



**Documents of the Regional Administrative Radio Conference to
establish a plan for the broadcasting service in the band 1605-1705 kHz
in Region 2 (2nd session) RARC BC-R2 (2) (Rio de Janeiro, 1988)**

To reduce download time, the ITU Library and Archives Service has divided the conference documents into sections.

- This PDF includes Document DT No. 1 - 31.
- The complete set of conference documents includes Document No. 1 - 137,
DL No. 1 - 8, DT No. 1 - 31.

This electronic version (PDF) was scanned by the International Telecommunication Union (ITU) Library & Archives Service from an original paper document in the ITU Library & Archives collections.

La présente version électronique (PDF) a été numérisée par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'un document papier original des collections de ce service.

Esta versión electrónica (PDF) ha sido escaneada por el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un documento impreso original de las colecciones del Servicio de Biblioteca y Archivos de la UIT.

(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلاً.

此电子版（PDF版本）由国际电信联盟（ITU）图书馆和档案室利用存于该处的纸质文件扫描提供。

Настоящий электронный вариант (PDF) был подготовлен в библиотечно-архивной службе Международного союза электросвязи путем сканирования исходного документа в бумажной форме из библиотечно-архивной службы МСЭ.

PLENARY MEETING

DRAFT

Note by the Secretary-General

STRUCTURE OF THE
SECOND SESSION OF THE REGIONAL ADMINISTRATIVE RADIO CONFERENCE
TO ESTABLISH A PLAN FOR THE BROADCASTING SERVICE IN THE BAND 1 605 -1 705 KHZ
IN REGION 2 - BC-R2(2)
(Rio de Janeiro, 1988)

The agenda of the Conference appears in Resolution No. 952 which was adopted by the Administrative Council at its 41st Session (Geneva, 1986) and amended with respect to the dates and venue at its 42nd Session in 1987.

Bearing in mind Nos. 464 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982, the following committees and working group of the Plenary with their terms of reference are suggested. These terms of reference have been drawn up within the framework of the Convention, the Conference Agenda and in the light of experience gained at previous conferences.

Committee 1 - Steering Committee

Terms of Reference :

To coordinate all matters connected with the smooth execution of work and to plan the order and number of meetings, avoiding overlapping wherever possible in view of the limited number of members of some delegations (Nos. 468 and 469 of the International Telecommunication Convention, Nairobi, 1982).

Committee 2 - Credentials Committee

Terms of Reference :

To verify the credentials of delegations and to report on its conclusions to the Plenary Meeting within the time specified by the latter (Nos. 390 and 471 of the International Telecommunication Convention, Nairobi, 1982).



Committee 3 - Budget Control Committee

Terms of reference :

To determine the organization and the facilities available to the delegates, to examine and approve the accounts of expenditure incurred throughout the duration of the Second Session of the Conference and to report to the Plenary Meeting the estimated total expenditure of the Second Session as well as the estimated costs entailed by the execution of the decisions of the Conference (Nos. 476 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982 and Nairobi Resolution 48).

Committee 4 - Planning Committee

Terms of Reference :

Within the framework of the Agreement to be drawn up and on the basis of the Report to the Second Session and proposals submitted by administrations, and taking account of the relevant parts of the reports of the IFRB and the CCIR, as well as the studies relating to planning exercises undertaken in the period between the two sessions of the Conference:

- to establish a frequency allotment plan and possibly assignments derived therefrom for the broadcasting service in Region 2 in the band 1 605 - 1 705 kHz (agenda item 2.1);
- to establish a date (or dates) in accordance with No. 481 of the Radio Regulations, and a schedule for the introduction of the broadcasting service in the band 1 605 - 1 705 kHz (agenda item 2.2).

Committee 5 - Regulatory Committee

Terms of Reference :

Within the framework of the Agreement to be drawn up and on the basis of the Report to the Second Session and proposals submitted by administrations, and taking account of the relevant parts of the report of the IFRB:

- to establish regulatory procedures for the use of the band 1 605 - 1 705 kHz by the broadcasting service in Region 2 (agenda item 2.1);
- to establish regulatory procedures governing the use of the band 1 625 - 1 705 kHz by other services in Region 2 (agenda item 2.1);
- to establish a procedure to be applied by administrations wishing to implement their allotments in relation to non-broadcasting stations of the other contracting members (agenda item 2.1);
- to draw up the final text of provisions to be considered by a competent world administrative radio conference for the possible inclusion in the Radio Regulations and intended to govern the use of the band 1 605 - 1 705 kHz in Region 2 (agenda item 2.3);

Committee 6 - Editorial Committee

Terms of Reference :

To perfect the form of the texts to be included in the Final Acts of the Conference, without altering the sense, for submission to the Plenary Meeting (Nos. 473 and 474 of the International Telecommunication Convention, Nairobi, 1982).

Technical Working Group of the Plenary

Terms of Reference :

Within the framework of the Agreement to be drawn up and on the basis of the Report to the Second Session and proposals submitted by administrations, and taking account of the relevant reports of the IFRB and the CCIR:

- to develop the technical standards for use in applying the provisions for the implementation of the Plan for the broadcasting service in the band 1 605 - 1 705 kHz (agenda item 2.1);
- to review the technical criteria for sharing between the broadcasting service and other services using the band 1 625 - 1 705 kHz in Region 2 (agenda item 2.1).

R.E. BUTLER
Secretary-General

INTERNATIONAL TELECOMMUNICATION UNION

BC-R2(2)

RARC TO ESTABLISH A PLAN FOR
THE BROADCASTING SERVICE IN THE
BAND 1 605 - 1 705 kHz IN REGION 2

SECOND SESSION RIO DE JANEIRO, MAY/JUNE 1988

Document DT/2-E
23 May 1988

HEADS OF DELEGATIONS

DRAFT AGENDA

OF THE

FIRST PLENARY MEETING

Monday, 23 May 1988, at 1430 hrs

(Room A)

Document No.

- | | |
|---|------|
| 1. Approval of the agenda | - |
| 2. Opening of the Conference | - |
| 3. Election of the Chairman of the Conference | - |
| 4. Election of the Vice-Chairmen of the Conference | - |
| 5. Address by the Secretary-General | - |
| 6. Conference Structure | DT/1 |
| 7. Election of the Chairmen and Vice-Chairmen of the Committees | - |
| 8. Composition of the Conference Secretariat | - |
| 9. Allocation of documents to Committees | DT/3 |
| 10. Participation requests submitted by international organizations | 13 |
| 11. Date by which the Credentials Committee must submit its conclusions | - |
| 12. Working hours of the meetings of the Conference | - |
| 13. Financial responsibilities of administrative conferences | 6 |
| 14. IFRB presentation of intersessional work on planning exercises | - |
| 15. Other business | - |

R.E. BUTLER
Secretary-General

SEANCE PLENIERE /
PLENARY MEETING /
SESION PLENARIA

Note du Secrétaire général / Note by the Secretary-General /
Nota del Secretario General

ATTRIBUTION DES DOCUMENTS / ALLOCATION OF DOCUMENTS /
ATRIBUCION DE LOS DOCUMENTOS

Séance plénière / Plenary Meeting / Sesión plenaria : 1, 6, 13, 14, 15

C2 - Pouvoirs / Credentials / Credenciales : 2

C3 - Contrôle budgétaire / Budget Control / Control del presupuesto : 5, 7

C4 - Planification / Planning / Planificación : 3, 9, 10, 11, 12, 16

C5 - Réglementation / Regulatory / Reglamentación : 9, 10, 11, 12

GT/WG-PL (technique / Technical / técnico) : 3, 4, 9, 10, 11, 12

R.E. BUTLER
Secrétaire général

COMMITTEE 4

DRAFT NOTE FROM THE CHAIRMAN OF COMMITTEE 4

DRAFT TERMS OF REFERENCE FOR PLANNING GROUPS

Based on the decisions of Committee 4 on the standardized distances, the noise zones, and using where appropriate the Planning Steps used by the IFRB (Chapter 2, paragraph 2.4.4, Document 9), and using as a starting base the results of the appropriate IFRB Planning Exercise:

- Review and adjust where necessary the draft plan;
- Prepare a plan for consideration of Committee 4 for the respective planning area.

In preparing the plan as decided by Committee 4, each group should decide as it considers appropriate the method of dealing with adjacent channels. In addition the remaining channels should only be used as long as administrations not participating at the Conference are not affected.

