12 and N13
- a new Appendix [.]

M. Yoshio UTSUMA
Chairman of Working Group 7 ad hoc 2

Annex : 1



A N N E X

ADD ARTICLE N13B

ADD Coordination, Notification and Recording of Frequencies
Assignments to Stations of the Broadcasting-Satellite
Service in the Frequency Bands 11.7 - 12.2 GHz (in Regions 2 and 3)
and 11.7 - 12.5 GHz (in Region 1) and to the other Services
to which these Bands are Allocated, so far as their
Relationship to the Broadcasting-Satellite Service
in these Bands is Concerned

ADD 4650B The provisions and associated Plan for the broadcasting-
satellite service in the frequency bands 11.7 - 12.5 GHz (in Regions 2 and 3)
and 11.7 - 12.5 GHz (in Region 1) adopted by the World Broadcasting-Satellite
Administrative Radio Conference, Geneva, 1977, as contained in Appendix [...]
shall apply to the assignment and use of frequencies by stations of the
broadcasting-satellite service in these bands and to the stations of other
services to which these bands are allocated so far as their relationship to
the broadcasting-satellite service in these bands is concerned.

ARTICLE N11

MOD Coordination of Frequency Assignments to Stations in a Space
Radiocommunication Service except Stations in the Broadcasting-
Satellite Service and to Appropriate Terrestrial Stations¹

ADD 1 For the coordination of frequency assignments to stations
in the broadcasting-satellite service and other services in the frequency
bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1),
see also Article N13B.

ARTICLE N12/9

MOD Notification and Recording in the Master International Frequency
Register of Frequency Assignments¹ to Terrestrial
Radiocommunication Stations² 2A

ADD 2A For notification and recording of frequency assignments
to terrestrial stations in the frequency bands 11.7 - 12.2 GHz (in Region 3)
and 11.7 - 12.5 GHz (in Region 1), so far as their relationship to the
broadcasting-satellite service in the bands is concerned, Article N13B.

ARTICLE N13/9A.

MOD

Notification and Recording in the Master
International Frequency Register of Frequency
Assignments¹ to Radio Astronomy and Space /passive/
Radiocommunication Stations except Stations in the
Broadcasting-Satellite Service²⁾

ADD 2)

For notification and recording of frequency assignments
to stations in the broadcasting-satellite service and other services in the
frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz
(in Region 1), see also Article N13B.

ADD

APPENDIX /.../ /to follow/

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/223-E

16 November 1979

Original : English

WORKING GROUP 5BB

DRAFT SIXTH REPORT OF WORKING GROUP 5BB TO COMMITTEE 5

1. Frequency bands 17 410 - 17 900 kHz

1.1 All proposals concerning these bands have been considered and the Working Group decided by majority to recommend to Committee 5 the adoption of the revised Table and of footnote ADD 3515D which appear in Annex 1.

1.2 The delegation of Syria reserved the right to revert in Committee 5 to the extensions of the band allocated to the broadcasting service between 15 100 kHz and 15 450 kHz up to 15 600 kHz instead of 15 550 kHz as originally proposed.

2. Frequency bands 18 030 - 19 990 kHz

2.1 All proposals concerning these bands have been considered and the Working Group decided to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3499E, ADD 3515E and ADD 3515F which appear in Annex 2.

3. Frequency bands 20 010 - 21 924 kHz

3.1 All proposals concerning these frequency bands have been considered and the Working Group decided to recommend to Committee 5 the adoption of the revised Table and of footnotes 3516A and MOD 3517/221B which appear in Annex 3.

3.2 It was also agreed that footnote ADD 3499E would apply to the amateur band 21 000 - 21 450 kHz.

4. Frequency bands 22 000 - 24 990 kHz

4.1 All proposals concerning these frequency bands have been considered and the Working Group decided to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3516A, MOD 3518/222 and ADD 3518A which appear in Annex 4.

4.2 It was also agreed that footnote ADD 3499A would apply to the amateur band 24 890 - 24 990 kHz and that footnote 3519/222A would be deleted.

4.3 The delegation of the USSR reserved the right to revert in Committee 5 on the allocations made in the bands 22 720 - 22 855 kHz and 24 890 - 24 990 kHz.

5. Frequency bands 25 070 - 27 500 kHz

5.1 All the proposals concerning these frequency bands have been considered and the Working Group decided to recommend to Committee 5 the adoption of the revised Table and of footnotes ADD 3521A, ADD 3521B and MOD 3522/225 which appear in Annex 5.

5.2 It was also agreed to recommend the deletion of footnote 3523/226.

5.3 The delegates of USSR reserved the right to revert in Committee 5 to the allocation made in the band 25 110 - 25 210 kHz.



5.4 The delegation of Greece reserved the right to revert in Committee 5 on the possible allocation of a band to the maritime mobile service at 26 MHz in accordance with Recommendation No. Mar2 - 8.

5.5 A proposal submitted by the delegation of Italy concerning a footnote providing for the use of the band 26 960 - 27 280 kHz by a proposed new service called "new professional personnel service" was opposed in the Working Group on the ground that this kind of problem could not be covered by provisions in the Radio Regulations.

P. BARNES
Chairman of Working Group 5BB

Annexes : 5

A N N E X 1

kHz
17 410 - 17 900

Region 1	Region 2	Region 3
17 410 - 17 550	FIXED	
17 550 - 17 900	BROADCASTING	
	3515D	

ADD 3515D

The band 17 550 - 17 700 kHz is allocated to the fixed service on a primary basis subject to the procedures described in / Resolution No. / . The use of these bands by the broadcasting service shall be in accordance with provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service. See Recommendation No. (Document No. 422). Within these bands, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in / Resolution No. / , of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations / and recorded in the Master Register / and which may be affected by broadcasting operations on that channel.

A N N E X 2

kHz
18 030 - 18 168

Region 1	Region 2	Region 3
18 030 - 18 052	FIXED	
18 052 - 18 068	FIXED	
	Space research	
18 068 - 18 168	AMATEUR	
	AMATEUR-SATELLITE	
	Space research	
	3499A 3515E	

ADD 3499A

For the use of the bands allocated to the amateur service at / 3.5 MHz /, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz and 144 MHz in the event of natural disasters, see Resolution / /.

ADD 3515E

The use of the band 18 068 - 18 168 kHz by the amateur service is subject to the completion of the satisfactory re-assignment of all fixed stations operating in this band, in accordance with the procedure described in / Resolution No. /.

kHz
18 168 - 19 990

Region 1	Region 2	Region 3
18 168 - 18 780	FIXED	
18 780 - 18 900	MARITIME MOBILE	
	3515F	
18 900 - 19 680	FIXED	
19 680 - 19 800	MARITIME MOBILE	
	3515F	
19 800 - 19 990	FIXED	

ADD 3515F

The bands 18 780 - 18 900 kHz and 19 680 - 19 800 kHz are allocated to the fixed service on a primary basis subject to the procedures described in / Resolution No. ____/. The use of these bands by the maritime mobile service shall be in accordance with provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in / Resolution No. ____/, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations / and recorded in the Master Register / and which may be affected by maritime mobile operations on that frequency.

A N N E X 3

kHz
20 010 - 21 924

Region 1	Region 2	Region 3
20 010 - 21 000	FIXED	
21 000 - 21 450	AMATEUR AMATEUR-SATELLITE 3499A	
21 450 - 21 850	BROADCASTING 3516A	
21 850 - 21 870	FIXED 3517/221B	
21 870 - 21 924	AERONAUTICAL FIXED	

ADD 3499A

See Annex 2.

ADD 3516A

The band 21 750 - 21 850 kHz is allocated to the fixed service on a primary basis subject to the procedures described in / Resolution No. 7/. The use of these bands by the broadcasting service shall be in accordance with provisions to be established by the World Administrative Radio Conference for the planning of high frequency bands allocated to the broadcasting service. See Recommendation No. (Document No. 422). Within these bands, the date of commencement of operations in the broadcasting service on a given channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in / Resolution No. 7/, of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations / and recorded in the Master Register / and which may be affected by broadcasting operations on that channel.

MOD 3517/221B

Alternative allocation : in Bulgaria, Hungary, Poland, Roumania, Czechoslovakia and the USSR, the band 21 850 - 21 870 kHz is allocated to the aeronautical fixed and the aeronautical mobile (R) services on a primary basis.

A N N E X 4

kHz
22 000 - 23 350

Region 1	Region 2	Region 3
22 000 - 22 855*	MARITIME MOBILE	
	3517A	
22 855 - 23 000	FIXED	
23 000 - 23 200	FIXED	
	Mobile except aeronautical mobile (R)	
23 200 - 23 350	AERONAUTICAL FIXED	
	AERONAUTICAL MOBILE (OR)	

* For the band 22 000 - 22 720 kHz, see Document No. 403.

ADD 3517A

The band 22 720 - 22 855 kHz is allocated to the fixed service on a primary basis subject to the procedures described in [Resolution No. 7]. The use of this band by the maritime mobile service shall be in accordance with provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in [Resolution No. 7], of all assignments to fixed stations operating in accordance with the Table and other provisions of the Radio Regulations [and recorded in the Master Register 7] and which may be affected by maritime mobile operations on that frequency.

kHz
23 350 - 24 990

Region 1	Region 2	Region 3
23 350 - 24 000	FIXED	
	MARITIME MOBILE	
	LAND MOBILE	
	3518/222	
24 000 - 24 890	FIXED	
	LAND MOBILE	
24 890 - 24 990	AMATEUR	
	AMATEUR-SATELLITE	
	[3499A] 3518A	

MOD 3518/222

The use of the band 23 350 - 24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

[ADD 3499A

For the use of the bands allocated to the amateur service at [3.5 MHz], 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz, [24 MHz], and 144 MHz in the event of natural disasters, see Resolution No. [].

ADD 3518A

The use of the band 24 890 - 24 990 kHz by the amateur service is subject to the completion of the satisfactory re-assignment of all fixed stations operating in this band, in accordance with the procedure described in [Resolution No.].

SUP 3519/222A

A N N E X 5

kHz
25 070 - 27 500

Region 1	Region 2	Region 3
25 070 - 25 210*	MARITIME MOBILE 3521A	
25 210 - 25 550	FIXED MOBILE except aeronautical mobile	
25 550 - 25 670	RADIO ASTRONOMY 3521B	
25 670 - 26 100	BROADCASTING	
26 100 - 27 500	FIXED MOBILE except aeronautical mobile 3522/225	

* For the band 25 070 - 25 110 kHz, see Document No. 228(Rev.2).

SUP 3521/224

See Document No. 228(Rev.2).

ADD 3521A

The band 25 110 - 25 210 kHz is allocated to the fixed and mobile except aeronautical mobile services on a primary basis subject to the procedures described in [Resolution No.]. The use of this band by the maritime mobile service shall be in accordance with provisions to be decided by a competent World Administrative Radio Conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in [Resolution No.], of all assignments to fixed and mobile stations operating in accordance with the Table and other provisions of the Radio Regulations [and recorded in the Master Register] and which may be affected by maritime mobile operations on that frequency.

ADD 3521B

After [.....] all emissions capable of causing harmful interference to the radio astronomy service in this band shall be avoided. The use of passive sensors by other services is also authorized.

MOD 3522/225

The band 26 957 - 27 283 kHz is designated for industrial, scientific and medical (ISM) applications (centre frequency 27 120 kHz). Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 5002A*).

SUP 3523/226

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/224-E

17 November 1979

Original : French

COMMITTEE 5

ITEM 2 OF THE AGENDA OF THE 16TH AND 17TH SESSIONS OF COMMITTEE 5

Footnotes 3601, 3601A, 3612C, 3612D, 3608C and 3608CA of Document No. 638

MOD 3601/293

Proposal No. 1

MOD 3601/293

Additional allocation : in the People's Republic of Congo, Ethiopia, Gambia, Guinea, Kenya, Malawi, Oman, Uganda, Senegal, Sierra Leone, Somalia, Tanzania, Zambia and Zimbabwe, the band 174 - 230 MHz is also allocated to the fixed and mobile services on a permitted basis. Stations of the fixed and mobile services shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

Proposal No. 2

MOD 3601/293

Additional allocation : in the People's Republic of Congo, Ethiopia, Gambia, Guinea, Kenya, Malawi, Oman, Uganda, Senegal, Sierra Leone, Somalia, Tanzania, Zambia and Zimbabwe, the band 174 - 230 MHz is also allocated to the fixed and mobile services on a permitted basis. However it is allocated to these services only on a secondary basis with respect to the broadcasting service of countries other than those mentioned in this footnote.

ADD 3601A

Proposal No. 1

ADD 3601A

Additional allocation : in Austria, the Federal Republic of Germany, Belgium, Denmark, Finland, France, Ireland, Israel, Italy, Liechtenstein, Luxembourg, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174 - 230 MHz is also allocated to the land mobile service on a permitted basis. Stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in this footnote.

Proposal No. 2

ADD 3601A

Additional allocation : in Austria, the Federal Republic of Germany, Belgium, Denmark, Finland, France, Ireland, Israel, Italy, Liechtenstein, Luxembourg, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174 - 230 MHz is also allocated to the land mobile service on a permitted basis. However, it is allocated to this service only on a secondary basis with respect to the broadcasting service of countries other than those mentioned in this footnote.



ADD 3612C Additional allocation : in Nigeria and Yugoslavia the band 230 - 235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement under the procedure set forth in Article N13A. Existing stations in Yugoslavia may continue to operate until 1 January 1995.

ADD 3612D Additional allocation : in Spain and Portugal, the band 223 - 230 MHz is allocated on a permitted basis to the fixed and land mobile services.

Stations in these services shall not cause harmful interference to, or claim protection from, other countries' stations in the broadcasting service, whether existing or planned, that operate in accordance with the Table.

/ Stations of the fixed and land mobile services shall enjoy equal rights with stations of the land mobile service operating in France./

ADD 3608C Delete "Sweden" from the first line.

ADD 3608CA Additional allocation : in Sweden, the band 223 - 235 MHz is also allocated to the aeronautical radionavigation service on a permitted basis until 1 January 1990, subject to agreement under the procedure set forth in Article N13A.

(Note by the Chairman : The text of No. ADD 3608CA was submitted by the delegation of the German Democratic Republic.)

M. HARBI
Chairman of Committee 5

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/225-E

17 November 1979

Original : English

COMMITTEE 7

NOTE FROM THE VICE-CHAIRMAN OF COMMITTEE 7

Possible structure for consideration of proposals relating to a future Conference programme.