4A []

4B []

4C []

4D []

M. FERNANDEZ
Chairman of Committee 4

GT/WG-PL1

DRAFT

ALLOTMENT OF PROPOSALS ARISING
FROM ASSIGNED DOCUMENTS TO THE
RELEVANT SECTION OF CHAPTER 5 OF
THE REPORT OF THE FIRST SESSION

Introduction

- a) Report of the First Session
- b) CAN/10/40
- c) Document 12(Add.3)

5.1 Protection of the broadcasting service

- a) Report of the First Session
- b) CAN/10/41
- c) Document 12(Add.3)

5.1.1 Protection ratio criteria

- a) Report of the First Session
- b) ARG/4/1, ARG/4/2, ARG/4/3, ARG/4/6
(Document 4+Corr.1+Corr.2)
- c) CAN/10/41
- d) B.11/97
- e) Document 12(Add.3)

5.1.2 Protected contours for the broadcasting service

- a) CAN/10/42

5.2 Protection of the permitted services

- a) Report of the First Session
- b) ARG/4/4, ARG/4/5, ARG/4/6
- c) Document 12(Add.3)

5.2.1 Protected contours for the mobile services

- a) CAN/10/44

5.2.2 Protection of the fixed services

- a) CAN/10/45

5.3 Principles used for the application of interregional sharing criteria

a) Report of the First Session

Recommendation No. 5

a) Report of the First Session

b) CAN/10/65

COMMITTEE 5

DRAFT

STRUCTURE OF THE AGREEMENT

Regional Agreement for Use of the Band 1 605 - 1 705 kHz in Region 2

Preamble

Article 1 Definitions

Article 2 Frequency Band

Article 3 Execution of the Agreement

Article 4 Procedure for Modification of the Plan

Article 5 Implementation of the Plan and Notification of Assignments
in the Broadcasting Service

Article 6 Notification of Assignments to Stations of the Fixed and
Mobile Services

Article 7 Special Arrangements

Article 8 Plan

Article 9 Scope of Application of the Agreement

Article 10 Approval of the Agreement

Article 11 Accession to the Agreement

Article 12 Denunciation of the Agreement

Article 13 Entry into Force of the Agreement

Article 14 Duration of the Agreement

Annex 1 - Technical Data to be used in the application of the Agreement

Annex 2 - Criteria for the Implementation of the Plan

Annex 3 - Technical Data to be Submitted for Modifications to the Plan

Annex 4 - Plan

Final Protocol

Resolutions

Recommendations

J. ZAVATTIERO
Chairman of Committee 5

COMMITTEE 5

LIST OF PROPOSALS FOR THE AGREEMENT

PREAMBLE

CAN-NOC
B/11/1
USA/12/1 to USA/12/4
CLM/22/1

ARTICLE 1 (Definitions)

CAN-NOC (except for references to parts of the Agreement)
B/11/2 to B/11/4
USA/12/5 to USA/12/7
CHL/20/1 to CHL/20/3
CLM/22/2 to CLM/22/6

ARTICLE 2 (Frequency band)

B/11/5 to B/11/6
CAN/10/1
USA/12/8
CLM/22/7

ARTICLE 3 (Execution of the Agreement)

CAN/10/2
B/11/7 - B/11/8
USA/12/9
CHL/20/4 to CHL/20/6
CLM/22/8 and CLM/22/9

ARTICLE 4 (Procedure for Modifications to the Plan)

CAN/10/17
USA/12/21
CLM/22/33 to CLM/22/43

ARTICLE 5 (Implementation of the Plan and Notification of Assignments in the
Broadcasting Service)

CAN/10/3 to CAN/10/15
B/11/9 to B/11/62
USA/12/10 to USA/12/20
CHL/20/7 to CHL/20/20
CLM/22/10 to CLM/22/21

ARTICLE 6 (Notification of Assignments to Stations in the Fixed and Mobile Services)

CAN/10/16
B/11/63 to B/11/73
USA/12/22
CLM/22/22 to CLM/22/28

ARTICLE 7 (Special Arrangements)

B/11/74 and B/11/75
USA/12/23 and USA/12/24
CLM/22/29

ARTICLE 8 (Plan)

CAN/10/18
B/11/76 and B/11/77
USA/12/25
CLM/22/30 and CLM/22/31

ARTICLE 9 (Scope of Application of the Agreement)

B/11/78 to B/11/81
USA/12/26 to USA/12/28

ARTICLE 10 (Approval of the Agreement)

B/11/82 and B/11/83
USA/12/29 and USA/12/30
CLM/22/44

ARTICLE 11 (Accession to the Agreement)

B/11/84 to B/11/86
USA/12/31 to USA/12/33

ARTICLE 12 (Denunciation of the Agreement)

B/11/87 to B/11/89
USA/12/34 to USA/12/36

ARTICLE 13 (Entry into Force of the Agreement)

B/11/90 and B/11/91
CAN/10/19
USA/12/37 and USA/12/38
CLM/22/45

ARTICLE 14 (Duration of the Agreement)

B/11/92
USA/12/39 and USA/12/40

Draft

TERMS OF REFERENCE OF WORKING GROUPS

Working Group 5-A

Taking into account the terms of reference of Committee 5, draft the Agreement, with the exception of the technical annexes.

Working Group 5-B

Taking into account the terms of reference of Committee 5, prepare the text for Nos. 480 and 481 of the Radio Regulations. Also draft the Resolutions and Recommendations corresponding to the terms of reference of this Committee.

J. ZAVATTIERO
Chairman of Committee 5

COMMITTEE 4

Draft

NOTE FROM CHAIRMAN OF COMMITTEE 4 TO
CHAIRMAN OF COMMITTEE 5

In considering the various aspects of the planning criteria, Committee 4 was able to arrive at its decisions on the condition that the Regional Agreement contains provisions:

- on the use of non standard parameters;
- allowing administrations to arrive at other arrangements on the allotment areas provided that no other administration is affected.

Committee 5 is requested to take these comments into consideration when preparing the Regional Agreement.

M. FERNANDEZ
Chairman of Committee 4

BC-R2(2)

RARC TO ESTABLISH A PLAN FOR
THE BROADCASTING SERVICE IN THE
BAND 1 605 - 1 705 kHz IN REGION 2

SECOND SESSION RIO DE JANEIRO, MAY/JUNE 1988

Document DT/10-E
25 May 1988
Original: Spanish

COMMITTEE 4

DRAFT NOTE BY THE CHAIRMAN OF COMMITTEE 4
TO THE CHAIRMAN OF GT/WG-PL

With a view to the inclusion of this point in the relevant chapter, I wish to inform you that, as the result of an agreement reached by this Committee at its second meeting, all the Central American countries up to the southern border of Mexico shall be regarded as within noise zone 2 for the purposes of planning the band 1 605 to 1 705 kHz.

M. FERNANDEZ
Chairman of Committee 4

COMMITTEE 4

Draft Note

COORDINATION DISTANCE ON FIRST ADJACENT CHANNEL
FOR MIXED AND SEA PATHS

The coordination distances for mixed and sea paths in paragraph 6.3.4 of the Report of the First Session, are based on the protection of nominal usable field strength.

Now that Committee 4 has decided a uniform co-channel distance of 500 km, adjacent channel coordination distance should be based on the same interference effect.

The corresponding distance for sea and mixed paths should be 95 km.

M. FERNANDEZ
Chairman of Committee 4

WG/GT-PL-1

Draft

CHAPTER [5]

OF ANNEX [1] TO THE AGREEMENT

J.M. BOILARD
Chairman of GT/WG-PL-1

CHAPTER [5]

TECHNICAL CRITERIA FOR INTERSERVICE SHARING

In accordance with Article 8 of the Radio Regulations, the fixed and mobile services become permitted services at a time to be established by the Conference. The sharing criteria developed in this chapter are designed to apply to the permitted services in order to protect broadcasting services in the Plan and give protection to these permitted services. According to the specific cases the protection ratio value is given for co-channel interference (CO) or for off-channel interference (OC). Broadcasting assignments made in accordance with No. 4.1 (excluding 4.1.1.3) of Article 4 are not subject to these criteria.

Relative protection ratio values are given for a certain number of cases in Figures [5.1] and [5.2].

5.1 Protection of the broadcasting service

The broadcasting service in Region 2 may be subject to interservice interference from services sharing the sub-band 1 625 - 1 705 kHz such as the fixed, mobile and radiolocation services.

Protection in accordance with the criteria in section 5.1.1 is to be given within the national boundary and/or the allotment area for allotted channels and within the service contours for non-allotted channels.

A value of 26 dB has been indicated in section [3.7.1] for co-channel protection ratio between broadcasting emissions, hence allowing a given quality of service, and the same quality criteria have been applied to derive the figures given for interfering services other than broadcasting.

5.1.1 Protection ratio criteria

The protection ratio values to protect broadcasting from the permitted services are given in Table [5.1]. Protection ratio values for different carrier frequency separations to protect A3E(BC) from J3E and F1B/J2B emissions are given in Figures [5.1] and [5.2].

5.1.2 Protected contours for the broadcasting service

5.1.2.1 Broadcasting allotments in the Plan shall be protected as if there were an assignment providing a service at a field strength equal to the nominal usable field strength (E_{nom}) throughout the allotment area.

5.1.2.2 Broadcasting assignments in the Master Register shall be protected to the E_{nom} contour, except that where the contour extends beyond the nearest point of land to the country's boundary, the actual calculated field strength on land shall be protected.

5.1.2.3 For protection purposes, the boundary of a country shall be deemed to encompass only its land area including islands.

5.2 Protection of the permitted services

[Text and curves to be developed]

5.3 Principles used for the application of interregional sharing criteria

[see Recommendation No. 5]

5.3.1 Application of No. 346 of the Radio Regulations

In the application of the interregional sharing criteria, the basic principle is the equality of rights between the regions as provided in No. 346 of the Radio Regulations.

5.3.2 Application of the IFRB Technical Standards

The relevant IFRB Technical Standards govern interregional sharing.

TABLE [5-1]

STEADY-STATE PROTECTION RATIOS (dB)*

Interfering signal		A3E (BC)		A3E (fixed)		A2A/A2B		F1B/J2B		J3E		H2A/H2B		Class of emission
Wanted signal		CO	OC	CO	OC	CO	OC	CO	OC	CO	OC	CO	OC	Interfering condition ¹⁾
A3E (BC)	Grade 4 (Rec. 562)	26		26		31		45			38		37	
A3E (fixed) ²	Between MC-GC	26		<p>* Ratio of wanted-to-interfering signals whose powers are expressed in terms of p.e.p. (PX) (see Recommendation 240-4)</p> <p>1) CO (co-channel interference) and OC (off-channel interference) are the cases when the frequency separation between the assigned frequency of the wanted signal and that of the interfering signal is about zero and about 1.4 kHz respectively.</p> <p><u>The assigned frequency (fa) for each type of emission is as follows (see footnotes 141 to 144 of the Radio Regulations):</u></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>A3E</p> </div> <div style="text-align: center;"> <p>A2A/A2B</p> </div> <div style="text-align: center;"> <p>F1B</p> </div> <div style="text-align: center;"> <p>J2B</p> </div> <div style="text-align: center;"> <p>J3E</p> </div> <div style="text-align: center;"> <p>H2A/H2B</p> </div> </div>										
A2A/A2B	PE<10 ⁻⁶	5												
F1B/J2B	PE<10 ⁻⁶	-3												
J3E			14											
H2A/H2B	PE<10 ⁻⁶		-1											
Class of emission	Quality of Service			<p>2) Administrations are urged to discontinue, in the fixed service, the use of double-sideband radiotelephone (class A3E) transmissions (see RR 2700).</p>										

Wanted.....A3E
Unwanted.....J3E
Low pass.....10 kHz
Grade of quality/impairment.....4

For zero reference frequency separation, the protection ratio was established as 38 dB.¹

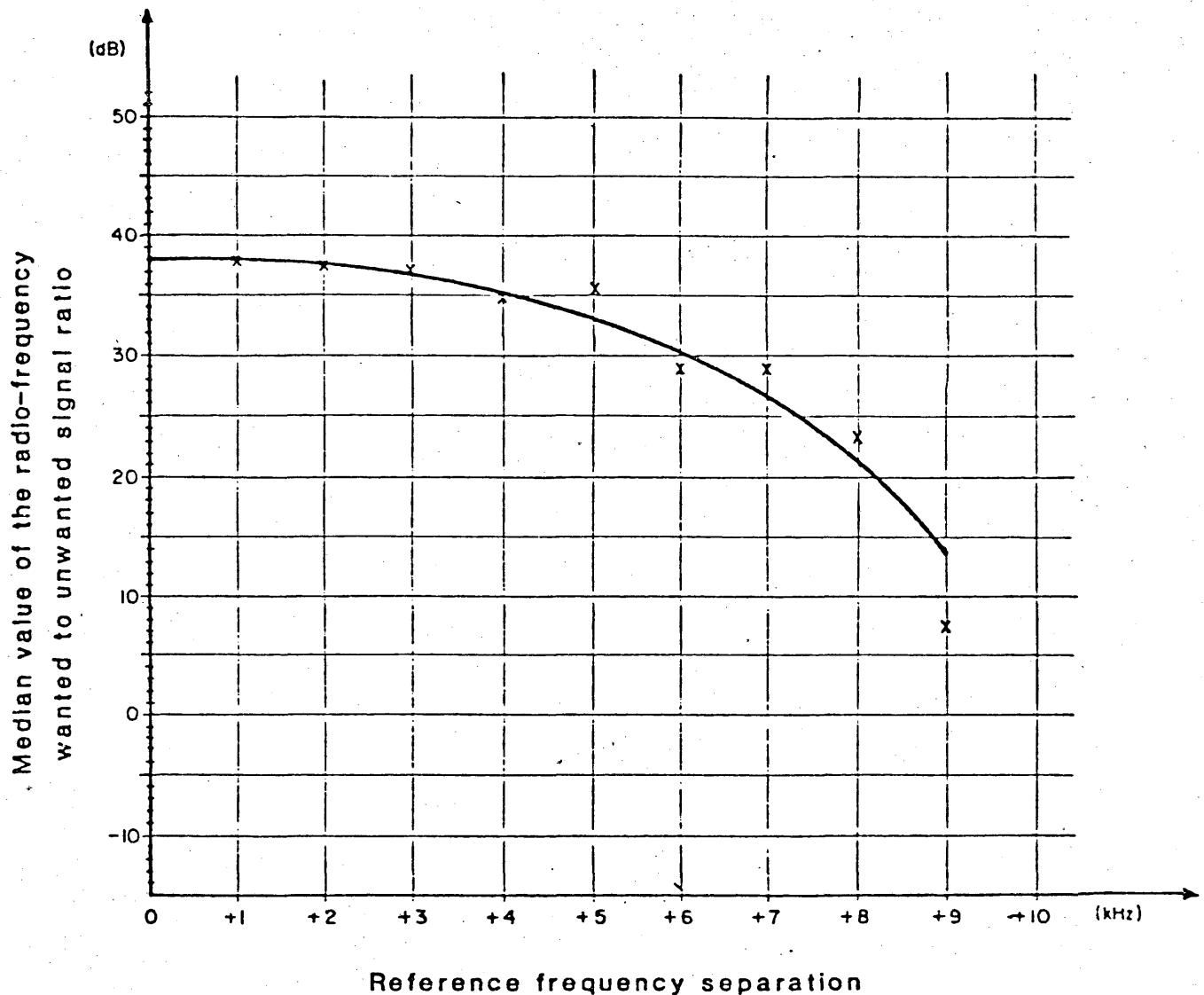


FIGURE [5-1] -Radio-frequency wanted (A3E) to unwanted (J3E) signal ratio as a function of the reference frequency separation - Under peak envelope conditions

¹ According to the definitions of RR 142, 143 and 144.