A. World Conferences

1. Mobile Services

- 1.1 WARC on Mobile Services
- 1.2 WARC on Maritime Mobile and Land Mobile Services
- 1.3 Next ☒ competent ☐ WARC. Assignment Frequencies for Global Distress and Safety System in the Maritime Mobile Service
- 1.4 Frequency Assignment Plan for the Maritime Mobile Service in Frequency Bands between 1606.5 and 3500 kHz
- 1.5 Appropriate WARC for the Maritime Mobile Service. Reduction of Channel spacing for HF RFT Bands (3 kHz)
- 1.6 Next competent WARC. Public Correspondence in the Maritime Mobile Service in VHF/UHF
- 1.7 Preparation of Revised Assignment Plan for Maritime Mobile Service in the Band 445-526.5 kHz
- 1.8 WARC for the Fixed, Mobile and Safety Services
- 1.9 Aeronautical Mobile (R) Service for the Reduction of the exclusive MF/HF Bands

2. HF Broadcasting Conference

3. Geostationary-Satellite

- 3.1 WARC for Geostationary-Satellite Orbit and for the Planning of Space Services Utilizing it
- 3.2 World and/or Regional Administrative Conference to draw up Agreements for up-links to Broadcasting Satellite in 12 GHz

4. Conference to draw up Provisions for the Radio Astronomy Service

- 4.1 World Conference to draw up Provisions for the Radio Astronomy Service in the 1330-1400 MHz band
- 4.2 World Conference to draw up Provisions for the Radio Astronomy Service in the 1400-1727 MHz bands
- 4.3 World Conference to draw up Provisions for the Radio Astronomy Service (in general)



B. Regional Conferences

5. (Region 1) Conference for Planning Sound Broadcasting in the Band 87,5 - 108 MHz in Region 1
6. Television Conferences
 - 6.1 (Region 1) Regional Conference for the Purpose of carrying out Detailed Planning for Television based on the new Television Systems
 - 6.2 (Region 1) RARC for a Detailed Television Plan based on the new Standards
7. (Region 1, Africa) Revision of the African VHF/UHF Broadcasting Plan Plan (1963)
8. (Region 1, Africa) Regional Planning Conference of LF Broadcasting for the Majority of Countries in Africa
9. Region 1 (European Broadcasting Area) Conference to revise parts of the Stockholm 1961 Plan
10. Region 1 (European Maritime Area) Conference to revise the Copenhagen 1948 Plan
11. RARC for the Detailed Planning of the Broadcasting Satellite Service in the 12 GHz band and Associated up-links

H.L. VENHAUS

Vice-Chairman of Committee 7

NOTE : The relevant proposals are listed in documents DT/36 (Rev.3) and DL/203; additional relevant proposals are contained in documents 288, 345, 359, 400 and 626.

Annex : 1

A N N E X

Class of Conference World Regional		Proposal/s Reference	Proposed date by Adminis.	Action taken by Committee concerned	Proposed date by Committee	Observations
1.1 WARC Mobile Services		Doc.6 (France) S/15/383 G/53A/220 NOR/72 IND/93/287 G/626	1981 Apr.-May 1978 1982 1984 As soon as possible			To review and harmonize the Radio Regulations for the aeronautical, maritime and land services.
1.2 WARC Maritime Mobile and Land Mobile Services		F/82/858	1981			To deal with problems relating to the maritime mobile service and the land mobile service.
1.3 Global Distress and Safety System in the Maritime Mobile Service		ARG/149/207	Next Conference			Assignment of frequencies for the global distress and safety system.
1.4 Maritime Mobile Service		S/15/385	At the discretion of the Adm. Council			Frequency assign- ment plan for the maritime mobile service in fre- quency bands between 1606.5 and 3500 kHz.

Class of Conference		Proposal/s Reference	Proposed date by Adminis.	Action taken by Committee concerned	Proposed date by Committee	Observations
World	Regional					
1.5 Channel spacing for Radiotelephony in the Maritime Mobile Service		AUS/143/280	The next appropriate WARC			Reduction of channel spacing for radio- telephony in the bands between 4 and 25 MHz of the maritime mobile service to 3 kHz separation.
1.6 VHF/UHF Public Correspondence Maritime Mobile Service		NOR/72/258	Next competent Conference			Relating to the present number of channels available for public corre- spondence in the maritime mobile service.
1.7 Maritime Mobile Service		S/15/384	At the discretion of the Adm. Council			Relating to the preparation of a revised assignment plan for the maritime mobile service in the band 445-526.5 kHz.
1.8 Fixed, Mobile and Safety Services		PNG/39A/372	1982			To review the provi- sions of the Radio Regulations pertaining to the fixed, mobile and safety services.

2 Second session

Class of Conference	Proposal/s Reference	Action taken by Committee concerned	Proposed date by Committee	Observations
3.1 WARC for Geostationary-Satellite Orbit and for the Planning of Space Services Utilizing it	URS /63A/114 IND/93/287, point 2 IND/93/289 (Add.2) CHN/153/134 AFG/288/34 IRQ/359 CLM, COG, EQA, GAB, KEN, SOM, UGA, ZAI/400	See paragraph 7 and Annex 1 to Doc. 678	Not later than 1984. Not sooner than 12 months and not later than 18 months after first session	} First session } Second session
3.2 World and/or Regional Administrative Conference to draw up agreements for up-links to Broadcasting Satellite in 12 GHz	URS/63A/114	See paragraph 6 and Annex 2 to Doc. 678	-	Place and date to be decided by Administrative Council.

Class of Conference	Proposal/s Reference	Action taken by Committee concerned	Proposed date by Committee	Observations
4.1 World Conference to draw up provisions for the Radio Astronomy Service in the 1330-1400 MHz band	USA/49/788			
4.2 World Conference to draw up provisions for the Radio Astronomy Service in the 1400-1727 MHz bands	USA/49/789			
4.3 World Conference to draw up provisions for the Radio Astronomy Service (in general)	USA/49/790			

Class of Conference	Proposal/s Reference	Proposed date by Adminis.	Action taken by Committee concerned	Proposed date by Committee	Observations
5. Conference for Planning Sound Broadcasting in the Band 87,5 - 108 MHz in Region 1	F/82/857	1981	See DT/217, Annex 2, Resolution B	Before 31 December 1983	(Region 1)
6.1 Regional Conference for the Purpose of carrying out Detailed Planning for Television based on the new Television Systems	HOL/25/133	Not later than 1992			(Region 1)
6.2 RARC for a Detailed Television Plan based on the new Standards	I/135/194	At the latest 1992			(Region 1)
7. Revision of the Africa VHF/UHF Broadcasting Plan (1963)	NIG/105/12	No date proposed			(Region 1, Africa)
8. Regional Planning Conference of LF Broadcasting for the Majority of Countries in Africa	NIG/105/13	No date proposed			(Region 1, Africa)

Class of Conference	Proposal/s Reference	Proposed date by Adminis.	Action taken by Committee concerned	Proposed date by Committee	Observations
9. Conference to revise parts of the Stockholm 1961 Plan	G/53A/220	Autumn 1983			Region 1 (European Broad- casting Area)
10. Conference to revise the Copenhagen 1948 Plan	G/53A/220	Spring 1984			Region 1 (European Maritime Area)
11. RARC for the Detailed Planning of the Broadcasting Satellite Service in the 12 GHz band and Associated up-links		Not later than 1983			

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/226-E

17 November 1979

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English

Spanish

LIST OF DOCUMENTS (601 - 650)*

No.	Origin	Title	Destination
601	C.4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C.6
602	WG 5E	Note from the Chairman of Working Group 5E to the Chairman of Committee 5	C.5
603	DG 6A1	Fourth report of Drafting Group 6A1	WG 6A
604	IATA	Allocations to the aeronautical radionavigation service in the LF/MF bands in Region 1	C.5
605	C.5	Third series of texts from Committee 5 to the Editorial Committee	C.9
606	C.5	Third report of Committee 5	PL
607	C.4	Eleventh report of Committee 4	PL
608 + Corr.1	C.4	Eleventh series of texts from Committee 4 to the Editorial Committee	C.9
609	C.4	Twelfth report of Committee 4	PL
610	C.4	Twelfth series of texts from Committee 4 to the Editorial Committee	C.9
611	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 7	C.7
612	WG 5A	Tenth report of Working Group 5A to Committee 5	C.5
613 + Corr.1	C.9	B.12	PL
614	C.9	B.13	PL
615	F/USA	Draft amendments to Appendix 29	C.6
616	USA	Sharing between the broadcasting and fixed services - Information paper	C.5

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200

For Documents Nos. 501 to 550, see Document No. DT/208

For Documents Nos. 551 to 600, see Document No. DT/218



No.	Origin	Title	Destination
617	C.9	B.14	PL
618	CUB	Request for allocation of Additional Call Sign Series	C.7
619	WG 6A	Note by the Chairman of Working Group 6A	C.6
620	WG 6A3	Report by Working Group 6A3 to Working Group 6A	WG 6A
621	C.4	Thirteenth report of Committee 4	PL
622	C.4	Thirteenth series of texts from Committee 4 to the Editorial Committee	C.9
623	J	Resolution relating to the Enforcement in Region 1 of the LF Broadcasting Plan of the Regional Administrative Conference, Geneva, 1975	C.5
624	WG 6A2	Report of Sub-Working Group 6A2 to Working Group 6A - Draft Resolution relating to the bringing into use of stations in the amateur-satellite service	WG 6A
625	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 7	C.7
626	G	Proposals	C.7
627	C.6	Note to the Chairman of Committee 5	C.5
628	C.4	Fourteenth report of Committee 4	PL
629	C.4	Fourteenth series of texts from Committee 4 to the Editorial Committee	C.9
630	WG 6A ad hoc 2	Report by Sub-Working Group 6A ad hoc 2 to Working Group 6A	WG 6A
631	C.6	Fourth report of Committee 6	PL
632	C.6	Fourth series of texts from Committee 6 to the Editorial Committee	C.9
633	TGK	Request for additional Call Sign Allocations	C.7
634	NIG	Request for additional Allocation of Call Sign Series	C.7
635	C.9	B.15	PL
636	WG 5 ad hoc 5	Report of Working Group 5 ad hoc 5 to Committee 5	C.5
637	WG 5A	Eleventh and last report of Working Group 5A to Committee 5	C.5
638	WG 5C	Ninth report of Working Group 5C to Committee 5	C.5
639	WG 5C	Tenth report of Working Group 5C to Committee 5	C.5
640	B	Allocation of the band 401 - 406 MHz to meteorological-aids and meteorological satellite services	C.5

No.	Origin	Title	Destination
641	CME	Draft - Resolution relating to CCIR Study of Lightning Protection of Radio Equipment	C.7
642	HVO	Frequency bands between 8 025 MHz and 8 400 MHz - Different Service Category	C.5
643	WG 5C	Note from the Chairman of Working Group 5C to Committee 5	C.5
644+ Corr.1 (rev.)	WG 5BB	Third report by Working Group 5BB to Committee 5	C.5
645	WG 5BA	Third report by Working Group 5BA to Committee 5	C.5
646 (Rev.1)	E	Different category of service	C.5
647	SG	State of Bahrain - Conferment of voting and signing powers	-
648	C.6 ad hoc 2	Note from the Chairman of ad hoc Group 2 of Committee 6 to the Chairman of Working Group 6A	WG 6A
649	THA	Different category of service	C.5
650	C.9	B.16	PL

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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LIST OF DOCUMENTS

(651 - 700)*)

No.	Origin	Title	Destination
651	HOL/S	Proposals	C.5
652	IRQ	Request for allocation of Additional Call Sign Series	C.7
653	C.4	Fifteenth report of Committee 4	PL
654	C.4	Fifteenth series of texts of Committee 4 to the Editorial Committee	C.9
655 (Rev.1) + Corr.1	WG 6A ad hoc 1	Report from ad hoc Group 1 of Working Group 6A to Working Group 6A	WG 6A
656	WG 5D	Fourteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
657	WG 5D	Fifteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
658	QAT	Request for the allocation of Additional Call Sign Series	C.7
659	GTM	Proposal	C.5
660 + Corr.1	C.9	B.17	PL
661	C.9	B.18	PL
662	DG 6A1	Fifth report from Drafting Group 6A1	WG 6A
663	DG 6A1	Sixth report of Drafting Group 6A1	WG 6A

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200

For Documents Nos. 501 to 550, see Document No. DT/208

For Documents Nos. 551 to 600, see Document No. DT/218

For Documents Nos. 601 to 650, see Document No. DT/226



No.	Origin	Title	Destination
664	WG 6A3	Report by Working Group 6A3 to Working Group 6A	WG 6A
665	WG 6A2	Third report of Sub-Working Group 6A2	WG 6A
666	F	Draft Resolution relating to the modification of carrier frequencies of LF broadcasting stations in Region 1	C.5
667 + Corr.1	F	Frequency sharing between the earth exploration-satellite (passive sensing) service and other radiocommunication services in the bands 10.6 - 10.68 GHz and 18.6 - 18.8 GHz	C.4, 5
668	C.5	Fourth report of Committee 5	PL
669	C.5	Fourth series of texts from Committee 5 to the Editorial Committee	C.9
670	WG 5C	Eleventh report of Working Group 5C to Committee 5	C.5
671	WG 5C	Twelfth report of Working Group 5C to Committee 5	C.5
672	WG 5BA11	Report of Sub-Working Group 5BA11	WG 5BA
673	IATA	Observations on proposals for a reduction of the MF/HF exclusive aeronautical mobile (R) bands	C.5
674	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 8	C.8
675	C.5	Note from the Chairman of Committee 5 to the Acting Chairman of Committee 7	C.7
676	WG 5 ad hoc 6	Report of Working Group 5 ad hoc 6	C.5
677	WG 5BA 5BB, 5C	Joint report of Working Groups 5BA, 5BB and 5C - Use of radiocommunications in the event of natural disasters	C.5
678	WG 6 ad hoc 2	Final report of ad hoc Group 2 of Committee 6	C.6
679	F	Draft Recommendation for the revision of the regional arrangement for maritime radiobeacons in the European area of Region 1, Paris, 1951	C.7
680	WG 5D	Sixteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
681	WG 5D	Seventeenth report of Working Group 5D to Committee 5 (Allocations)	C.5

No.	Origin	Title	Destination
682	WG 5D	Eighteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
683	WG 5D	Nineteenth report of Working Group 5D to Committee 5 (Allocations)	C.5
684	WG 5D	Twentieth and twenty-first reports of Working Group 5D to Committee 5 (Allocations)	C.5
685	WG 5D	Twenty-second report of Working Group 5D to Committee 5 (Allocations)	C.5
686	WG 5D	Twenty-third report of Working Group 5D to Committee 5 (Allocations)	C.5
687	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 9	C.9
688	F	Draft Recommendation on terminology	PL
689	WG 5BA10	Report of Sub-Working Group 5BA10	WG 5BA
690	CAN	Information note on the allocation of spectrum to feeder links for 12 GHz broadcasting-satellites	C.5
691	D	Identification of stations (Article N23, Section III - Formation of Call Signs)	C.7
692	SOM	Request for Additional Call Sign Series	C.7
693	SYR	Request for the allocation of Additional Call Sign Series	C.7
694	DG 5D3	Report from the Chairman of Drafting Group 5D3 to the Chairman of Working Group 5D	WG 5D
695	ICAO	Observations concerning the introduction of SSB in the aeronautical mobile (R) service below 30 MHz	C.5
696	C.4	Sixteenth report of Committee 4	PL
697	C.4	Sixteenth series of texts of Committee 4 to the Editorial Committee	C.9
698	C.4	Seventeenth report of Committee 4	PL
699	C.4	Seventeenth series of texts of Committee 4 to the Editorial Committee	C.9
700	WG 6A2	Fourth and last report of Sub-Working Group 6A2	WG 6A

INTERNATIONAL TELECOMMUNICATION UNION

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/228-E

19 November 1979

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COMMITTEE 7

Note by the Secretary-General

The attached Annex contains the list of ITU service documents and relevant statistical data reproduced for information purposes for the discussion on Article N24 in Committee 7.