Wanted.....A3E
Unwanted.....F1B
Low pass.....10 kHz
Grade of quality/impairment.....4

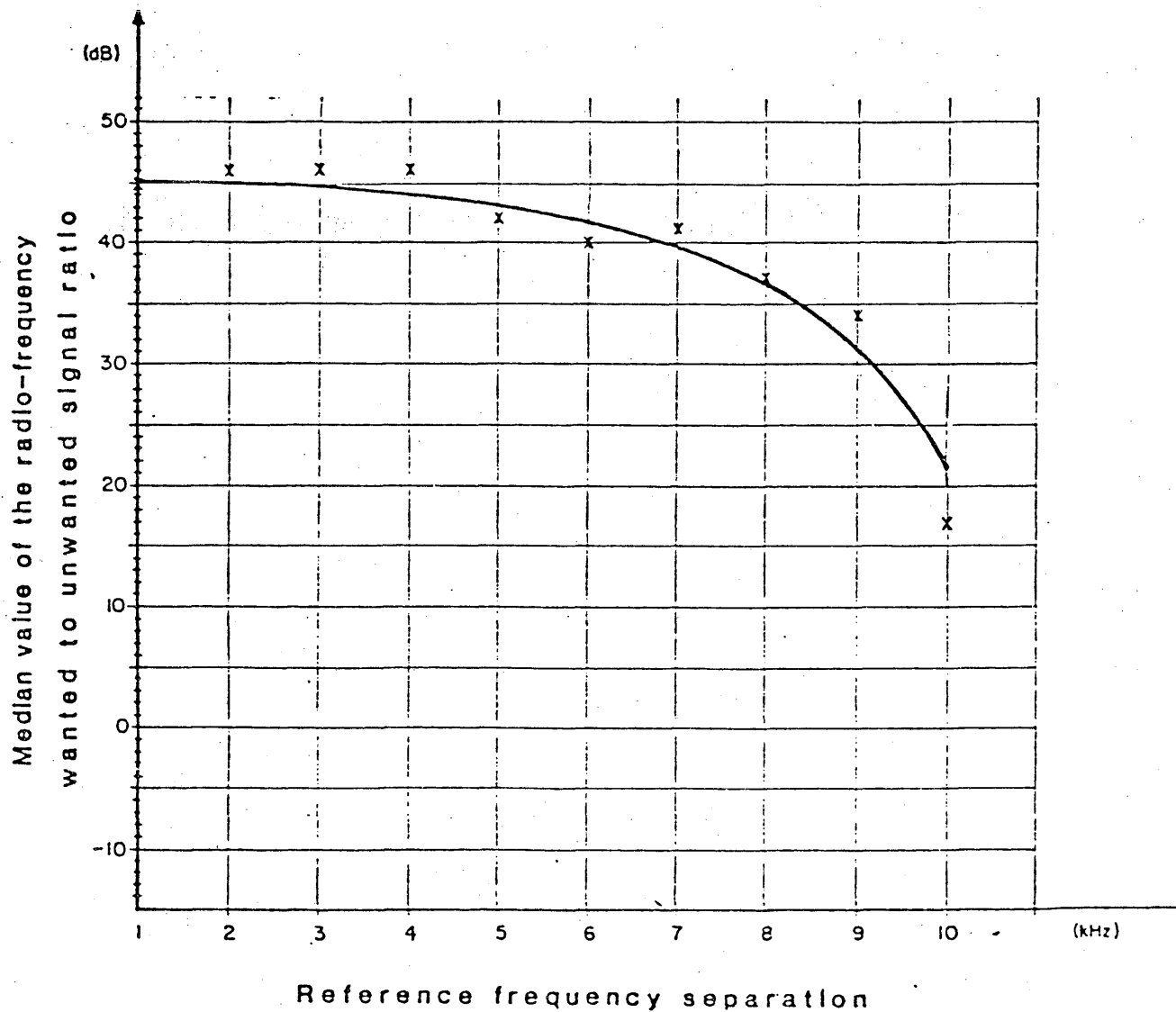


FIGURE [5-2]-Radio-frequency wanted (A3E) to unwanted (F1B) signal ratio as a function of the reference frequency separation - Under peak envelope power conditions

GT/WG-PL1

DRAFT

RECOMMENDATION No. [COM GT-PLN/A]

TECHNICAL CRITERIA FOR INTERREGIONAL SHARING

The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1605 - 1705 kHz in Region 2, (First Second Session, Geneva, 1986) Rio de Janeiro, 1988).

considering

- a) that according to the agenda contained in Administrative Council Resolution 913 952, this Conference proposed provisional technical criteria for inter-service sharing of the band 1625 - 1705 kHz between the broadcasting service and other services in Region 2;
- b) that, in accordance with numbers 1001 and 1454 of the Radio Regulations, the IFRB develops Technical Standards and Rules of Procedure for internal use by the Board in the exercise of its functions, based inter alia upon the relevant provisions of the Radio Regulations and the Appendices thereto, the decisions of administrative radio conferences, as appropriate, and the Recommendations of the CCIR;
- c) RR 480A relating to the coverage contour of the Maritime Mobile Service in Region 1 which is to be determined by groundwave propagation.

noting

- a) that the recording and examination process provided in Article 12 of the Radio Regulations is the only procedure making it possible to avoid harmful interference between stations operating in Region 2, on the one hand, and those operating in Regions 1 and 3, on the other hand, and that the IFRB will therefore adopt appropriate Technical Standards, making use of the most recent Recommendations made available by the CCIR;
- b) that, under number 56 of the Convention, the decisions of a regional administrative conference must in all circumstances be in conformity with the provisions of the Radio Regulations and that such a conference may give instructions to the IFRB, provided that such instructions do not conflict with the interests of the two other Regions;

- c) that the Regional Administrative Radio Conference for the Maritime Mobile Service and Aeronautical Radionavigation Service in certain parts of the MF band in Region 1 (RARC MM-R1, Geneva, 1985) adopted technical criteria for the protection of the maritime mobile service in the bands 1606.5 - 1625 kHz and 1635 - 1800 kHz;

recognizing

- a) that the method of calculating skywave field strength set out in the Annex to this Recommendation was proposed for use in the planning of the 1605 - 1705 kHz band because it offered greater precision than the method used for the 525 - 1605 kHz band in Region 2, and that the latter was chosen only because it simplified the planning process;
- b) that simplicity is not a major factor in the calculation of field strength over interregional paths for individual assignments;

recommends

1. that the IFRB should take account of the method of calculating the skywave field strength described in the Annex to this Recommendation when adopting its Technical Standards relating to the examination of frequency assignment notices for broadcasting stations of Region 2 operating in the band 1605 - 1705 kHz from the standpoint of the probability of harmful interference to stations in Regions 1 and 3, and vice versa. The signal strengths thus calculated will be increased by 2.5 dB to take into account the different reference hours in Region 2 and Region 1 and 3;
2. that, in calculating interregional interference, the field strengths shall be determined by taking arithmetic mean of the signal strengths, expressed in dB (uV/m) for a specified e.m.r.p., calculated both by the method described in Annex 1 to CCIR Recommendation 435-3 and by the method referred to in recommends 1 above. The value thus calculated shall be applied when it is midnight at the mid-point of the interregional path, provided that the entire path is in darkness. Signal strengths at other times are unlikely to exceed this value.

ANNEX TO RECOMMENDATION No. [COM GT-PLEN/A]

Calculation of the skywave field strength to evaluate interregional interference

1. List of symbols (see also Chapter [2])

- a_T : geographical latitude of the transmitting terminal (degrees)
- a_R : geographical latitude of the receiving terminal (degrees)
- b_T : geographical longitude of the transmitting terminal (degrees)
- b_R : geographical longitude of the receiving terminal (degrees)
- ϕ_T : geomagnetic latitude of the transmitting terminal (degrees)
- ϕ_R : geomagnetic latitude of the receiving terminal (degrees)
- ϕ : average geomagnetic latitude of a path under study (degrees)

Note - North and east are considered positive, south and west negative.

2. General procedure

The general procedure for calculation of skywave field strength to evaluate interregional interference is similar to that described in Chapter 2 with the following exception.

The unadjusted skywave field strength F is given by:

$$F = F_c + 20 \log \frac{E_c f(\theta) \sqrt{P}}{100} \quad \text{dB}(\mu\text{V/m}) \quad (1)$$

F_c is given by:

$$F_c = (95 - 20 \log d) - (6.28 + 4.95 \tan^2 \phi) (d/1000)^{1/2} \text{ dB}(\mu\text{V/m}) \quad (2)$$

Figure 1 and Table I show F_c for selected latitudes. If $|\phi|$ is greater than 60 degrees, equation (2) is evaluated for $|\phi| = 60$ degrees. If d is less than 200 km, equation (2) is evaluated for $d = 200$ km. However, the actual great-circle distance is to be used in determining elevation angle. See section 4 for calculation of great-circle distance and conversion from geographical latitude to geomagnetic latitude.

Note - Values of F_c are normalized to 100 mV/m at 1 km corresponding to an effective monopole radiated power (e.m.r.p.) of -9.54 dB(kW).

3. Skywave field strength, 50% of the time

This is given by:

$$F(50) = F \quad \text{dB}(\mu\text{V/m}) \quad (3)$$

4. Path parameters

Refer to section 1. The great-circle distance d (km) is given by:

$$d = 111.18 \arccos \left[\sin a_T \sin a_R + \cos a_T \cos a_R \cos (b_R - b_T) \right] \quad (4)$$

The geomagnetic latitude of the transmitting terminal, ϕ_T , is given by:

$$\phi_T = \arcsin \left[\sin a_T \sin 78.5^\circ + \cos a_T \cos 78.5^\circ \cos (69^\circ + b_T) \right] \quad (5)$$

ϕ_R can be determined in a similar manner. And,

$$\phi = 1/2 (\phi_T + \phi_R) \quad (6)$$

Alternatively, Figure 2 may be used.

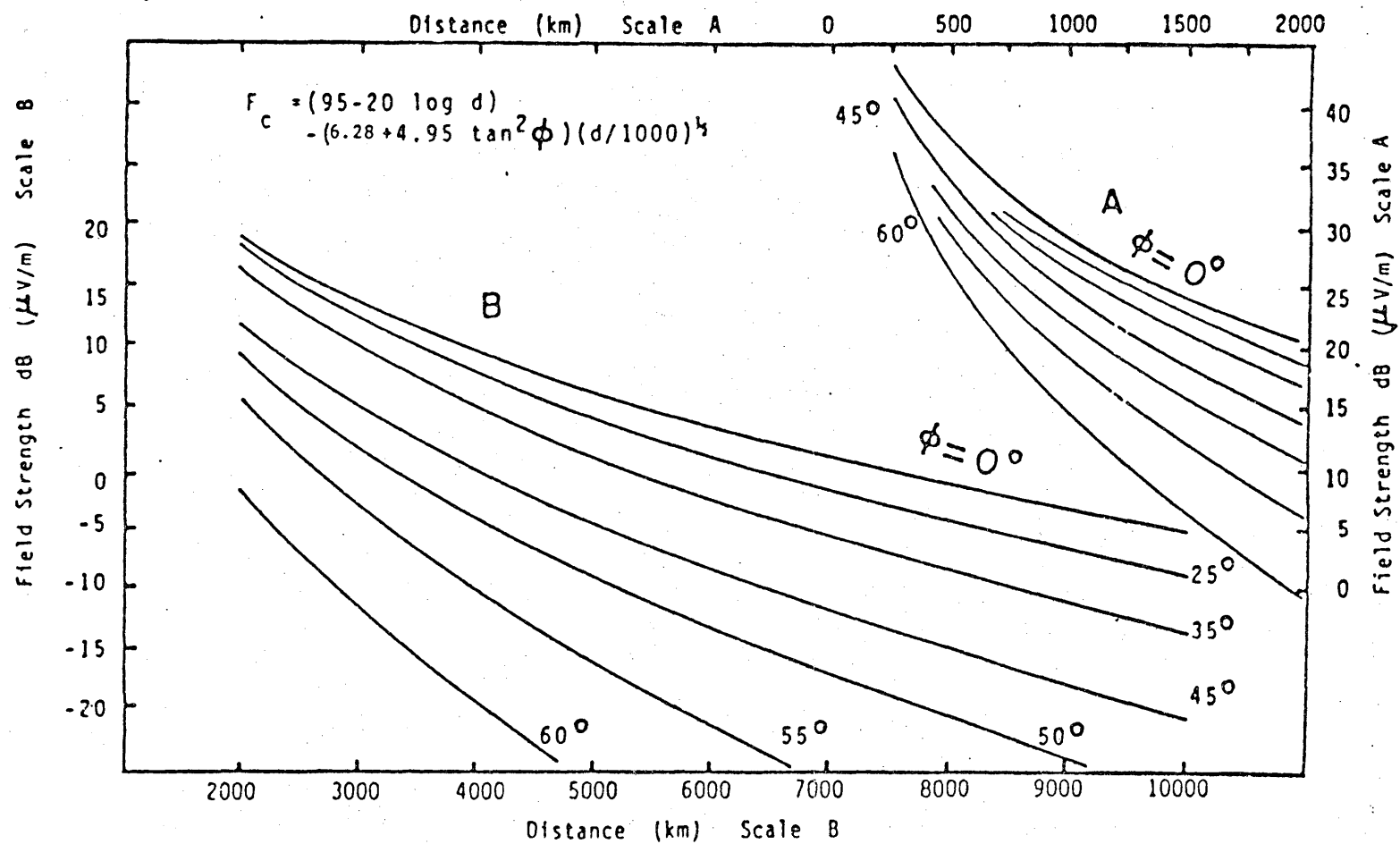


FIGURE 1

Skywave field strength versus distance (for a characteristic field strength of 100 mV/m at 1 km, 50%, 2 hours after sunset)

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
0-200	46.17	203.4574	46.01	199.7683	45.43	186.8867	43.96	157.6842	39.53	94.7147
250	43.90	156.6680	43.72	153.4954	43.07	142.4722	41.42	117.8230	36.47	66.6392
300	42.02	126.1266	41.82	123.3314	41.11	113.6631	39.30	92.3093	33.88	49.4450
350	40.40	104.7304	40.19	102.2257	39.43	93.5977	37.47	74.7566	31.62	38.0894
400	38.98	88.9709	38.76	86.6981	37.94	78.8988	35.85	62.0462	29.59	30.1752
450	37.72	76.9207	37.48	74.8381	36.61	67.7174	34.40	52.4825	27.76	24.4320
500	36.58	67.4351	36.33	65.5120	35.41	58.9589	33.08	45.0689	26.08	20.1307
550	35.53	59.7930	35.27	58.0059	34.31	51.9358	31.86	39.1832	24.52	16.8266
600	34.57	53.5183	34.29	51.8487	33.29	46.1953	30.74	34.4183	23.07	14.2352
650	33.68	48.2840	33.39	46.7172	32.35	41.4276	29.69	30.4974	21.70	12.1669
700	32.84	43.8589	32.54	42.3829	31.46	37.4139	28.70	27.2260	20.42	10.4915
750	32.06	40.0746	31.75	38.6794	30.63	33.9955	27.77	24.4640	19.20	9.1169
800	31.32	36.8059	31.00	35.4833	29.84	31.0547	26.89	22.1079	18.04	7.9764
850	30.62	33.9579	30.29	32.7007	29.10	28.5022	26.06	20.0797	16.93	7.0208
900	29.95	31.4572	29.62	30.2595	28.39	26.2696	25.26	18.3198	15.87	6.2133
950	29.32	29.2464	28.98	28.1030	27.71	24.3030	24.50	16.7818	14.85	5.5255
1000	28.72	27.2798	28.36	26.1861	27.07	22.5601	23.77	15.4291	13.87	4.9356
1050	28.14	25.5207	27.77	24.4729	26.45	21.0066	23.07	14.2325	12.92	4.4265
1100	27.58	23.9394	27.21	22.9339	25.85	19.6150	22.39	13.1684	12.01	3.9845
1150	27.05	22.5115	26.67	21.5451	25.28	18.3625	21.74	12.2177	11.12	3.5988
1200	26.53	21.2165	26.14	20.2866	24.73	17.2306	21.11	11.3645	10.27	3.2607
1250	26.04	20.0378	25.64	19.1418	24.19	16.2036	20.50	10.5958	9.43	2.9628
1300	25.56	18.9609	25.15	18.0967	23.68	15.2685	19.91	9.9007	8.63	2.6995
1350	25.09	17.9741	24.68	17.1396	23.18	14.4142	19.34	9.2699	7.84	2.4657