M. MILI

Secretary-General

Annex : 1

A N N E X

	Number of supplements	Periodicity	Last date of publication	Number of copies			Price (Administrations)	
				copies <u>F</u>	copies <u>E</u>	copies <u>S</u>		
International Frequency List Art. 20 Nos. 790 to 800 <u>List I</u>	7 (quarterly)	Every 2 years	June 1979	350	650 800 800 800 700 700 600 600	150	Preface Vol. I Vol. II Vol. III Vol. IV Vol. Va) Vol. Vb) Vol. Vc) Vol. Vd)	92.- 198.- 214.- 200.- 242.- 56.- 407.- 288.- 139.-
List of fixed stations operating international circuits Art. 20 No. 801 <u>List II</u>	7 (quarterly)	Every 2 years	July 1979	900			82.-	
List of broadcasting stations operating in bands below 5 950 kHz. Art. 20 No. 803 <u>List III A</u>	3 (half yearly)	Every 2 years	July 1979	650			46.-	
List of broadcasting stations operating in bands between 5 950 and 26 100 kHz Art. 20 No. 804 <u>List III B</u>	-	Stocks exhausted no further edition planned	1967	900			-	
List of coast stations Art. 20 No. 805 Mar 2 <u>List IV</u>	3 (half yearly)	Every 2 years	November 1978 (Vol. I) April 1979 (Vol. II)	26,000 23,000			Vol. I Vol. II	50.- 16.-

	Number of supplements	Periodicity	Last date of publication	Number of copies	Price (Administrations)
List of ship stations Art. 20 No. 806 Mar 2 <u>List V</u>	3 (quarterly)	Annually	April 1979		32.-
List of radiodetermination and special service stations Art. 20 No. 807 <u>List VI</u> Mar 2	5 (half yearly)	Every 3 years	September 1979 Vol. I March 1977 Vol. II	24,000 22,500	Vol. I not fixed Vol. II 40.-
Alphabetical list of call signs of stations used by the maritime mobile service, ship station selective call numbers or signals and coast station identification numbers or signals - VII A Art. 20 No. 809 Mar <u>List VII A</u>	7 (quarterly)	Every 2 years	July 1979	20,000	20.-
Alphabetical list of call signs of stations other than amateur stations, experimental stations and stations of the maritime mobile service - VII B Art. 20 No. 810 <u>List VII B</u>	7 (quarterly)	Every 2 years	July 1979	2,300	33.-
List of international monitoring stations Art. 20 No. 811 <u>List VIII</u>	1 (planned)	According to requirements (decision of the Secretary- General)	June 1978	1,000	55.-

	Number of supplements	Periodicity	Last date of publication	Number of copies	Price (Administrations)
List of stations in the space service and in the radio astronomy service Art. 20 No. 811A Mar 2 <u>List VIII A</u>	3 (half yearly)	Every 2 years	February 1978	800	87.-
Map of coast stations which are open to public corres- pondence or which participate in the port operations Art. 20 No. 812 <u>List IX</u>	-	According to requirements (decision of the Secretary- General)	May 1976	10,000	36.-
Chart in colours showing frequency allocations as specified in Article 5 Art. 20 No. 813 <u>List X</u>	Annex March 74 Corr. March 74 New pages May 78	According to requirements (decision of the Secretary- General)	January 1974	1,450 <u>F</u> 3,300 <u>E</u> 700 <u>S</u>	New pages 61.- 23.-
Radiocommunication statistics Art. 20 No. 814 <u>List XI</u>	-	Annually	December 1978	900	Published in the Telecommunication Yearbook

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/229-E

22 November 1979

Original : English

COMMITTEE 7

FIRST AND FINAL REPORT FROM THE CHAIRMAN OF
WORKING GROUP 7/AD HOC 5 TO COMMITTEE 7

Based on the information contained in Document No. DT/225, attached are Annex 1, Resolution for a World Administrative Radio Conference for the Mobile Services and Annex 2, Schedule of Future Conferences.

Annex 1 and Annex 2 were adopted by the Working Group; however, two delegations, the United States and the United Kingdom, reserved the right to discuss this subject in Committee 7.

It is pointed out that notes 1 and 2 to Annex 2 were drafted by the Chairman, based on the discussions during the final meeting, and have not yet been seen by the delegates.

E.D. DUCHARME
Chairman of Working Group 7/ad hoc 5

Annexes : 2

A N N E X 1

RESOLUTION

Relating to the Convening of a
World Administrative Radio Conference for the Mobile Services

The World Administrative Radio Conference, Geneva, 1979,

noting

Resolution No. 814 of the Administrative Council;

considering

- a) that the agenda of the World Administrative Radio Conference, 1979, provided for partial revision of the Radio Regulations and that complete revision would require an appropriate conference to be convened to revise the substance of the remaining articles, particularly those related to the mobile services;
- b) that as a consequence of the decisions made by this conference, and to harmonize some provisions for the aeronautical, maritime and land mobile services, particularly to improve the provisions related to distress and safety, and due to technological improvements and introduction of new systems, there is a need to revise a number of provisions concerning the mobile services;
- c) that there are new demands upon the mobile services;
- d) that this Conference has made various Recommendations which envisage the holding of a future Conference to deal with provisions for the mobile services;

noting further

that the Final Acts of the World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978 provide for a frequency allotment plan for that service which is currently in the process of implementation and should not therefore be altered in the near future;

resolves

that the Administrative Council arrange for a World Administrative Radio Conference for the Mobile Services to revise the provisions of the Radio Regulations which relate specifically to these services;

invites the CCIR

to prepare the technical and operational bases and the IFRB to undertake the technical preparation for the conference.

A N N E X 2SCHEDULE OF FUTURE CONFERENCESWorld Conferences :

- World Administrative Radio Conference for Mobile Services [April 1982
May
- World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Services
 - first session December 1982
 - second session April 1984
- World Administrative Radio Conference for the Space Services
 - first session September 1984
 - second session January 1986

Regional Conferences :

- Regional Administrative Radio Conference for Planning the MF Broadcasting Bands in Region 2
 - first session March 1980
 - second session November 1981
- Regional Administrative Radio Conference for the Detailed Planning of the Broadcasting-Satellite Service in the 12 GHz Band and Associated Up-links in Region 2 March 1983
- Conference for Planning Sound Broadcasting in the Band 87.5 - 108 MHz in Region 1
 - first session June 1983
 - second session February 1984
- Administrative Radio Conference for Planning Up-links to Broadcasting Satellites Operating in the 12 GHz Band in Regions 1 and 3 November 1983

Note 1 : The Working Group noted that to a large extent this schedule of Conferences, which is based on Resolutions adopted by this Conference, would place a heavy burden on Administrations and therefore recommends that the Administrative Council, if possible, distribute these Conferences over over a longer period of time.

Note 2 : This outline of a Conference schedule has been based on the work of this Conference. In considering this schedule the Administrative Council would necessarily take into account the schedule of other meetings and conferences already established and particularly the need to coordinate with the meetings of the CCIR.

It is for the Administrative Council to consider the complete programme of meetings and conferences to be recommended to the Plenipotentiary Conference and the resources required to fulfill these activities.

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/230-E

24 November 1979

Original : English

COMMITTEE 7

DRAFT

FOURTH REPORT OF COMMITTEE 7

(GENERAL ADMINISTRATION)

1. During discussions in the tenth to twentieth meetings of Committee 7, the following texts, among others, were approved (see Annex) :

1.1 A Working Group (ad hoc 4) was set up under the chairmanship of Mr. Fulton (United Kingdom) to consider the text of a Preamble to the Radio Regulations, as well as a modification to Article N1; a new text on UTC was also adopted and inserted in Article N1 (see Documents Nos. 625, 759, 807(Rev.1) and DL/258).

1.2 After lengthy discussion, the texts in the Annex were adopted by the Committee; the delegates of Japan and Kenya reserved the right to come back to the matter of the Preamble at a later stage.

2. A Working Group (ad hoc 2) was set up under the chairmanship of Mr. Utsumi (Japan) to deal with the introduction of a new appendix (XXX) and the consequential modifications to Articles N11, N12, N13 and a new Article N13B - see page 6 of the Annex to this report. It was also decided that Resolution No. 5 should be maintained (see Document No. 807(Rev.1) and 808(Rev.1)).

2.1 Furthermore, it was decided that the whole text of the new Appendix was not to be in the blue series and the pink series but was to be reproduced in full in the Final Acts.

3. Article N30

After consideration of Committee 5's decision (Document No. 675), Committee 7 decided to delete the word "radio" throughout Article N30 (see Document No. 809).

4. Article N33

Committee 7 decided that two new provisions were to be introduced to replace 6462 which was deleted. The title of Section II was amended. The proposals concerning Section IV C of Article N33 were withdrawn and the Section was approved with no change.

5. Article N37

The title of Article N37 was adopted as amended in Working Group 7A after it had been left pending for consideration of a proposal relating to States not parties to an armed conflict.



6. The texts of the modified versions of one Resolution and one Recommendation, as well as the texts of two new Resolutions were adopted.

7. Various Resolutions and Recommendations of past ITU Conferences were abrogated.

8. The revised texts as adopted by Committee 7 / have been submitted to the Editorial Committee for subsequent submission to the Plenary Meeting (see Document No. [_/]_. (See Annex).

H.L. VENHAUS

Vice-Chairman of Committee 7

Annex : 1

A N N E X

THE RADIO REGULATIONS

ADD

PREAMBLE

ADD 3000

The application of the provisions of these Regulations by the permanent organs of the International Telecommunication Union does not imply the expression of any opinion whatsoever on the part of the Union concerning the sovereignty or the legal status of any country, territory or geographical area.

PART A

CHAPTER NI

Terminology

ARTICLE NI/1°)

Terms and Definitions

Introduction
~~Preamble~~

MOD

NOC 3001°) 1

For the purposes of these Regulations, the following terms shall have the meanings defined below. These terms and definitions do not, however, necessarily apply for other purposes.

Section I. General Terms

ADD 3001A

Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention of the International Telecommunication Union and the Regulations. (CONV.)

ADD 3XXX

UTC: Coordinated Universal Time, UTC, is the Time Scale, based on the second (SI), as defined and recommended by the CCIR¹⁾ and maintained by the Bureau International de l'Heure (BIH); for most practical purposes associated with the Radio Regulations, UTC is equivalent to mean solar time at the prime meridian (00° longitude).

¹⁾ The full definition is contained in CCIR Recommendation 460-2.

ARTICLE N11

MOD Coordination of Frequency Assignments to Stations in a Space
 Radiocommunication Service except Stations in the Broadcasting-
 Satellite Service and to Appropriate Terrestrial Stations¹

ADD 1 For the coordination of frequency assignments to stations
 in the broadcasting-satellite service and other services in the frequency
 bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1),
 see also Article N13B.

ARTICLE N12/9

MOD Notification and Recording in the Master International Frequency
 Register of Frequency Assignments¹ to Terrestrial
 Radiocommunication Stations² 2A

ADD 2A For notification and recording of frequency assignments
 to terrestrial stations in the frequency bands 11.7 - 12.2 GHz (in Regions 2
 and 3) and 11.7 - 12.5 GHz (in Region 1), so far as their relationship
 to the broadcasting-satellite service in the bands is concerned, see
 also Article N13B.

ARTICLE N13/9A

MOD Notification and Recording in the Master
 International Frequency Register of Frequency
 Assignments¹ to Radio Astronomy and Space
 Radiocommunication Stations except Stations in the
 Broadcasting-Satellite Service²)

ADD 2) For notification and recording of frequency assignments
 to stations in the broadcasting-satellite service and other services in the
 frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz
 (in Region 1), see also Article N13B.

ARTICLE N13B

ADD Coordination, Notification and Recording of Frequencies
 Assignments to Stations of the Broadcasting-Satellite
 Service in the Frequency Bands [11.7 - 12.2 GHz (in Regions 2 and 3)
 and 11.7 - 12.5 GHz (in Region 1)] and to the other Services
 to which these Bands are Allocated, so far as their
 Relationship to the Broadcasting-Satellite Service
 in these Bands is Concerned

ADD 4650B The provisions and associated Plan for the broadcasting-
 satellite service in the frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3)
 and 11.7 - 12.5 GHz (in Region 1) adopted by the World Broadcasting-Satellite
 Administrative Radio Conference, Geneva, 1977, as contained in Appendix [..]
 shall apply to the assignment and use of frequencies by stations of the
 broadcasting-satellite service in these bands and to the stations of other
 services to which these bands are allocated so far as their relationship to
 the broadcasting-satellite service in these bands is concerned.

ARTICLE N30/41

With reference to Document No. 511 (B.7), page 7, Committee 7, after consideration of Document No. 675, has taken the decision to delete the word "radio" from the title of Article N30/41, as well as from the title of Section I, the relevant provisions 6354, 6355, 6355A, 6357, 6358, 6359, 6360, 6361, from the title of Section II and from the relevant provision 6361A, i.e. throughout the whole of Article N30/41.

NCC

ARTICLE N33

NCC

Radiodetermination Service and Radiodetermination-Satellite Service

MOD

**Section II. Provisions for ~~Maritime~~ the
Radiodetermination-Satellite Service**

SUP 6462 1584A
Mar2

ADD 6462A

The provisions of Nos 6453-6460 excluding No. 6454 shall be applied to the maritime radionavigation-satellite service.

ADD 6462B

The provisions of Nos 6453-6460 excluding Nos 6454 and 6455 shall be applied to the aeronautical radionavigation-satellite service.

Section IV. Radiobeacon Stations

NOC **6481**

C. Maritime Radiobeacons

NOC 6482 458
to
6488 464

NOC **6489**
to
NOC **6588** NOT allocated.

ARTICLE N37

MOD

Urgency and Safety Transmissions, and Medical Transports

ADD

APPENDIX [7...]