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
1400	24.64	17.0669	24.22	16.2603	22.69	13.6313	18.79	8.6958	7.07	2.2574
1450	24.21	16.2306	23.78	15.4503	22.22	12.9119	18.25	8.1716	6.32	2.0713
1500	23.78	15.4577	23.35	14.7021	21.76	12.2490	17.72	7.6916	5.60	1.9045
1550	23.37	14.7416	22.93	14.0094	21.32	11.6367	17.21	7.2512	4.88	1.7544
1600	22.97	14.0766	22.52	13.3665	20.88	11.0698	16.71	6.8459	4.19	1.6192
1650	22.58	13.4577	22.12	12.7687	20.46	10.5438	16.22	6.4722	3.50	1.4970
1700	22.20	12.8806	21.74	12.2115	20.05	10.0547	15.74	6.1268	2.84	1.3862
1750	21.83	12.3415	21.36	11.6913	19.64	9.5991	15.28	5.8071	2.18	1.2857
1800	21.46	11.8369	20.99	11.2046	19.25	9.1739	14.82	5.5104	1.54	1.1942
1850	21.11	11.3638	20.63	10.7487	18.87	8.7763	14.38	5.2347	0.91	1.1107
1900	20.76	10.9196	20.27	10.3208	18.49	8.4041	13.94	4.9780	0.29	1.0345
1950	20.43	10.5018	19.93	9.9186	18.12	8.0549	13.51	4.7386	-0.31	0.9648
2000	20.09	10.1084	19.59	9.5401	17.76	7.7270	13.09	4.5151	-0.91	0.9008
2050	19.77	9.7373	19.26	9.1832	17.41	7.4185	12.68	4.3060	-1.49	0.8421
2100	19.45	9.3869	18.94	8.8465	17.06	7.1280	12.28	4.1102	-2.07	0.7880
2150	19.14	9.0555	18.62	8.5282	16.72	6.8540	11.88	3.9265	-2.64	0.7382
2200	18.83	8.7419	18.30	8.2271	16.38	6.5953	11.49	3.7541	-3.19	0.6923
2250	18.53	8.4446	18.00	7.9419	16.06	6.3508	11.11	3.5919	-3.74	0.6499
2300	18.24	8.1626	17.70	7.6714	15.73	6.1194	10.73	3.4393	-4.28	0.6106
2350	17.95	7.8947	17.40	7.4147	15.42	5.9002	10.36	3.2955	-4.82	0.5743
2400	17.66	7.6400	17.11	7.1708	15.11	5.6923	9.99	3.1599	-5.34	0.5405
2450	17.38	7.3977	16.83	6.9388	14.80	5.4949	9.63	3.0318	-5.86	0.5092
2500	17.11	7.1669	16.54	6.7179	14.50	5.3075	9.28	2.9107	-6.37	0.4801
2550	16.84	6.9468	16.27	6.5075	14.20	5.1292	8.93	2.7962	-6.88	0.4530

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
2600	16.57	6.7369	16.00	6.3068	13.91	4.9594	8.59	2.6877	-7.38	0.4278
2650	16.31	6.5364	15.73	6.1152	13.62	4.7978	8.25	2.5849	-7.87	0.4042
2700	16.05	6.3448	15.46	5.9323	13.34	4.6436	7.91	2.4873	-8.35	0.3823
2750	15.79	6.1616	15.20	5.7574	13.06	4.4966	7.59	2.3948	-8.83	0.3617
2800	15.54	5.9862	14.95	5.5901	12.78	4.3562	7.26	2.3068	-9.31	0.3425
2850	15.30	5.8183	14.70	5.4299	12.51	4.2220	6.94	2.2231	-9.77	0.3246
2900	15.05	5.6573	14.45	5.2765	12.24	4.0937	6.62	2.1435	-10.24	0.3077
2950	14.81	5.5029	14.20	5.1295	11.98	3.9709	6.31	2.0677	-10.69	0.2919
3000	14.57	5.3547	13.96	4.9884	11.72	3.8534	6.00	1.9955	-11.15	0.2771
3050	14.34	5.2125	13.72	4.8530	11.46	3.7408	5.70	1.9267	-11.59	0.2632
3100	14.11	5.0758	13.48	4.7230	11.20	3.6328	5.39	1.8610	-12.04	0.2501
3150	13.88	4.9444	13.25	4.5981	10.95	3.5293	5.10	1.7982	-12.47	0.2379
3200	13.66	4.8180	13.02	4.4779	10.71	3.4299	4.80	1.7383	-12.91	0.2263
3250	13.44	4.6963	12.79	4.3624	10.46	3.3345	4.51	1.6810	-13.34	0.2154
3300	13.22	4.5792	12.57	4.2512	10.22	3.2428	4.22	1.6262	-13.76	0.2051
3350	13.00	4.4663	12.35	4.1441	9.98	3.1546	3.94	1.5738	-14.18	0.1954
3400	12.78	4.3575	12.13	4.0409	9.74	3.0698	3.66	1.5236	-14.60	0.1863
3450	12.57	4.2526	11.91	3.9414	9.51	2.9883	3.38	1.4755	-15.01	0.1776
3500	12.36	4.1514	11.70	3.8455	9.28	2.9097	3.10	1.4294	-15.42	0.1695
3550	12.16	4.0537	11.49	3.7529	9.05	2.8341	2.83	1.3852	-15.82	0.1618
3600	11.95	3.9593	11.28	3.6636	8.82	2.7611	2.56	1.3428	-16.22	0.1545
3650	11.75	3.8682	11.07	3.5773	8.60	2.6909	2.29	1.3021	-16.62	0.1476
3700	11.55	3.7801	10.87	3.4940	8.38	2.6231	2.03	1.2631	-17.01	0.1410
3750	11.35	3.6949	10.66	3.4134	8.16	2.5577	1.77	1.2255	-17.40	0.1348

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
3800	11.16	3.6125	10.46	3.3356	7.94	2.4945	1.51	1.1894	-17.79	0.1289
3850	10.96	3.5328	10.26	3.2602	7.72	2.4335	1.25	1.1547	-18.18	0.1234
3900	10.77	3.4556	10.07	3.1873	7.51	2.3746	0.99	1.1214	-18.56	0.1181
3950	10.58	3.3808	9.87	3.1168	7.30	2.3177	0.74	1.0892	-18.93	0.1131
4000	10.39	3.3084	9.68	3.0485	7.09	2.2627	0.49	1.0583	-19.31	0.1083
4050	10.21	3.2383	9.49	2.9823	6.89	2.2094	0.24	1.0286	-19.68	0.1038
4100	10.02	3.1702	9.30	2.9182	6.68	2.1580	0.00	0.9999	-20.05	0.0995
4150	9.84	3.1043	9.12	2.8560	6.48	2.1081	-0.24	0.9722	-20.41	0.0954
4200	9.66	3.0403	8.93	2.7958	6.28	2.0599	-0.49	0.9456	-20.78	0.0915
4250	9.48	2.9782	8.75	2.7373	6.08	2.0132	-0.73	0.9199	-21.13	0.0878
4300	9.30	2.9179	8.56	2.6806	5.88	1.9679	-0.96	0.8951	-21.49	0.0842
4350	9.13	2.8594	8.38	2.6255	5.68	1.9240	-1.20	0.8711	-21.85	0.0808
4400	8.95	2.8026	8.21	2.5721	5.49	1.8815	-1.43	0.8480	-22.20	0.0776
4450	8.78	2.7474	8.03	2.5202	5.30	1.8403	-1.66	0.8257	-22.55	0.0746
4500	8.61	2.6937	7.85	2.4698	5.11	1.8003	-1.89	0.8041	-22.89	0.0717
4550	8.44	2.6416	7.68	2.4208	4.92	1.7615	-2.12	0.7833	-23.24	0.0689
4600	8.27	2.5909	7.51	2.3732	4.73	1.7239	-2.35	0.7632	-23.58	0.0662
4650	8.10	2.5415	7.34	2.3269	4.54	1.6873	-2.57	0.7437	-23.92	0.0637
4700	7.94	2.4936	7.17	2.2819	4.36	1.6518	-2.79	0.7249	-24.26	0.0613
4750	7.77	2.4469	7.00	2.2381	4.18	1.6174	-3.02	0.7066	-24.59	0.0589
4800	7.61	2.4014	6.83	2.1955	3.99	1.5839	-3.24	0.6890	-24.93	0.0567
4850	7.45	2.3572	6.67	2.1541	3.81	1.5513	-3.45	0.6719	-25.26	0.0546
4900	7.29	2.3141	6.50	2.1137	3.64	1.5197	-3.67	0.6554	-25.58	0.0526
4950	7.13	2.2721	6.34	2.0744	3.46	1.4890	-3.88	0.6394	-25.91	0.0506

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
5000	6.97	2.2313	6.18	2.0362	3.28	1.4591	-4.10	0.6239	-26.23	0.0488
5050	6.81	2.1914	6.02	1.9989	3.11	1.4300	-4.31	0.6089	-26.56	0.0470
5100	6.66	2.1526	5.86	1.9626	2.93	1.4017	-4.52	0.5943	-26.88	0.0453
5150	6.51	2.1147	5.70	1.9272	2.76	1.3741	-4.73	0.5802	-27.19	0.0437
5200	6.35	2.0778	5.54	1.8927	2.59	1.3473	-4.94	0.5665	-27.51	0.0421
5250	6.20	2.0418	5.39	1.8591	2.42	1.3212	-5.14	0.5532	-27.83	0.0406
5300	6.05	2.0067	5.23	1.8263	2.25	1.2958	-5.35	0.5404	-28.14	0.0392
5350	5.90	1.9724	5.08	1.7943	2.08	1.2711	-5.55	0.5279	-28.45	0.0378
5400	5.75	1.9389	4.93	1.7631	1.92	1.2470	-5.75	0.5157	-28.76	0.0365
5450	5.60	1.9063	4.77	1.7326	1.75	1.2235	-5.95	0.5040	-29.06	0.0352
5500	5.46	1.8744	4.62	1.7029	1.59	1.2006	-6.15	0.4925	-29.37	0.0340
5550	5.31	1.8433	4.47	1.6739	1.42	1.1783	-6.35	0.4814	-29.67	0.0328
5600	5.17	1.8129	4.33	1.6456	1.26	1.1565	-6.55	0.4706	-29.97	0.0317
5650	5.02	1.7832	4.18	1.6180	1.10	1.1353	-6.74	0.4602	-30.27	0.0306
5700	4.88	1.7542	4.03	1.5909	0.94	1.1146	-6.94	0.4500	-30.57	0.0296
5750	4.74	1.7259	3.89	1.5646	0.78	1.0944	-7.13	0.4401	-30.87	0.0286
5800	4.60	1.6982	3.74	1.5388	0.63	1.0747	-7.32	0.4304	-31.16	0.0277
5850	4.46	1.6711	3.60	1.5136	0.47	1.0555	-7.51	0.4211	-31.46	0.0267
5900	4.32	1.6446	3.46	1.4890	0.31	1.0367	-7.70	0.4120	-31.75	0.0259
5950	4.18	1.6187	3.32	1.4649	0.16	1.0184	-7.89	0.4031	-32.04	0.0250
6000	4.05	1.5934	3.18	1.4414	0.00	1.0005	-8.08	0.3945	-32.33	0.0242
6050	3.91	1.5686	3.04	1.4184	-0.15	0.9831	-8.27	0.3861	-32.62	0.0234
6100	3.78	1.5444	2.90	1.3959	-0.30	0.9660	-8.45	0.3780	-32.90	0.0226
6150	3.64	1.5207	2.76	1.3739	-0.45	0.9494	-8.63	0.3700	-33.19	0.0219

Continued . . .

BC-R2(2)/DT/13-E

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
6200	3.51	1.4975	2.62	1.3524	-0.60	0.9331	-8.82	0.3623	-33.47	0.0212
6250	3.37	1.4748	2.49	1.3314	-0.75	0.9172	-9.00	0.3548	-33.75	0.0205
6300	3.24	1.4525	2.35	1.3108	-0.90	0.9017	-9.18	0.3475	-34.03	0.0199
6350	3.11	1.4308	2.22	1.2906	-1.05	0.8865	-9.36	0.3403	-34.31	0.0193
6400	2.98	1.4095	2.08	1.2709	-1.19	0.8717	-9.54	0.3334	-34.59	0.0186
6450	2.85	1.3886	1.95	1.2515	-1.34	0.8571	-9.72	0.3266	-34.86	0.0181
6500	2.72	1.3682	1.82	1.2326	-1.48	0.8429	-9.90	0.3200	-35.14	0.0175
6550	2.59	1.3481	1.69	1.2141	-1.63	0.8291	-10.07	0.3135	-35.41	0.0170
6600	2.47	1.3285	1.55	1.1960	-1.77	0.8155	-10.25	0.3073	-35.68	0.0164
6650	2.34	1.3093	1.42	1.1782	-1.91	0.8022	-10.42	0.3012	-35.95	0.0159
6700	2.21	1.2905	1.29	1.1608	-2.06	0.7892	-10.60	0.2952	-36.22	0.0154
6750	2.09	1.2720	1.17	1.1437	-2.20	0.7765	-10.77	0.2894	-36.49	0.0150
6800	1.97	1.2539	1.04	1.1270	-2.34	0.7641	-10.94	0.2837	-36.76	0.0145
6850	1.84	1.2362	0.91	1.1106	-2.48	0.7519	-11.11	0.2782	-37.02	0.0141
6900	1.72	1.2188	0.78	1.0946	-2.62	0.7400	-11.28	0.2728	-37.29	0.0137
6950	1.60	1.2017	0.66	1.0788	-2.75	0.7283	-11.45	0.2675	-37.55	0.0133
7000	1.47	1.1850	0.53	1.0634	-2.89	0.7169	-11.62	0.2624	-37.82	0.0129
7050	1.35	1.1686	0.41	1.0483	-3.03	0.7057	-11.79	0.2573	-38.08	0.0125
7100	1.23	1.1525	0.29	1.0334	-3.16	0.6947	-11.96	0.2524	-38.34	0.0121
7150	1.11	1.1367	0.16	1.0189	-3.30	0.6840	-12.12	0.2477	-38.60	0.0118
7200	0.99	1.1212	0.04	1.0046	-3.43	0.6735	-12.29	0.2430	-38.85	0.0114
7250	0.88	1.1060	-0.08	0.9906	-3.57	0.6632	-12.45	0.2384	-39.11	0.0111
7300	0.76	1.0911	-0.20	0.9769	-3.70	0.6531	-12.62	0.2340	-39.37	0.0108
7350	0.64	1.0765	-0.32	0.9634	-3.83	0.6432	-12.78	0.2296	-39.62	0.0104

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(Continued)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
7400	0.52	1.0621	-0.44	0.9502	-3.97	0.6335	-12.94	0.2254	-39.87	0.0101
7450	0.41	1.0480	-0.56	0.9372	-4.10	0.6240	-13.10	0.2212	-40.13	0.0099
7500	0.29	1.0341	-0.68	0.9245	-4.23	0.6147	-13.26	0.2172	-40.38	0.0096
7550	0.18	1.0205	-0.80	0.9120	-4.36	0.6055	-13.42	0.2132	-40.63	0.0093
7600	0.06	1.0072	-0.92	0.8997	-4.49	0.5966	-13.58	0.2093	-40.88	0.0090
7650	-0.05	0.9941	-1.03	0.8877	-4.62	0.5878	-13.74	0.2055	-41.12	0.0088
7700	-0.16	0.9812	-1.15	0.8759	-4.74	0.5792	-13.90	0.2018	-41.37	0.0085
7750	-0.28	0.9685	-1.27	0.8643	-4.87	0.5707	-14.06	0.1982	-41.62	0.0083
7800	-0.39	0.9561	-1.38	0.8529	-5.00	0.5625	-14.21	0.1947	-41.86	0.0081
7850	-0.50	0.9439	-1.50	0.8417	-5.12	0.5543	-14.37	0.1912	-42.11	0.0078
7900	-0.61	0.9319	-1.61	0.8307	-5.25	0.5464	-14.53	0.1878	-42.35	0.0076
7950	-0.72	0.9201	-1.73	0.8198	-5.38	0.5385	-14.68	0.1845	-42.59	0.0074
8000	-0.83	0.9085	-1.84	0.8092	-5.50	0.5309	-14.83	0.1813	-42.84	0.0072
8050	-0.94	0.8971	-1.95	0.7988	-5.62	0.5233	-14.99	0.1781	-43.08	0.0070
8100	-1.05	0.8859	-2.06	0.7885	-5.75	0.5159	-15.14	0.1750	-43.32	0.0068
8150	-1.16	0.8749	-2.18	0.7785	-5.87	0.5087	-15.29	0.1720	-43.55	0.0066
8200	-1.27	0.8641	-2.29	0.7686	-5.99	0.5016	-15.44	0.1690	-43.79	0.0065
8250	-1.38	0.8535	-2.40	0.7588	-6.12	0.4946	-15.59	0.1661	-44.03	0.0063
8300	-1.48	0.8430	-2.51	0.7493	-6.24	0.4877	-15.74	0.1632	-44.27	0.0061
8350	-1.59	0.8327	-2.62	0.7399	-6.36	0.4810	-15.89	0.1604	-44.50	0.0060
8400	-1.70	0.8226	-2.73	0.7306	-6.48	0.4743	-16.04	0.1577	-44.74	0.0058
8450	-1.80	0.8127	-2.83	0.7215	-6.60	0.4678	-16.19	0.1550	-44.97	0.0056
8500	-1.91	0.8029	-2.94	0.7126	-6.72	0.4615	-16.34	0.1524	-45.20	0.0055
8550	-2.01	0.7933	-3.05	0.7038	-6.84	0.4552	-16.49	0.1499	-45.43	0.0053

Continued . . .