Provisions for all services and associated Plan
for the Broadcasting-Satellite Service in
frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3)
and 11.7 - 12.5 GHz (in Region 1)¹⁾

(See Article N13B)

TABLE OF CONTENTS

Provisions for all services and associated Plan
for the Broadcasting-Satellite Service in
frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3)
and 11.7 - 12.5 GHz (in Region 1)

	Page.
Article 1. General definitions	
Article 2. Frequency bands	
Article 3. Execution of the provisions and associated Plan ...	
Article 4. Procedure for modifications to the Plan	
Article 5. Notification, examination and recording in the Master Register of frequency assignments to space stations in the broadcasting-satellite service in Regions 1 and 3	
Article 6. Coordination, notification and recording in the Master International Frequency Register of frequency assign- ments to terrestrial stations affecting broadcasting- satellite frequency assignments in the bands 11.7-12.2 GHz (in Regions 2 and 3) and 11.7-12.5 GHz (in Region 1)	
Section I. Coordination procedure to be applied	
Section II. Notification procedure for frequency assignments	
Section III. Procedure for the examination of notices and the recording of frequency assignments in the Master Register ..	
Article 7. Preliminary procedures, notification and recording in the Master International Frequency Register of frequency assignments to stations in the fixed- satellite service in the frequency band 11.7-12.2 GHz (in Region 2) when frequency assignments to broad- casting-satellite stations in accordance with the Plan are involved	
Section I. Procedure for the advance publication of information on planned fixed satellite systems	
Section II. Coordination procedures to be applied in appropriate cases	
Section III. Notification of frequency assignments	
Section IV. Procedure for the examination of notices and the recording of frequency assignments in the Master Register ..	

1) The provisions contained in this Appendix entered into force on
1 January 1979 in accordance with Article 15 of the Final Acts of
the World Broadcasting-Satellite Administrative Radio Conference,
Geneva, 1977.

TABLE OF CONTENTS (cont.)

	Page
Article 7. (cont.)	
Section V. Recording of findings in the Master Register	
Section VI. Categories of frequency assignments	
Section VII. Review of findings	
Section VIII. Modification, cancellation and review of entries in the Master Register	
Article 8. Miscellaneous provisions relating to the procedures	
Article 9. Power flux-density limits between 11.7 and 12.2 GHz to protect terrestrial services in Regions 1 and 3 from interference from Region 2 broadcasting-satellite space stations	
Article 10. Power flux-density limits between 11.7 and 12.2 GHz to protect space services in Region 2 from interference from broadcasting-satellite space stations of Regions 1 and 3	
Article 11. The Plan for the broadcasting-satellite service in the frequency bands 11.7 - 12.2 GHz in Region 3 and 11.7 - 12.5 GHz in Region 1	
Article 12. Provisions governing the broadcasting-satellite service in Region 2 pending the establishment of a detailed Plan	
Article 13. Relationship to Resolution No. Spa2 - 2 of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971	
Article 14. Interference	
Article 15. Entry into force of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977 (Not reproduced in this Appendix).....	
Article 16. Period of validity of the provisions and associated Plan	
ANNEXES	
Annex 1. Limits for determining whether a service of an Administration is considered to be affected by a proposed modification to the Plan	
Annex 2. Basic characteristics to be furnished in notices relating to space stations in the broadcasting-satellite service ..	
Annex 3. Method for determining the limiting interfering power flux-density at the edge of a broadcasting-satellite service area in the band 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1) and for predicting the power flux-density produced there by a terrestrial station	

TABLE OF CONTENTS (cont.)		Page
Annex 4.	Need for coordination of a fixed-satellite space station for a broadcasting-satellite space station in Region 2 with respect to the Plan	
Annex 5.	Power flux-density limits between 11.7 and 12.2 GHz to protect the terrestrial services in Regions 1 and 3 from interference from Region 2 broadcasting-satellite space stations	
Annex 6.	Planning principles in Region 2	
Annex 7.	Use of the spectrum/orbit resource	
Annex 8.	Technical data used in establishing the provisions and associated Plan and which should be used for their application	
Annex 9.	Criteria for sharing between services	
Annex 10.	Orbital position limitations	
Annex 11.	Method of calculating the power flux-density produced in the territories of Region 2 by space stations in the broadcasting-satellite service in Regions 1 and 3	

Provisions for all services and associated Plan
for the Broadcasting-Satellite Service in
frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3)
and 11.7 - 12.5 GHz (in Region 1)

ARTICLE 1

General definitions

For the purposes of this Appendix the following terms shall have the meanings defined below :

- Conference : World Administrative Radio Conference for the planning of the broadcasting-satellite service in frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1), called in short World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977;
- Plan : The plan for Regions 1 and 3 and its annexes;
- Frequency assignment in accordance with the Plan : Any frequency assignment which appears in the Plan or for which the procedure of Article 4 of this Appendix has been successfully applied.

(Pages 10-74 of the Final Acts of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, reference ISBN 92-61-00491-1. should be included with the following modifications):

ARTICLE 2

Frequency Bands

2.1 The provisions of **this Appendix** apply to the broadcasting-satellite service in the frequency bands between 11.7 and 12.5 GHz in Region 1 and between 11.7 and 12.2 GHz in Regions 2 and 3 and to the other services to which these bands are allocated, so far as their relationship to the broadcasting-satellite service in these bands is concerned.

ARTICLE 3

Execution of the provisions and the associated Plan

3.1 The Members of the Union in Regions 1 and 3 shall adopt, for their broadcasting-satellite space stations operating in the frequency bands referred to in **this Appendix**, the characteristics specified in the Plan for those Regions.

3.2 The Members of the Union in Region 2 shall apply the interim provisions contained in Article 12 of **this Appendix**. These provisions will govern the broadcasting-satellite service in Region 2 until detailed plans for Region 2, drawn up by a future regional administrative radio conference, have entered into force.

3.3 The Members of the Union shall not change the characteristics specified in the Plan, or establish new broadcasting-satellite space stations or stations in the other services to which these frequency bands are allocated, except as provided for in the Radio Regulations and the appropriate Articles and Annexes of **this Appendix**.

ARTICLE 4

Procedure for Modifications to the Plan

4.1 When an administration intends to make a modification¹ to the Plan, i.e. either

- to modify the characteristics of any of its frequency assignments to a space station² in the broadcasting-satellite service which are shown in the Plan, or for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or
- to include in the Plan a new frequency assignment to a space station in the broadcasting-satellite service, or
- to cancel a frequency assignment to a space station in the broadcasting-satellite service,

the following procedure shall be applied before any notification of the frequency assignment is made to the International Frequency Registration Board (see Article 5 of **this Appendix**).

4.2 The term "frequency assignment in accordance with the Plan" used in this and the following articles is defined in Article 1.

¹ The intention not to employ energy dispersal consistent with section 3.18 of Annex 8 shall be treated as a modification and thus subject to the appropriate provisions of this Article.

² The expression "frequency assignment to a space station", wherever it appears in this Article, shall be understood to refer to a frequency assignment associated with a given orbital position. See Annex 10 for the orbital position limitations.

4.3.1.2 having a frequency assignment to a space station in the broadcasting-satellite service in Region 2 with the necessary bandwidth, any portion of which falls within the necessary bandwidth of the proposed assignment and which is recorded in the Master Register; or

- which has been coordinated or is being coordinated under the provisions of Resolution No. Spa2 — 3; or
- which appears in a Region 2 plan¹ to be adopted at a future regional administrative radio conference, taking account of modifications which may be introduced subsequently in accordance with the Final Acts of that Conference; or

¹ The Region 2 plan adopted at a future regional administrative radio conference shall not degrade the protection afforded to the frequency assignments in the Plan below the limits specified in **this Appendix**.

4.3.1.3 having no frequency assignment in the broadcasting-satellite service in the channel concerned but in whose territory the power flux density value exceeds the prescribed limit as a result of the proposed modification; or

4.3.1.4 having a frequency assignment in the band 11.7-12.2 GHz to a space station in the fixed-satellite service which is recorded in the Master Register or which has been coordinated or is being coordinated under the provisions of No. 639AJ of the Radio Regulations; or those of paragraph 7.2.1 of **this Appendix**.

which are considered to be affected.

A frequency assignment is considered to be affected when the limits shown in Annex 1 are exceeded.

4.3.18 The relevant provisions of Article 5 of **this Appendix** shall be applied when frequency assignments are notified to the Board.

ARTICLE 5

Notification, Examination and Recording in the Master Register of Frequency Assignments to Space Stations in the Broadcasting-Satellite Service in Regions 1 and 3

5.2.1 The Board shall examine each notice:

- a) with respect to its conformity with the Convention and the relevant provisions of the Radio Regulations and Annex 1 of **this Appendix** (with the exception of those relating to conformity with the Plan);
- b) with respect to its conformity with the Plan.

ARTICLE 6

**Coordination, Notification and Recording in the
Master International Frequency Register of Frequency Assignments
to Terrestrial Stations affecting Broadcasting-Satellite Frequency
Assignments in the Bands 11.7-12.2 GHz (in Regions 2 and 3)
and 11.7-12.5 GHz (in Region 1)^{1, 2}**

- 6.3.7 The Board shall examine each notice:
- 6.3.8 a) with respect to its conformity with the Convention, the relevant provisions of the Radio Regulations and the provisions of ~~this Appendix~~ (with the exception of those relating to the coordination procedure and the probability of harmful interference);

ARTICLE 7

**Preliminary Procedures, Notification and
Recording in the Master International Frequency Register of
Frequency Assignments to Stations in the Fixed-Satellite Service in the
Frequency Band 11.7-12.2 GHz (in Region 2) when Frequency Assignments
to Broadcasting-Satellite Stations in Accordance with the Plan are involved¹**

7.2.5 An administration whose agreement is sought under paragraph 7.2.1 shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within thirty days after the date of the weekly circular publishing the information under paragraph 7.2.3, the administration seeking coordination shall dispatch a telegram requesting acknowledgement, to which the receiving administration shall reply within a further period of thirty days. Upon receipt of the coordination data, an administration shall, having regard to the proposed date of bringing into use of the assignment for which agreement was requested, promptly examine the matter with regard to interference¹ which would be caused to the service rendered by its stations in respect of which agreement is sought under paragraph 7.2.1, and shall, within ninety days from the

¹ The criteria to be employed in evaluating interference levels shall be based upon the technical information contained in ~~this Appendix~~ or upon relevant CCIR Recommendations and shall be agreed between the administrations concerned.

- 7.4.5 The Board shall examine each notice:
- 7.4.5.1 with respect to its conformity with the Convention, the relevant provisions of the Radio Regulations and the provisions of ~~this Appendix~~ (with the exception of those relating to the coordination procedures and the probability of harmful interference);

ARTICLE 8

Miscellaneous Provisions relating to the Procedures

8.4 If it is requested by any administration, particularly by an administration of a country in need of special assistance, and if the circumstances appear to warrant, the Board, using such means at its disposal as are appropriate in the circumstances, shall render the following assistance:

- a) computation necessary in the application of Annexes 1, 3 and 4;
- b) any other assistance of a technical nature for completion of the procedures in **this Appendix.**

ARTICLE 12

Provisions governing the Broadcasting-Satellite Service in Region 2 pending the Establishment of a detailed Plan

12.3.1 Space stations in the broadcasting-satellite service located in the portions of the orbit referred to in paragraph 12.2 and space stations in the fixed-satellite service located in the remaining portions of the orbit shall be operated in such a way that no unacceptable interference is caused by stations of one service to stations of other services. The level of unacceptable interference shall be determined by agreement between the administrations concerned, taking the latest CCIR Recommendations and Annexes 8 and 9 of **this Appendix** as a guide. Notwithstanding the above, broadcasting-satellite space stations may be located up to the edge of the portion of the orbit referred to in paragraph 12.2, provided that such stations are operated in accordance with the relevant technical characteristics for Region 2 outlined in Annex 8.

12.5 Administrations may implement systems which utilize values for the technical characteristics different from the values in Annex 8 of **this Appendix** provided that such action does not result in interference to operational or planned systems of other administrations in excess of that determined in accordance with Annex 9.

12.6 Systems in the fixed-satellite service shall be introduced in accordance with the relevant provisions of the Radio Regulations, particularly with those of Article 9A and, where appropriate, with the provisions of Article 7 of **this Appendix.**

ARTICLE 13

Relationship to Resolution No. Spa2 - 2 of the World
Administrative Radio Conference for Space
Telecommunications, Geneva, 1971
(now numbered Resolution No. 1 7)

13.1 The provisions and associated Plan of this Appendix shall be regarded as including a world agreement and associated Plan for Regions 1 and 3 in accordance with resolves 1 of Resolution No. Spa2 - 2 of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971, which requires the stations in the broadcasting-satellite service to be established and operated in accordance with such agreements and associated plans.

ARTICLE 14

Interference

14.1 The Members of the Union shall endeavour to agree on the action required to reduce harmful interference which might be caused by the application of these provisions and the associated Plan.

ARTICLE 15

Entry into force of the Final Acts
(Not to be reproduced in this Appendix)

ARTICLE 16

Period of Validity of the Provisions and Associated Plan

15.1 The provisions and associated Plan have been prepared in order to meet the requirements of the broadcasting-satellite service in the bands concerned for a period of at least fifteen years from 1 January 1979.

15.2 In any event, the provisions and associated Plan shall remain in force until their revision by a competent administrative radio conference convened in accordance with the relevant provisions of the Convention in force.

ANNEXES 1 - 11

as they appear in the Final Acts of the WARC, Geneva, 1977, except for the following editorial amendments :

ANNEX 1

**Limits for determining whether a Service of an Administration
is considered to be affected by a proposed Modification
to the Plan (Article 4, paragraph 4.3.1)¹**

1. *Limits on the change in the wanted-to-interfering signal ratio with respect to frequency assignments in accordance with the Plan*

With respect to paragraph 4.3.1.1, an administration shall be considered as being affected if the effect of the proposed modification to the Plan would result in the wanted-to-interfering signal ratio at any point within the service area associated with any of its frequency assignments in the Plan falling below either 30 dB or the value resulting from the frequency assignments in the Plan at the date of entry into force of the Final Acts, (1 January 1979), whichever is the lower.

3. *Limits on the change in the power flux density to protect the terrestrial services of other administrations*

With respect to paragraph 4.3.1.3, an administration in Region 1 or 3 shall be considered as being affected if the consequence of the proposed modification to the Plan is to increase the power flux density arriving on any part of the territory of that administration by more than 0.25 dB over that resulting from the frequency assignments in the Plan at the time of entry into force of the Final Acts, (1 January 1979).

4. *Limits on the change in the power flux density to protect the fixed-satellite service in the band 11.7-12.2 GHz in Region 2*

With respect to paragraph 4.3.1.4, an administration in Region 2 shall be considered as being affected if the proposed modification to the Plan would result in an increase in the power flux density on its territory of 0.25 dB or more above that resulting from the frequency assignments in the Plan at the time of entry into force of the Final Acts, (1 January 1979).

ANNEX 2

**Basic Characteristics to be furnished in Notices
relating to Space Stations in the Broadcasting-Satellite Service**

11. Power supplied to the antenna (dBW);
17. Hours of operation (UTC);

ANNEX 6

Planning Principles in Region 2

(In this Annex, paragraphs 1 and 2, the references to an Article or Provision in the Radio Regulations should be given the new number in the final version.)

ANNEX 8

Technical Data used in establishing the Provisions and Associated Plan
and which should be used for their Application

(In this Annex, paragraph 1.2, Note 1, the references to an Article or Provision in the Radio Regulations should be given the new number in the final version.)

ANNEX 10

Orbital Position Limitations

In applying the procedure of Article 4 for modifications to the Plan administrations shall observe the following criteria:

- 1) No broadcasting-satellite serving an area in Region 1 and using a frequency in the band 11.7-12.2 GHz shall occupy a nominal orbital position further West than 37° W or further East than 146° E.
- 2) Any new orbital position in the Plan in the range of orbital arc between 37° W or 10° E associated with a new assignment, or resulting from a modification of an assignment in the Plan, shall be coincident with, or within 1° to the East of, a nominal orbital position in the Plan at the date of entry into force of the Final Acts, (1 January 1979).

In the event of a modification to an assignment in the Plan, the use of a new nominal orbital position not coincident with any nominal orbital position in the Plan at the date of entry into force of the Final Acts (1 January 1979) shall be associated with an 8 dB reduction in the e.i.r.p. compared to that appearing in the Plan for the assignment before modification.

Note to Committee 9:

In the following places, Articles and Provisions of the Radio Regulations, Appendices and Resolutions which are cross-referenced by number will need to be given new numbers in the final version :

4.3.1.2	7.1.1	7.4.8.1.
4.3.1.4	7.1.4	7.4.8.2
Title Article 6,	7.1.7	7.4.8.3
footnotes 1 & 2	Title Article 7,	7.4.8.4
6.3.13	footnote	7.4.12.1
6.3.16	7.2.1	12.2.1
6.3.18	7.2.3	12.3
	7.3.3	12.6
	7.3.7	12.8
	7.4.1	

Pages 10-74 of the Final Acts of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977 (ISBN 92-61-00491-1) should not be reproduced in full in the blue and pink series (see 4th Report of Committee 7).

MOD

RESOLUTION No. []*

**Relating to Technical Cooperation with the Developing Countries
in Maritime Telecommunications**

The World ~~Maritime~~ Administrative Radio Conference, Geneva, 1979,
1974,

noting

that the assistance the Union has commenced to render to developing countries, in the field of maritime telecommunications, in collaboration with other organizations, notably the Inter-Governmental Maritime Consultative Organization (I.M.C.O.), has been promising;

conscious of

a) the need for the developing countries to increase their own shipping activities and attract foreign maritime traffic in order to develop their trade;

b) the important role that telecommunications play in maritime activities throughout the world, from the economic and safety aspects;

c) the possibility of providing adequate safety and improved economy in shipping activities by a relatively modest investment in the installation and operation of maritime telecommunication facilities;

considering

a) that in many developing countries there is a need to increase the efficiency of the services for:

- safety of navigation and safety of life at sea;
- commercially viable port operations; and
- public correspondence for passengers and crews;

*Replaces Resolution No. Mar2 - 18 of the World Maritime Administrative Radio Conference, Geneva, 1974.

b) that in this regard the Union's technical cooperation activities could be extended to render very valuable assistance to these countries;

resolves to request the Secretary-General

1. to offer the assistance of the Union to the developing countries endeavouring to improve their maritime telecommunications, especially by providing technical advice in the establishment, operation and maintenance of equipment and by assisting in training staff;

2. in this context, to seek the collaboration of I.M.C.O., the United Nations Conference for Trade and Development (UNCTAD) and other specialized agencies of the United Nations, as appropriate; and

to continue to give special attention to seeking

3. ~~to seek~~ the aid of the United Nations Development Programme and other sources of financial support, to enable the Union to render sufficient and effective technical assistance in the field of maritime telecommunications, when necessary in collaboration with other specialized agencies concerned;

to urge Member countries

give priority in supporting

~~to support~~, to the extent of their capabilities and their technical advancement, the Union's technical cooperation with the developing countries in the field of maritime telecommunications by facilitating the recruitment of experts for missions to and in developing countries, by receiving students from developing countries who have been awarded a fellowship by the Union, by providing lecturers to seminars arranged by the Union and, upon request, by giving technical advice to the Union;

to invite the developing countries

to include, as needed, in their country programmes for external technical assistance, projects in the field of maritime telecommunications and to support inter-country projects in this field.

ADD

RESOLUTION No. []

Relating to CCIR Study of Lightning Protection
of Radio Equipment

The World Administrative Radio Conference, Geneva, 1979,

considering

- a) that there are areas in the world where, although the required protective devices against lightning have been installed, equipments constantly deteriorate, often very seriously, following discharges produced during violent hurricanes and other natural storms;
- b) that due to circumstances, such as climatic conditions, man-made environmental pollution, etc., studies have not led to conclusive results;
- c) the lack of material means and of experience among technicians confronted with this phenomenon;

considering further

No. 72 of the International Telecommunication Convention (Malaga-Torremolinos, 1973);

invites the CCIR

to study this phenomenon, in consultation with the CCITT, and to formulate a recommendation in this matter.

and invites administrations

to submit to the CCIR technical data and results of studies in this matter.

ADD

RESOLUTION No. []

relating to technical cooperation with the
developing countries in the study of propagation
in the Tropical Areas

The World Administrative Radio Conference, Geneva, 1979,

having noted that the assistance provided for the developing countries by the Union in cooperation with other United Nations specialized agencies, such as UNDP, in the field of telecommunication augurs well for the future,

being aware

- a) of the fact that the developing countries, particularly, those in the tropical areas, require adequate knowledge of radio wave propagation in their territories in order to make rational and economical use of the radio spectrum;
- b) of the importance of propagation in radiocommunications;
- c) of the importance of the work of the CCIs for the development of telecommunications in general and radiocommunications in particular.

considering

- a) the need for the developing countries themselves to study telecommunications in general and propagation in particular in their territories, this being the best means of enabling them to acquire telecommunication techniques and to plan their systems effectively and in conformity with the special conditions in the tropical areas;
- b) the scarcity of resources available in these countries.

resolves to invite the Secretary-General :

- 1. to offer the assistance of the Union to developing countries in the tropical areas which endeavour to carry out national propagation studies in order to improve and develop their radiocommunications;
- 2. to assist these countries - if necessary with the collaboration of international and regional organisations such as APTU, PATU, URTNA which may be concerned - in carrying out national propagation measurement campaigns, including collecting appropriate meteorological data, on the basis of CCIR Recommendations, Questions and Study programmes in order to improve the use of the radio spectrum.
- 3. to arrange funds and resources for this purpose from the United Nations Development Programme (UNDP) or other sources in order to enable the Union to provide the countries concerned with adequate and effective technical assistance for the purpose of this Resolution.

urges Administrations to submit the results of ^{these} ~~the~~ propagation measurements to the CCIR for consideration in the Committee's study studies, programmes,

invites the Administrative Council to follow the progress in campaigns of propagation measurements and to take any action that it considers necessary.

MOD

RECOMMENDATION No. []*

Relating to the Frequencies in ~~Appendix 17, Section C,~~
~~and Appendix 17 Rev., Section B,~~ of the Radio
Regulations, provided for World-Wide Use
by Ships of all Categories and
by Coast Stations

The World ~~Maritime~~ Administrative Radio Conference, Geneva, ~~1974~~, 1979,

considering

a) that the frequencies indicated in the table of single sideband transmitting frequencies for simplex (single-frequency) operation and for intership cross-band (two-frequency) operation are not yet in world-wide use for communications between ship and coast stations;

b) that there is a world-wide need for ocean-going vessels to be able to communicate with coast stations of any administration;

recommends

~~1-~~ that, as far as possible, administrations provide a service on these frequencies at their main coast radiotelephone stations; and,

~~2-~~ ~~that administrations~~ notify to the Secretary-General the particulars of these services for publication in the List of Coast Stations, ~~in accordance with Nos. 815 and 924 of the Radio Regulations.~~

*Replaces Recommendation No. Mar2 - 6 of the World Maritime Administrative Radio Conference, Geneva, 1974.

The following list contains Resolutions and Recommendations from previous Conferences, allocated to Committee 7, for which Committee 7 decided abrogation for the reasons stated below.

- a) All necessary action has been taken

SUP

RESOLUTION No. 9

Relating to the Publication of Service Documents

SUP

RESOLUTION No. 12

Relating to the Establishment of a Manual for Use by the Mobile Services

SUP

RESOLUTION No. Mar 17

**Relating to the Need for keeping adequate Watch by Ship Stations
on the International Distress Frequency for Radiotelephony**

SUP

RESOLUTION No. Spa2 - 7

**Relating to the Inclusion of additional Sections
in List VIIIA (Article 20, Appendix 9)**

SUP

RECOMMENDATION No. 18

Relating to Operator Certificates

SUP

RECOMMENDATION No. 29

Relating to the Pronunciation of Words in the Phonetic Alphabet

SUP

RECOMMENDATION No. Spa 9

**Relating to the Review of Progress in the Field
of Space Radiocommunications**

- b) They have been replaced as indicated

Recommendation No. 34 by Resolution AF (Doc. 511 = B.7)

SUP

RECOMMENDATION No. 34

**Relating to the Use of Radiotelegraph and Radiotelephone
Links by Red Cross Organizations**

- c) They are now obsolete

SUP

RESOLUTION No. Mar 1

**Relating to the Abrogation of Obsolete Recommendations
of the Administrative Radio Conference, Geneva, 1959**

SUP

RESOLUTION No. Mar 2

**Relating to the Establishment of a Manual
for Use by the Maritime Mobile Service**

SUP

RESOLUTION No. Spa2 - 8

Relating to the Abrogation of obsolete Resolutions and Recommendations of the Extraordinary Administrative Radio Conference to allocate Frequency Bands for Space Radiocommunication Purposes, Geneva, 1963 and a Recommendation of the Administrative Radio Conference, Geneva, 1959

SUP

RESOLUTION No. Mar2 - 1

Relating to the Abrogation of obsolete Resolutions and Recommendations of the World Administrative Radio Conference, Geneva, 1967, and a Resolution of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971

SUP

RESOLUTION No. Aer2 - 8

Relating to the Abrogation of various Resolutions and a Recommendation of the Extraordinary Administrative Radio Conference, Geneva, 1966, and a Resolution of the Administrative Radio Conference, Geneva, 1959

The following Recommendations are to be retained in their current form:

NOC

RECOMMENDATION No. Mar2 - 10

Relating to the Establishment of a Watch by Coast Stations for Distress Purposes on the Frequency 156.8 MHz

NOC

RECOMMENDATION No. Aer2 - 2 Relating to the Efficient Use of Aeronautical Mobile (R) World-Wide Frequencies

NOC

RECOMMENDATION No. Mar2 - 15

**Relating to Temporary Provisions covering the
Technical and Operational Aspects of the
Maritime Mobile-Satellite Service**

NOC

RECOMMENDATION No. Mar2 - 16

Relating to Distress, Urgency and Safety Traffic

(Note: Check with Committee 9)

NOC

RECOMMENDATION No. Mar2 - 19

**Relating to Studies of the Interconnection of Maritime Mobile
Radiocommunication Systems with the International
Telephone and Telegraph Networks**

H.L. VENHAUS
Vice-Chairman of Committee 7

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/231-E

23 November 1979

Original : French

English

Spanish

LIST OF DOCUMENTS
(701 - 750)*)

No.	Origin	Title	Destination
701	C.4,5,7	Report of the Coordinator of Committees 4, 5 and 7 with respect to the rearrangement of Article N1	PL
702	C.4,5,7	Note from Coordinator of Committees 4, 5 and 7 to the Chairman of Committee 9 with respect to the rearrangement of Article N1	C.9
703	WG 6A	Sixth report from Working Group 6A	C.6
704	WG 6A	Seventh report from Working Group 6A	C.6
705	DG 6A1	Seventh report from Drafting Group 6A1	WG 6A
706	C.5	Summary Record of the Tenth meeting of Committee 5 (Frequency Allocations)	C.5
707	C.7	Third report of Committee 7 (General Administration)	PL
708	C.7	Third series of texts from Committee 7 to the Editorial Committee	C.9
709	WG 5D	Twenty-fourth report of Working Group 5D to Committee 5 (Allocations)	C.5
710	WG 5D	Twenty-fifth report of Working Group 5D to Committee 5 (Allocations)	C.5
711	WG 5D	Twenty-sixth report of Working Group 5D to Committee 5 (Allocations)	C.5
712	SG	Position of WARC accounts on 15 November 1979	C.3
713	IRQ	Draft Resolution relating to the Division of the World into Climatic Zones for the Purpose of Calculation of Propagation Parameters	PL

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200

For Documents Nos. 501 to 550, see Document No. DT/208

For Documents Nos. 551 to 600, see Document No. DT/218

For Documents Nos. 601 to 650, see Document No. DT/226

For Documents Nos. 651 to 700, see Document No. DT/227

No.	Origin	Title	Destination
714	C.4	Eighteenth report of Committee 4	PL
715 + Corr.1	C.4	Eighteenth series of texts from Committee 4 to the Editorial Committee	C.9
716	C.4	Nineteenth report of Committee 4	PL
717 + Corr.1	C.4	Nineteenth series of texts from Committee 4 to the Editorial Committee	C.9
718	IATA	IATA comments on adjacent band protection for the ILS localizer system in the band 108 - 112 MHz from broadcast systems in the 100 - 108 MHz band	C.5
719	BGD	Request for Additional Call Sign	C.7
720	WG 6A	Eight report of Working Group 6A	C.6
721	D	Proposal	PL
722	WG 5D	Twenty-seventh and twenty-eighth reports of Working Group 5D to Committee 5 (Allocations)	C.5
723	WG 5C	Thirteenth report of Working Group 5C to Committee 5	C.5
724	WG 5C	Fourteenth report of Working Group 5C to Committee 5	C.5
725	C.2	Summary record of the Second meeting of Committee 2 (credentials)	C.2
726	WG 5C	Fifteenth and final report of Working Group 5C to Committee 5	C.5
727	USA	Information paper - Allocation of the band 400.15 - 403 MHz to the meteorological-satellite service	C.5
728	USA	Information paper - Allocation of the band 406.0 - 406.1 MHz to the mobile-satellite service	C.5
729	WG 7 Ad Hoc 2	Report of Working Group 7 Ad Hoc 2 to Committee 7	C.7
730	C.2	Report of Committee 2 to the Plenary Meeting (Credentials)	PL
731 (Rev.1)	WG 5D	Twenty-ninth and final report of Working Group 5D to Committee 5 (Allocations)	C.5
732	SG	Paraguay - Transfer of powers	-
733 (Rev.1)	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 5	C.5
734	C.6	Note from the Chairman of Committee 6	C.6
735	WG 6A3	Report by Working Group 6A3 to Working Group 6A	WG 6A
736 + Corr.1	WG 6A	Note from the Chairman of Working Group 6A	WG 6A

No.	Origin	Title	Destination
737	BHR/UAE	Proposals	PL
738	KWT	Proposals	PL
739 + Corr.1 + Corr.2	C.9	B.19	PL
740	C.9	B.20	PL
741	C.9	B.21	PL
742	C.9	B.22	PL
743	WG 6A1	Eighth report from Drafting Group 6A1	WG 6A
744	C.4	Twentieth report of Committee 4	PL
745	C.4	Twentieth series of texts from Committee 4 to the Editorial Committee	C.9
746	C.4	Twentyfirst report of Committee 4	PL
747 + Corr.1	C.4	Twentyfirst series of texts from Committee 4 to the Editorial Committee	C.9
748	C.4	Twentysecond report of Committee 4	PL
749	C.4	Twentysecond series of texts from Committee 4 to the Editorial Committee	C.9
750 (Rev.1)	WG 5BA14	Draft - Resolution relating to the modification of carrier frequencies of LF broadcasting stations in Region 1	C.5

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/232-E

26 November 1979

Original : French

English

Spanish

LIST OF DOCUMENTS (751 - 800)*)

No.	Origin	Title	Destination
751	J	Proposal relating to Annex 2 to Document No. 678	PL
752	C.9	B.23	PL
753	LBR	Request for additional call sign series	C.7
754	WG 5	First report of Working Group 5 ad hoc 8 to Committee 5	C.5
+ Add.1	ad hoc 8		
755	WG 5BA12	Report from Drafting Group 5BA12 to Committee 5	C.5
(Rev.1)			
756	WG 5BB	Fourth report of Working Group 5BB to Committee 5	C.5
757	WG 5BB	Fifth report of Working Group 5BB to Committee 5	C.5
758	PLEN	Report by Working Group PLEN ad hoc 2 to the Plenary	
	ad hoc 2	meeting	PL
759	WG 7	Report of Working Group 7 ad hoc 4	C.7
	ad hoc 4		
760	WG 5BB	Sixth report of Working Group 5BB to Committee 5	C.5
761	C.9	B.24	PL
+ Corr.1			
762	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 7	C.7
763	CME/GUY/ KEN/LBR/ NIG/PHL/ CLN	Resolution relating to the role of telecommunications in integrated rural development	C.7

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200

For Documents Nos. 501 to 550, see Document No. DT/208

For Documents Nos. 551 to 600, see Document No. DT/218

For Documents Nos. 601 to 650, see Document No. DT/226

For Documents Nos. 651 to 700, see Document No. DT/227

For Documents Nos. 701 to 750, see Document No. DT/231



No.	Origin	Title	Destination
764	WG 5BA	Fourth report of Working Group 5BA to Committee 5	C.5
765	WG 5BA	Fifth report of Working Group 5BA to Committee 5	C.5
766	WG 5BA	Sixth report of Working Group 5BA to Committee 5	C.5
767 (Rev.1)	WG 5BA	Seventh report of Working Group 5BA to Committee 5	C.5
768	WG 6A	Ninth report of Working Group 6A	C.6
769	WG 6A	Tenth report of Working Group 6A	C.6
770	WG 6A	Eleventh report of Working Group 6A	C.6
771	CME	Resolution relating to a World Administrative Radio Conference to carry out a general or partial revision of the Radio Regulations	PL
772	WG 5 ad hoc 9	Report of Working Group 5 ad hoc 9 to Committee 5	C.5
773	SDN	Request for the allocation of additional call series	C.7
774	C.9	B.25	PL
775	C.4	Twenty-third report of Committee 4	PL
776	C.4	Twenty-third series of texts from Committee 4 to the Editorial Committee	C.9
777	INS/MLA/ PHL/SNG/ THA	Proposal	PL
778	PL	Minutes of the second Plenary Meeting	PL
779	WG 6A1	Ninth report from Drafting Group 6A1	WG 6A
780	WG 5BA13	Report of Sub-Working Group 5BA13 to Committee 5	C.5
781 + Add.1	C.9	B.26	PL
782 + Corr.1	C.9	B.27	PL
783	WG 5 ad hoc 8	Second report of Working Group 5 ad hoc 8 to Committee 5	C.5
784 + Corr.1	WG 6A3	Note by the Chairman of Working Group 6A3	WG 6A
785	WG 5 ad hoc 7	Report of Working Group 5 ad hoc 7 to Committee 5	C.5
786 + Corr.1	C.5	Fifth series of texts from Committee 5 to the Editorial Committee	C.9

No.	Origin	Title	Destination
787 + Add.1	C.5	Fifth report of Committee 5	PL
788 (Rev.1)	WG 5BA	Eighth and last report of Working Group 5BA	C.5
789	ad hoc WG 5BA, 5BB	Report of the ad hoc Sub-Group for the analysis of Resolutions and Recommendations assigned to Working Groups 5BA and 5BB	C.5
790	C.9	B.28	PL
791	C.5	Note from the Chairman of Committee 5 to the Chairman of Committee 6	C.6
792	WG 6A	Twelfth report of Working Group 6A	C.6
793	WG 6A	Thirteenth report of Working Group 6A	C.6
794 + Corr.1	WG 6A	Fourteenth report of Working Group 6A	C.6
795	C.6	Summary record of the ninth meeting of Committee 6	C.6
796	SG	Republic of Maldives - Transfer of powers	-
797	WG 5 ad hoc 10	Report of the Chairman of Working Group 5 ad hoc 10	C.5
798	WG 6A	Fifteenth report from Working Group 6A	C.6
799	C.6	Summary record of the tenth meeting of Committee 6	C.6
800	C.9	R.1	PL

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/233(Rev.1)-E

28 November 1979

Original : English

COMMITTEE 7

NOTE FROM THE VICE-CHAIRMAN OF COMMITTEE 7

1. Annex 1 to the present document contains a draft showing the way in which Article N73 could be revised, since no proposals have been received regarding Article N73.
2. Annex 2 to the present document contains a draft showing a possible text for the Final Acts of the Conference.
3. Annex 3 gives some information on the dates of entry into force of the Final Acts of previous ITU Administrative Radio Conferences.

H.L. VENHAUS
Vice-Chairman of Committee 7

Annexes : 2



A N N E X 1

DRAFT

CHAPTER NXIV

ARTICLE N73

Effective Date of the Radio Regulations

- MOD 9357 1629 § 1. These Regulations, which are annexed to the International Telecommunication Convention, shall enter into force on /1 January 1982_7, with the exception of :
- ADD 9357A - Article . . . (N62A) thereof and the present Article, which shall enter into force on 1 January 1981,
- ADD 9357B - Appendix 27 thereof containing the Frequency Allotment Plan for the Aeronautical Mobile (R) Service, which shall enter into force at /00.01_7 hours UTC on 1 February 1983.
- ADD 9357C /- Article . . . (N715) thereof, entitled "Frequency Allocations", which shall enter into force on /1 January 1983_7 /1 January 1984_7 /1 January 1988_7, unless otherwise specified in a footnote of* the Table contained in Section IV thereof, _7
- /ADD 9357D_7
- ADD 9357E § 2. On the date of the entry into force of Article (N62A) of these Regulations, Articles 37, 38, 39, 40 and 40A of, and Appendices 21, 21A and 22 to, the Radio Regulations, Geneva, 1959, as amended and the Additional Radio Regulations shall be abrogated and replaced by that Article . . . (N62A).
- MOD 9358 1630 § 3. On the date of the entry into force of these Regulations all other provisions of the Radio Regulations, Geneva, 1959, as partially revised by the :
- Extraordinary Administrative Radio Conference to Allocate Frequency Bands for Space Radiocommunication Purposes, Geneva, 1963,
 - Extraordinary Administrative Radio Conference for the Preparation of a Revised Allotment Plan for the Aeronautical Mobile (R) Service, Geneva, 1966,
 - World Administrative Radio Conference to deal with matters relating to the Maritime Mobile Service, Geneva, 1967,
 - World Administrative Radio Conference for Space Telecommunications, Geneva, 1971,

*) Note to Committee 9 : NOT to be changed by Editorial Committee please. See MOD RR 3434/142.

- World Maritime Administrative Radio Conference, Geneva, 1974, and the
- World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

shall be abrogated and replaced by the provisions of these Regulations.

ADD 9358A

§ 4. In accordance with the request, expressed in Resolution No. Sat-4, by the World Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in Frequency Bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1), Geneva, 1977, the provisions and associated Plan adopted by that Conference are, in the appropriate form and without affecting their content and integrity, annexed to these Regulations as Appendix ... and form an integral part of these Regulations.

MOD 9359 1631

§ 5. The delegates signing these Regulations hereby declare that, should an administration make reservations about the application of one or more provisions of these Regulations, no other administration shall be obliged to observe that provision or those provisions in its relations with that particular administration.

MOD 1632

§ 6. In witness whereof the delegates of the Members of the Union represented at the World Administrative Radio Conference, Geneva, 1979, have signed in the names of their respective countries the present Regulations in a single copy which will remain in the archives of the International Telecommunication Union and of which a certified copy will be delivered to every Member of the Union.

Done at Geneva, the of December, 1979

A N N E X 2

DRAFT

FINAL ACTS

OF THE

WORLD ADMINISTRATIVE RADIO CONFERENCE, GENEVA, 1979

The Plenipotentiary Conference of the International Telecommunication Union, Malaga-Torremolinos, 1973, in its Resolution No. 28, considering that, since 1959, various world administrative radio conferences had amended the Radio Regulations and Additional Radio Regulations on specific points without having been able to harmonize these decisions taken because of the limited nature of their agenda, resolved that a World Administrative Radio Conference be convened in 1979 in order to revise, as necessary, those regulations and instructed the Administrative Council to make preparations for convening that Conference.

At its 30th session (1975) the Administrative Council, in its Resolution No. 768, set up a group of experts from Administrations to study a possible re-arrangement of the Radio Regulations and the Additional Radio Regulations.

The "Re-Arrangement of the Radio Regulations" as proposed by the group of experts was in principle endorsed by the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, in its Resolution No. Sat-10 in which it urged Member countries to use that re-arranged form of the Radio Regulations and the present form of the Additional Radio Regulations as a basis for submitting proposals to the present Conference.

At its 32nd session (1977) the Administrative Council, in its Resolution 801, resolved that the World Administrative Radio Conference, 1979, be convened in Geneva on 24 September 1979 for a duration of ten weeks and adopted the agenda for that Conference.

The World Administrative Radio Conference, Geneva, 1979, accordingly convened, and, in conformity with its agenda and on the basis of the aforementioned "Re-Arrangement of the Radio Regulations" and of the proposals submitted to it by Administrations, considered, re-arranged and partially revised as to their contents the provisions of the Radio Regulations. As result of its work, it adopted the Radio Regulations, Geneva, 1979, the text of which is contained in Annex 1 hereto.

The Radio Regulations, Geneva, 1979, shall be regarded as annexed to the International Telecommunication Convention, Malaga-Torremolinos, 1973, and shall, with the exception of Article . . . (N62A) and Article . . . (N73) of those Regulations, enter into force on [1 January 1982].

The aforementioned Articles . . . (N62A) and . . . (N73) of the Radio Regulations, Geneva, 1979, shall already enter into force on 1 January 1981. On the date of their entry into force Articles 37, 38, 39, 40 and 40A of, and Appendices 21, 21A and 22 to, the Radio Regulations, Geneva, 1959, as amended as well as the Additional Radio Regulations shall be abrogated and replaced by Article . . . (N62A) of the Radio Regulations, Geneva, 1979.

On the date of the entry into force of the Radio Regulations, Geneva, 1979, the Radio Regulations, Geneva, 1959, as partially revised by the following Administrative Radio Conferences :

- Extraordinary Administrative Radio Conference to Allocate Frequency Bands for Space Radiocommunication Purposes, Geneva, 1963,

- Extraordinary Administrative Radio Conference for the Preparation of a Revised Allotment Plan for the Aeronautical Mobile (R) Service, Geneva, 1966,
- World Administrative Radio Conference to deal with matters relating to the Maritime Mobile Service, Geneva, 1967,
- World Administrative Radio Conference for Space Telecommunications, Geneva, 1971,
- World Maritime Administrative Radio Conference, Geneva, 1974, and
- World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

shall be abrogated and replaced by the Radio Regulations, Geneva, 1979, with the exception of the Frequency Allotment Plan for the Aeronautical Mobile (R) Service - adopted by the World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978, and contained in Appendix 27 to the Radio Regulations, Geneva, 1979 - which shall enter into force at [0001] hours UTC on 1 February 1983.

The World Administrative Radio Conference, Geneva, 1979 authorizes the Secretary-General of the International Telecommunication Union to make the necessary editorial amendments and arrangements, including the appropriate final marginal numbering [] and the final numbering of the Appendices [], with regard to the Radio Regulations, Geneva, 1979, of which certified true copies shall be sent by him to the Members of the Union.

Members of the Union shall inform the Secretary-General of their approval of the Radio Regulations, Geneva, 1979, as adopted by the World Administrative Radio Conference, Geneva, 1979. The Secretary-General shall inform Members promptly regarding receipt of such notifications of approval.

The delegates to the World Administrative Radio Conference, Geneva, 1979, having agreed to, and signing, these Final Acts and the Radio Regulations, Geneva, 1979, hereby declare that, should an administration make reservations concerning the application of one or more of the provisions of the Radio Regulations, Geneva, 1979, no other administration shall be obliged to observe that provision, or those provisions, in its relations with that particular administration.

In witness whereof the delegates of the Members of the International Telecommunication Union represented at the World Administrative Radio Conference, Geneva, 1979, have signed in the name of their respective countries these Final Acts in a single copy which will remain in the archives of the International Telecommunication Union and of which a certified true copy will be transmitted to each member of the Union.

Done at Geneva, December 1979

A N N E X 3

TABLE OF WORLD ADMINISTRATIVE RADIO CONFERENCES
HELD FROM 1947

CONFERENCES	DATE OF SIGNATURE FINAL ACTS	DATE OF ENTRY INTO FORCE	ELAPSED PERIOD
* 1947 Administrative Radio Conference Atlantic City 1947	2 October 1947	1 January 1949	15 months
* 1959 Administrative Radio Conference Geneva 1959	21 December 1959	1 May 1961	16 months
1963 Extraordinary Administrative Radio Conference 1963 Space Conference Geneva (Spa)	8 November 1963	1 January 1965	14 months
1966 Extraordinary Administrative Radio Conference 1966 Aeronautical Conference Geneva (Aer)	29 April 1966	1 July 1967 ¹⁾	14 months ^{a)}
1967 World Administrative Radio Conference 1967 Maritime Conference Geneva (Mar)	3 November 1967	1 April 1969	18 months
1971 World Administrative Radio Conference 1971 Space Conference Geneva (Spa2)	17 July 1971	1 January 1973	17 months
1974 World Administrative Radio Conference 1974 Maritime Conference Geneva (Mar2)	8 June 1974	1 January 1976	19 months
1977 Broadcasting Satellite Conference Geneva	13 February 1977	1 January 1979	22 months
1978 World Administrative Radio Conference 1978 Aeronautical Conference Geneva (Aer2)	5 March 1978	1 September 1979 ²⁾	18 months ^{b)}
* 1979 World Administrative Radio Conference Geneva	31 November 1979		

* Main Conferences

1) Except for the Frequency Allotment Plan for the Aeronautical Mobile (R) Service which date of entry into force was 10 April 1970

2) Except for the Frequency Allotment Plan for the Aeronautical Mobile (R) Service which shall enter into force on

1 February 1983

a) Elapsed period for the Frequency Allotment Plan (see note 1): 33 months

b) Elapsed period for the Frequency Allotment Plan (see note 2): 59 months

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/233-E

26 November 1979

Original : English

COMMITTEE 7

NOTE FROM THE VICE-CHAIRMAN OF COMMITTEE 7

1. Annex 1 to the present document contains a draft showing the way in which Article N73 could be revised, since no proposals have been received regarding Article N73.
2. Annex 2 to the present document contains a draft showing a possible text for the Final Acts of the Conference.
3. Annex 3 gives some information on the dates of entry into force of the Final Acts of previous ITU Administrative Radio Conferences.

H.L. VENHAUS
Vice-Chairman of Committee 7

Annexes : 3



A N N E X 1DRAFT

CHAPTER NXIV

ARTICLE N73

Effective Date of the Radio Regulations

- MOD 9357 1629 § 1. These Regulations, which are annexed to the International Telecommunication Convention, shall enter into force on 7, with the exception of :
- ADD 9357A - Article . . . (N62A) thereof, which shall enter into force on 7.
- ADD 9357B - Appendix 27 thereof containing the Frequency Allotment Plan for the Aeronautical Mobile (R) Service, which shall enter into force at 00.01 hours UTC on 1 February 1983.
- ADD 9357C
- ADD 9357D
- ADD 9357E § 2. On the date of the entry into force of Article (N62A) of these Regulations, Articles 37, 38, 39, 40 and 40A of, and Appendices 21, 21A and 22 to, the Radio Regulations, Geneva, 1959, as amended and the Additional Radio Regulations shall be abrogated.
- MOD 9358 1630 § 3. On the date of the entry into force of these Regulations all other provisions of the Radio Regulations, Geneva, 1959, as partially revised by the :
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 - Extraordinary Administrative Radio Conference for the Preparation of a Revised Allotment Plan for the Aeronautical Mobile (R) Service, Geneva, 1966,
 - World Administrative Radio Conference to deal with matters relating to the Maritime Mobile Service, Geneva, 1967,
 - World Administrative Radio Conference for Space Telecommunications, Geneva, 1971,
 - World Maritime Administrative Radio Conference, Geneva, 1974, and the
 - World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

shall be abrogated and replaced by the provisions of these Regulations.

ADD 9358A

§ 4. In accordance with the request, expressed in Resolution No. Sat-4, by the World Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in Frequency Bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1), Geneva, 1977, the provisions and associated Plan adopted by that Conference are, in the appropriate form and without affecting their content and integrity, annexed to these Regulations as Appendix ... and form an integral part of these Regulations.

MOD 9359 1631

§ 5. The delegates signing these Regulations hereby declare that, should an administration make reservations about the application of one or more provisions of these Regulations, no other administration shall be obliged to observe that provision or those provisions in its relations with that particular administration.

MOD 1632

§ 6. In witness whereof the delegates of the Members of the Union represented at the World Administrative Radio Conference, Geneva, 1979, have signed in the names of their respective countries the present Regulations in a single copy which will remain in the archives of the International Telecommunication Union and of which a certified copy will be delivered to every Member of the Union.

Done at Geneva, the of December, 1979

A N N E X 2

DRAFT

FINAL ACTS

OF THE

WORLD ADMINISTRATIVE RADIO CONFERENCE, GENEVA, 1979

The Plenipotentiary Conference of the International Telecommunication Union, Malaga-Torremolinos, 1973, in its Resolution No. 28, considering that, since 1959, various world administrative radio conferences had amended the Radio Regulations and Additional Radio Regulations on specific points without having been able to harmonize these decisions taken because of the limited nature of their agenda, resolved that a World Administrative Radio Conference be convened in 1979 in order to revise, as necessary, those regulations and instructed the Administrative Council to make preparations for convening that Conference.

At its 30th session (1975) the Administrative Council, in its Resolution No. 768, set up a group of experts from Administrations to study a possible re-arrangement of the Radio Regulations and the Additional Radio Regulations.

The "Re-Arrangement of the Radio Regulations" as proposed by the group of experts was in principle endorsed by the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, in its Resolution No. Sat-10 in which it urged Member countries to use that re-arranged form of the Radio Regulations and the present form of the Additional Radio Regulations as a basis for submitting proposals to the present Conference.

At its 32nd session (1977) the Administrative Council, in its Resolution 801, resolved that the World Administrative Radio Conference, 1979, be convened in Geneva on 24 September 1979 for a duration of ten weeks and adopted the agenda for that Conference.

The World Administrative Radio Conference, Geneva, 1979, accordingly convened, and, in conformity with its agenda and on the basis of the aforementioned "Re-Arrangement of the Radio Regulations" and of the proposals submitted to it by Administrations, considered, re-arranged and partially revised as to their contents the provisions of the Radio Regulations. As result of its work, it adopted the Radio Regulations, Geneva, 1979, the text of which is contained in Annex 1 hereto.

The Radio Regulations, Geneva, 1979, shall be regarded as annexed to the International Telecommunication Convention, Malaga-Torremolinos, 1973, and shall, with the exception of Article (N62A) of those Regulations, enter into force on / /.

The aforementioned Article (N62A) of the Radio Regulations, Geneva, 1979, shall already enter into force on / / . On the date of the entry into force of that Article, Articles 37, 38, 39, 40 and 40A of, and Appendices 21, 21A and 22 to, the present Radio Regulations as well as the Additional Radio Regulations shall be abrogated.

On the date of the entry into force of the Radio Regulations, Geneva, 1979, the Radio Regulations, Geneva, 1959, as partially revised by the following Administrative Radio Conferences :

- Extraordinary Administrative Radio Conference to Allocate Frequency Bands for Space Radiocommunication Purposes, Geneva, 1963,

- Extraordinary Administrative Radio Conference for the Preparation of a Revised Allotment Plan for the Aeronautical Mobile (R) Service, Geneva, 1966,
- World Administrative Radio Conference to deal with matters relating to the Maritime Mobile Service, Geneva, 1967,
- World Administrative Radio Conference for Space Telecommunications, Geneva, 1971,
- World Maritime Administrative Radio Conference, Geneva, 1974, and
- World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

shall be abrogated and replaced by the Radio Regulations, Geneva, 1979, with the exception of the Frequency Allotment Plan for the Aeronautical Mobile (R) Service - adopted by the World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978, and contained in Appendix 27 to the Radio Regulations, Geneva, 1979 - which shall enter into force at / 0001 / hours UTC on 1 February 1983.

The World Administrative Radio Conference, Geneva, 1979 authorizes the Secretary-General of the International Telecommunication Union to make the necessary editorial amendments and arrangements, including the appropriate final marginal numbering / and the final numbering of the Appendices /, with regard to the Radio Regulations, Geneva, 1979, of which certified true copies shall be sent by him to the Members of the Union.

Members of the Union shall inform the Secretary-General of their approval of the Radio Regulations, Geneva, 1979, as adopted by the World Administrative Radio Conference, Geneva, 1979. The Secretary-General shall inform Members promptly regarding receipt of such notifications of approval.

The delegates to the World Administrative Radio Conference, Geneva, 1979, having agreed to, and signing, these Final Acts and the Radio Regulations, Geneva, 1979, hereby declare that, should an administration make reservations concerning the application of one or more of the provisions of the Radio Regulations, Geneva, 1979, no other administration shall be obliged to observe that provision, or those provisions, in its relations with that particular administration.

In witness whereof the delegates of the Members of the International Telecommunication Union represented at the World Administrative Radio Conference, Geneva, 1979, have signed in the name of their respective countries these Final Acts and the Radio Regulations, Geneva, 1979, in a single copy which will remain in the archives of the International Telecommunication Union.

Done at Geneva, December 1979

A N N E X 3

TABLE OF WORLD ADMINISTRATIVE RADIO CONFERENCES
HELD FROM 1947

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1963 Extraordinary Administrative Radio Conference 1963 Space Conference Geneva (Spa)	8 November 1963	1 January 1965	14 months
1966 Extraordinary Administrative Radio Conference 1966 Aeronautical Conference Geneva (Aer)	29 April 1966	1 July 1967 ¹⁾	14 months ^{a)}
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1971 World Administrative Radio Conference 1971 Space Conference Geneva (Spa2)	17 July 1971	1 January 1973	17 months
1974 World Administrative Radio Conference 1974 Maritime Conference Geneva (Mar2)	8 June 1974	1 January 1976	19 months
1977 Broadcasting Satellite Conference Geneva	13 February 1977	1 January 1979	22 months
1978 World Administrative Radio Conference 1978 Aeronautical Conference Geneva (Aer2)	5 March 1978	1 September 1979 ²⁾	18 months ^{b)}
* 1979 World Administrative Radio Conference Geneva	31 November 1979		

* Main Conferences

1) Except for the Frequency Allotment Plan for the Aeronautical Mobile (R) Service which date of entry into force was 10 April 1970

2) Except for the Frequency Allotment Plan for the Aeronautical Mobile (R) Service which shall enter into force on

a) Elapsed period for the Frequency Allotment Plan (see note 1): 33 months

1 February 1983

b) Elapsed period for the Frequency Allotment Plan (see note 2): 59 months

WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. DT/234-E
26 November 1979
Original : English

COMMITTEE 7

DRAFT

FIFTH REPORT OF COMMITTEE 7

(GENERAL ADMINISTRATION)

1. Committee 7 in its twenty-fifth meeting approved, among others, the texts reproduced in Document No. 851.
 - 1.1 The Committee agreed to reproduce the texts referred to in this report under point 2 together with the amendments adopted during its twenty-fifth meeting, and to pass them on directly to Committee 9 without going through the green stage.
2. A working group (7 ad hoc 6) was set up under the Chairmanship of Mr. R. Schenke (Federal Republic of Germany) to deal with matters relating to service documents (Article N24, Appendices 9, 10, 10A, 11, Resolution No. Mar2 - 17, as well as other Conference documents on this matter). Committee 7 adopted the report of Working Group 7 ad hoc 6 (see Document No. 826) with a few amendments.
 - 2.1 The modification to RR5507/789 provides for the availability of published information in alternative means for administrations. The modification was agreed on the condition that in the application of this provision, the Secretary-General would ensure that in no way would there be direct access to any part of the Master International Frequency Register, with the exception of those parts contained in published lists.
 - 2.2 With respect to Radiocommunications Statistics, the Committee noted that the General Secretariat had ceased the publication of a separate document and that the information was now included in the Annual Yearbook of Telecommunication Statistics. The Committee endorsed the continuation of this action.
 - 2.3 The Committee noted the results of the work of Committee 4 in connection with Appendices 28 and 29 and of Committee 6 in connection with Appendices 1 and 1A; it also took into account the note from the Chairman of Committee 6 to the Chairman of Committee 7 on this subject (see Document No. 762). In the light of the above information, the Committee unanimously agreed to replace the column headings of List I appearing in Appendix 9 by the new text, which gives flexibility to the IFRB to introduce necessary improvements.
 - 2.4 Committee 7, in adopting the additional sentence at the end of Appendix 10 which reads "(The Symbols may be modified as the situation requires.)", recognized that the modification, addition or deletion of symbols were to be made by the IFRB or the Secretary-General, as appropriate.
 - 2.5 Committee 7 approved the abrogation of Resolution No. Mar2 - 17 as a consequence of the inclusion of the Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services in Article N24.
 - 2.6 With respect to the replacement of "GMT" by "UTC" and "kW" by "dBW" in these texts, the Committee considered it to be an editorial matter for Committee 9.

H.L. VENHAUS
Vice-Chairman of Committee 7



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/235-E

26 November 1979

Original : French

COMMITTEE 3

DRAFT

FINAL REPORT OF THE BUDGET CONTROL COMMITTEE
TO THE PLENARY MEETING

The Budget Control Committee held 6 meetings during the Conference. Under the provisions of Chapter XI, Article 77, No. 442, of the International Telecommunication Convention, Malaga-Torremolinos, 1973, the Committee's terms of reference were :

- a) to determine the organization and the facilities available to the delegates and
- b) to examine and approve the accounts for expenditure incurred throughout the duration of the Conference.

1. Determination of the organization and facilities available to the delegates

No delegation having presented any criticisms or comments on this matter, the Committee found that the organization and facilities available to delegates gave full satisfaction.

2. Budget of the Conference

The Budget Control Committee took note of the Conference budget approved by the Administrative Council at its 33rd (1978) and 34th (1979) sessions, i.e.

5,145,000	Swiss francs for the preparatory work of the Conference itself and
240,000	Swiss francs for finalization work, or a total of

5,385,000 Swiss francs.

The Committee also noted that the Conference budget did not comprise expenditure relating to common services. Under a decision taken by the Administrative Council in 1976, such expenditure is now charged to a special section of the ordinary budget. The portion relating to the WARC in this section is estimated at 3,026,600 Swiss francs.

The Committee further noted that in accordance with the provisions of Administrative Council Resolution No. 647, the Conference budget (5,385,000 Swiss francs) had been adjusted to take into account the changes introduced in the common system of



the United Nations and the specialized agencies in Geneva with regard to the salaries and allowances of short-term staff. These adjustments increased the total budget of the WARC to 5,474,000 Swiss francs, i.e. by 89,000 Swiss francs.

3. Position of Conference expenditure

In accordance with the provisions of the Convention, the Budget Control Committee has to submit to the Plenary Meeting a report indicating as exactly as possible the estimated amount of Conference expenditure.

Annex 1 accordingly contains a statement showing the budget of the Conference with the estimated breakdown by budget subheads and items, possible transfers of credits and actual expenditure up to 26 November. The statement also shows commitments to expenditure up to that date and estimated expenditure until the close of the Conference, the date of which has been fixed provisionally by the Steering Committee at 5 December 1979, making a prolongation of 5 days.

It will be seen from the statement that the total expenditure is estimated at 5,618,000 Swiss francs, so that presumably the budget approved by the Administrative Council will be exceeded by 144,000 Swiss francs. It should be noted, however, that all of the excess expenditure is accounted for by the prolongation of the Conference. Without the extension, it would have been possible not to exceed the credits allocated, despite the large volume of documentation produced and the many additional interpretation days which had to be provided for.

Under the Union's Financial Regulations, the Secretary-General may transfer credits from one item to another within the same budget subhead. Moreover, the Budget Control Committee may authorize transfers of credits from one subhead to another. By virtue of these provisions and on the proposal of the Secretary-General, the Budget Control Committee authorized the transfer of a credit of 60,000 Swiss francs from subhead 2 (expenditure on premises and equipment) to subhead 1 (staff). The reason for this transfer is the Secretary-General's decision to recruit a third team for the reprography service so that the service could work 24 hours per day, thus increasing internal production and reducing the volume of documentation to be run off by printers outside the Union accordingly.

4. Final Acts of the Conference

Under the provisions of Administrative Council Resolution No. 83 (amended) :

"... if a conference ... prints, for its own use, documents of which typographical composition can subsequently be used, in whole or in part, for the printing of the Final Acts, it must bear a percentage of the composition costs and the whole of the printing costs of the said documents;

... the percentage of the composition cost mentioned in a) above
... shall be decided by the plenary meeting of the conference ...".

The texts constituting the Final Acts of the Conference submitted to delegations for signature are produced by the Union workshops. These texts will be used for the production of the Final Acts offered for sale and the subsequent publication of the new Radio Regulations. The Plenary Meeting of the Conference will therefore have to determine the percentages of the composition cost to be borne by the Conference budget and by the Supplementary Publications Budget.

In the light of the decisions adopted by previous conferences and by the Administrative Council on approving the budget of the Conference, the Budget Control Committee proposes the following allocation :

1/3 to be charged to the budget of the Conference and

2/3 to be charged to the Supplementary Publications Budget.

The estimate of expenditure in Annex 1 is based on the above 1/3 - 2/3 allocation.

5. Contributions by recognized private operating agencies and non-exempt international organizations

Under the provisions of Article 16 of the Union's Financial Regulations, the report of the Budget Control Committee to the Plenary Meeting must include a list of

the recognized private operating agencies and the international organizations which are required to contribute to the defrayal of the expenses of the Conference. To this list must be added a list of the international organizations which have been exempted from payment in accordance with No. 548 of the Convention.

The list in question will be found in Annex 2 to this document.

* * *

In accordance with the provisions of No. 445 of the Convention, this report, together with the observations of the Plenary Meeting, will be transmitted to the Secretary-General for submission to the Administrative Council at its next annual session.

* * *

The Plenary Meeting is requested to approve this report.

Z. KUPCZYK
Chairman of Committee 3

Annexes : 2 (Annex 1 will be added later)

A N N E X 2

LIST OF RECOGNIZED PRIVATE OPERATING AGENCIES AND INTERNATIONAL ORGANIZATIONS
PARTICIPATING IN THE WORK OF THE CONFERENCE

Number of
contributory units

A. Recognized private operating agencies

The Marconi International Marine Co., Ltd. 1
2

B. International organizations1. United Nations and specialized agencies

United Nations	*)
United Nations Educational, Scientific and Cultural Organization (UNESCO)	*)
International Civil Aviation Organization (ICAO)	*)
World Meteorological Organization (WMO)	*)
World Health Organization (WHO)	*)
Intergovernmental Maritime Consultative Organization (IMCO)	*)

2. Other international organizations

Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA)	1 2
European Space Agency (ESA)	1 2
Association of State Telecommunication Undertakings of the Andean Sub-Regional Agreement (ASETA)	*)
International Air Transport Association (IATA)	*)
International Association of Lighthouse Authorities (IALA)	1 2
Inter-American Association for Broadcasters (IAAB)	*)
World Association for Christian Communication (WACC)	1 2
North American National Broadcasters' Association (NANBA)	1 2
Intergovernmental Bureau for Informatics (IBI)	1 2
International Chamber of Shipping (ICS)	1 2
International Committee of the Red Cross (ICRC)	*)
International Maritime Radio Association (CIRM)	*)
International Special Committee on Radio Interference (CISPR)	*)
Inter-Union Commission on Frequency Allocations for Radioastronomy and Space Science (IUCAF)	*)
International Electrotechnical Commission (IEC)	*)
International Astronautical Federation (IAF)	*)
International Transport Workers' Federation (ITF)	1 2
Arab Satellite Communications Organization (ARABSAT)	1 2
Ibero American Television Organization (OTI)	*)

	<u>Number of contributory units</u>
Organization of African Unity (OAU)	*)
International Criminal Police Organization (INTERPOL)	*)
International Radio and Television Organization (OIRT)	*)
International Telecommunications Satellite Organization (INTELSAT)	1
International Space Telecommunication Organization (INTERSPUTNIK)	$\frac{1}{2}$
African Postal and Telecommunication Union (APTU)	*)
Arab Telecommunication Union (UAT)	*)
International Astronomical Union (IAU)	*)
Panafrican Telecommunication Union (UPAT)	*)
Asian-Pacific Broadcasting Union (ABU)	*)
Arab States Broadcasting Union (ASBU)	*)
Union of National Radio and Television Organizations of Africa (URTNA)	*)
European Broadcasting Union (EBU)	*)
International Amateur Radio Union (IARU)	*)
International Union of Radio Science (URSI)	*)

*) Exempted from all contributions under Administration Council Resolution No. 574.

**CONFERENCE ADMINISTRATIVE
MONDIALE
DES RADIOCOMMUNICATIONS**

(Genève, 1979)

Corrigendum N.º 1 al
Documento N.º DT/236-F/E/S
30 de noviembre de 1979
Original: español

PROYECTO

SEXTO INFORME DE LA COMISIÓN 7

Página 2, quinta línea, léase: "... HMA - HMZ registrados en la UIT ..."
en lugar de "... HAM - HMZ notificados a la UIT ..."

Ne concerne que le texte espagnol.

Concerns spanish text only.



**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/236

29 November 1979

Original : English

DRAFT

SIXTH REPORT OF COMMITTEE 7

In the course of its meetings, Committee 7 approved the texts mentioned in Document No. 872.

1. In addition to the abrogation of Resolutions and Recommendations approved in previous reports of Committee 7, several other Resolutions and Recommendations are to be abrogated. (See Document No. 872.)
2. Certain other Resolutions and Recommendations are to be retained in their present form. (See Document No. 872.)
3. Certain other Recommendations were modified. (See Document No. 872.)
4. In addition to new Resolutions and Recommendations adopted at previous meetings, certain other new Resolutions and Recommendations were approved. It should be noted that Resolution No. [COM7 - 4] relating to the re-definition of certain terms contained in Annex 2 to the International Telecommunication Convention was sent directly to the Editorial Committee for incorporation in its work on Article N1 (see Document No. 864).
5. Committee 7 adopted the text of Article N2A. It also adopted a consequential modification to provision 8586 (see Document No. 872).
6. A discussion was held on the consideration of proposals on the identification of stations, Article N23, related Appendices and Resolutions. The Deputy Secretary-General introduced the Report of the Secretary-General on the identification of stations (see Document No. 157 + Corr.1) and highlighted some points on the action taken by the Secretary-General, as well as future possibilities to increase the capacity in the use of individual call sign series.
 - 6.1 A Working Group (7/ad hoc 7) under the Chairmanship of Mr. Bailton (Papua New Guinea) was set up to study Article N23, related Appendices and Resolutions.
 - 6.2 A general discussion was held on call signs (Appendix C). The delegate of the Democratic People's Republic of Korea introduced his Administration's proposal in Document No. 141 and Add.1, and the delegate of the Republic of Korea introduced his Administration's proposal in Document No. 387(Rev.1) + Corr.1. A lengthy discussion followed and various alternative solutions were proposed. The Committee adopted the solution incorporated in the enclosed Annex.
 - 6.3 The complete record of the discussion and the alternative proposals are contained in the Summary Records of the 21st, 22nd and 23rd meetings of Committee 7.
7. The revised texts as adopted by Committee 7 have been submitted to the Editorial Committee for subsequent submission to the Plenary Meeting. (See Document No. 872 and Document No. 864.)

H.L. VENHAUS
Vice-Chairman of Committee 7



A N N E X

NOTE BY THE SECRETARY-GENERAL

Following the Note of the Secretary-General, Document No. 454, and discussions which have proceeded on Documents No. 141(Rev.1) Add.1(Rev.1), 387(Rev.1), Add.1, Corr.1, the following modifications would be introduced into the Table of Allocation of International Call Sign Series (Appendix C) :

	Call Sign Series	Allocated to :

SUP	DAA-DTZ	Germany
MOD	DAA-DRZ	Federal Republic of Germany
MOD	DSA-DTZ	Republic of Korea
SUP	HLA-HMZ	Korea (Republic of)
MOD	HLA-HLZ	Republic of Korea ¹⁾
MOD	HMA-HMZ	Democratic People's Republic of Korea ¹⁾

- 1) The two Administrations concerned undertake to change their existing use of HLA-HLZ and HMA-HMZ Call Sign series to conform with the 1979 Table of Allocations as soon as practicable, in order to clarify their operational arrangements for other Administrations. In this regard, the Administration of the Republic of Korea will take action to change the existing Call Signs registered with the ITU in the HMA-HMZ series as changes occur in the use of Call Signs in this series. The above mentioned actions shall, in any case, be completed by 1 January 1984.

**WORLD ADMINISTRATIVE
RADIO CONFERENCE**

(Geneva, 1979)

Document No. DT/237-E

1 December 1979

Original : French

English

Spanish

LIST OF DOCUMENTS

(801 - 850)*)

No.	Origin	Title	Destination
801	WG 6A	Sixteenth and final report of Working Group 6A	C.6
802	TCD	Request for the allocation of a new series of call signs	C.7
803	C.4,5,7	Joint meeting of Committees 4, 5 and 7	C.4,5,7
804	WG 6A,6A3	Note by the Chairmen of Working Groups 6A and 6A3	C.6
805	I/HOL	Recommendation [<u>HOL/I</u>] concerning the optimization of the use of frequencies in parts of the VHF and UHF spectrum, by introducing bandwidth-saving techniques for the transmission of television signals	C.7
806	C.5	Draft - Resolution relating to the implementation of the new arrangement of bands allocated exclusively to the aeronautical mobile (R) service between 21 924 and 22 000 kHz	C.5
807 (Rev.1)	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 6	C.6
808 (Rev.1)	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 6	C.6
809	C.7	Note from the Vice-Chairman of Committee 7 to the Chairman of Committee 9	C.9
810	C.6	Fifth report of Committee 6	PL
811	C.6	Fifth series of texts submitted by Committee 6 to the Editorial Committee	C.9
812	C.6	Sixth report of Committee 6	PL

*) For Documents Nos. 1 to 100, see Document No. 100 + Corr.1

For Documents Nos. 101 to 150, see Document No. DT/15

For Documents Nos. 151 to 200, see Document No. DT/39

For Documents Nos. 201 to 250, see Document No. DT/70

For Documents Nos. 251 to 300, see Document No. DT/111

For Documents Nos. 301 to 350, see Document No. DT/146

For Documents Nos. 351 to 400, see Document No. DT/159

For Documents Nos. 401 to 450, see Document No. DT/174

For Documents Nos. 451 to 500, see Document No. DT/200

For Documents Nos. 501 to 550, see Document No. DT/208

For Documents Nos. 551 to 600, see Document No. DT/218

For Documents Nos. 601 to 650, see Document No. DT/226

For Documents Nos. 651 to 700, see Document No. DT/227

For Documents Nos. 701 to 750, see Document No. DT/231

For Documents Nos. 751 to 800, see Document No. DT/232



N°	Origin	Title	Destination
813	C.6	Sixth series of texts submitted by Committee 6 to the Editorial Committee	C.9
814	C.6	Note from the Chairman of Committee 6 to the Chairman of Committee 5	C.5
815	C.4	Summary record of the seventh meeting of Committee 4 (Technical regulations)	C.4
816 + Corr.1	PL	Minutes of the third Plenary meeting	PL
817	C.9	B.29	PL
818	C.9	B.30	PL
819	C.9	B.31	PL
820	C.9	B.32	PL
821	C.9	B.33	PL
822	PLEN ad hoc 3	Report from PLEN ad hoc 3 Group to the Plenary meeting	PL
823	PLEN ad hoc 3	First series of texts from PLEN ad hoc 3 Group to the Editorial Committee	C.9
824	C.4	Summary record of the eighth meeting of Committee 4 (Technical regulations)	C.4
825	C.3	Summary record of the fifth meeting of Committee 3 (Budget control)	C.3
826	WG 7 ad hoc 6	Report by Working Group 7 ad hoc 6 to Committee 7	C.7
827	B/USA/ G/BOT/ TGK/MEX	Frequency allocations 7 100 - 7 300 kHz	C.5
828	C.5	Sixth report of Committee 5	PL
829 + Corr.1	C.5	Sixth series of texts from Committee 5 to the Editorial Committee	C.9
830	WG 6 ad hoc 3	First report of ad hoc Group 3 of Committee 6	C.6
831	WG 6 ad hoc 3	Second and last report of ad hoc Group 3 of Committee 6	C.6
832	G.6	Seventh report of Committee 6	PL
833	C.6	Seventh series of texts submitted by Committee 6 to the Editorial Committee	C.9
834	WG 6 ad hoc 4	Report from ad hoc Group 4 of Committee 6 to Committee 6	C.6

No.	Origin	Title	Destination
835	C.6	Note from the Chairman of Committee 6	C.6
836	C.7	Note from the Acting Chairman of Committee 7 to the Chairman of Committee 5	C.5
837	C.5	Seventh and last report of Committee 5	PL
838 + Corr.1	C.5	Seventh and last series of texts from Committee 5 to the Editorial Committee	C.9
839	C.9	R.2	PL
840	C.9	B.34	PL
841	C.7	Fourth report of Committee 7 (General administration)	PL
842 + Add.1	C.7	Fourth series of texts from Committee 7 to the Editorial Committee	C.9
843	SG	Position of WARC accounts on 26 November 1979	C.3
844	PL	Minutes of the fourth Plenary meeting	PL
845	WG 7 ad hoc 8	Report from ad hoc Group 8 of Committee 7 to Committee 7	C.7
846	C.6	Summary record of part two of the tenth meeting of Committee 6 (Regulatory procedures)	C.6
847	C.6	Summary record of part three of the tenth meeting of Committee 6 (Regulatory procedures)	C.6
848	CTI	Proposals	C.7
849	F	Amendments proposals	PL
850	C.7	Fifth report of Committee 7 (General administration)	PL