TABLE I

Skywave field strength versus distance (0 to 10,000 km)
for a characteristic field strength of 100 mV/m

(end)

DIS- TANCE (km)	FIELD STRENGTH FOR INDICATED MEAN GEOMAGNETIC LATITUDE									
	0 degrees		15 degrees		30 degrees		45 degrees		60 degrees	
	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m	dB(uV/m)	uV/m
8600	-2.12	0.7838	-3.16	0.6952	-6.95	0.4490	-16.63	0.1474	-45.66	0.0052
8650	-2.22	0.7745	-3.26	0.6867	-7.07	0.4430	-16.78	0.1449	-45.89	0.0051
8700	-2.32	0.7653	-3.37	0.6783	-7.19	0.4370	-16.92	0.1425	-46.12	0.0049
8750	-2.43	0.7563	-3.48	0.6701	-7.31	0.4312	-17.07	0.1401	-46.35	0.0048
8800	-2.53	0.7474	-3.58	0.6620	-7.42	0.4254	-17.21	0.1378	-46.58	0.0047
8850	-2.63	0.7387	-3.69	0.6540	-7.54	0.4198	-17.36	0.1356	-46.81	0.0046
8900	-2.73	0.7301	-3.79	0.6462	-7.65	0.4142	-17.50	0.1334	-47.03	0.0044
8950	-2.83	0.7216	-3.90	0.6385	-7.77	0.4088	-17.64	0.1312	-47.26	0.0043
9000	-2.93	0.7133	-4.00	0.6309	-7.88	0.4034	-17.78	0.1291	-47.48	0.0042
9050	-3.03	0.7051	-4.10	0.6235	-8.00	0.3982	-17.93	0.1270	-47.71	0.0041
9100	-3.13	0.6970	-4.21	0.6161	-8.11	0.3930	-18.07	0.1249	-47.93	0.0040
9150	-3.23	0.6891	-4.31	0.6089	-8.23	0.3879	-18.21	0.1229	-48.15	0.0039
9200	-3.33	0.6813	-4.41	0.6018	-8.34	0.3829	-18.35	0.1210	-48.38	0.0038
9250	-3.43	0.6736	-4.51	0.5948	-8.45	0.3780	-18.49	0.1190	-48.60	0.0037
9300	-3.53	0.6660	-4.61	0.5879	-8.56	0.3731	-18.63	0.1171	-48.82	0.0036
9350	-3.63	0.6585	-4.72	0.5811	-8.67	0.3684	-18.76	0.1153	-49.04	0.0035
9400	-3.73	0.6511	-4.82	0.5744	-8.79	0.3637	-18.90	0.1135	-49.26	0.0034
9450	-3.82	0.6439	-4.92	0.5678	-8.90	0.3591	-19.04	0.1117	-49.47	0.0034
9500	-3.92	0.6368	-5.02	0.5613	-9.01	0.3546	-19.18	0.1099	-49.69	0.0033
9550	-4.02	0.6297	-5.12	0.5549	-9.12	0.3501	-19.31	0.1082	-49.91	0.0032
9600	-4.11	0.6228	-5.21	0.5486	-9.23	0.3457	-19.45	0.1065	-50.12	0.0031
9650	-4.21	0.6160	-5.31	0.5424	-9.33	0.3414	-19.59	0.1049	-50.34	0.0030
9700	-4.30	0.6092	-5.41	0.5363	-9.44	0.3372	-19.72	0.1033	-50.55	0.0030
9750	-4.40	0.6026	-5.51	0.5303	-9.55	0.3330	-19.86	0.1017	-50.77	0.0029
9800	-4.49	0.5961	-5.61	0.5244	-9.66	0.3289	-19.99	0.1001	-50.98	0.0028
9850	-4.59	0.5896	-5.70	0.5186	-9.77	0.3248	-20.12	0.0986	-51.19	0.0028
9900	-4.68	0.5833	-5.80	0.5128	-9.87	0.3209	-20.26	0.0971	-51.41	0.0027
9950	-4.78	0.5770	-5.90	0.5072	-9.98	0.3169	-20.39	0.0956	-51.62	0.0026
10000	-4.87	0.5709	-5.99	0.5016	-10.09	0.3131	-20.52	0.0942	-51.83	0.0026

BC-R2(2)/DT/13-E

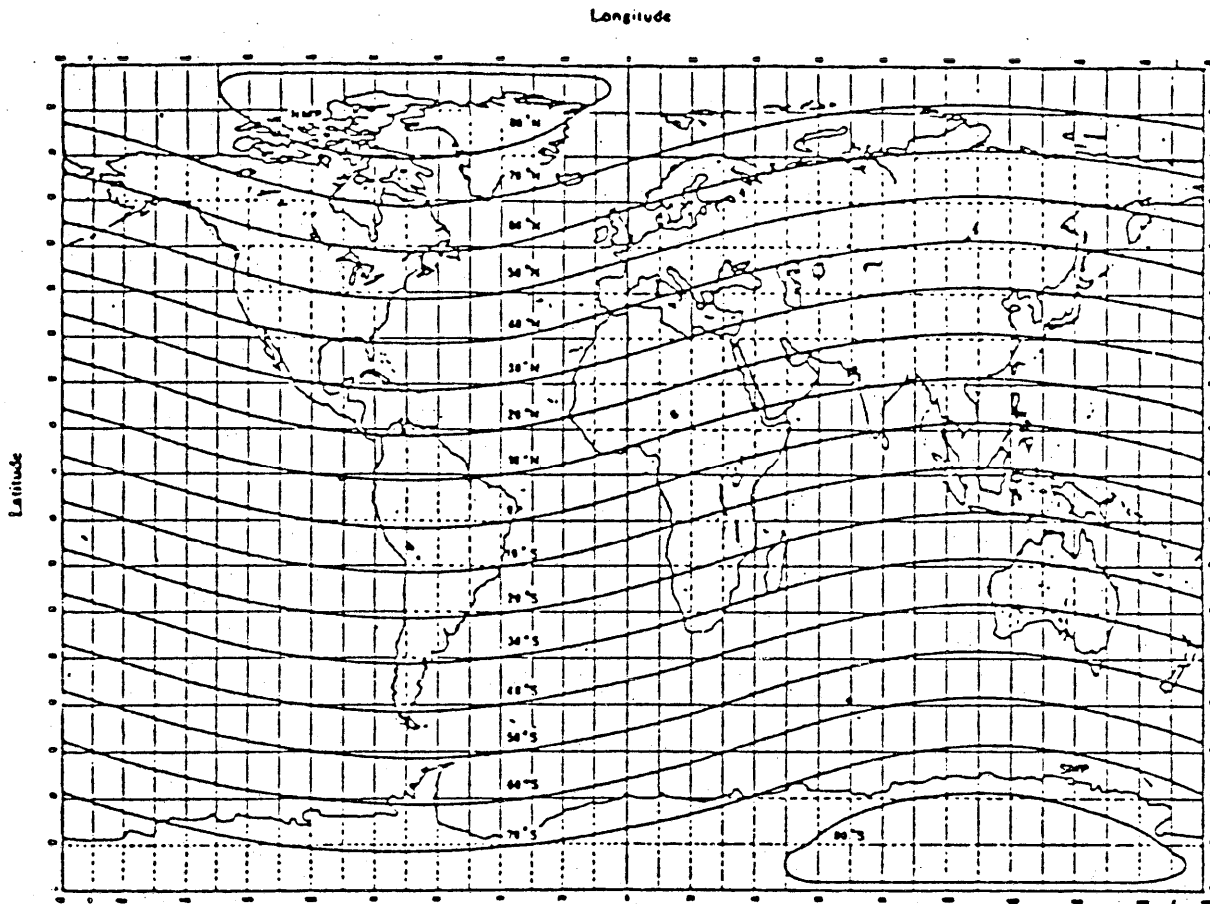


FIGURE 2

Geomagnetic latitudes

WORKING GROUP 5-A

DRAFT REGIONAL AGREEMENT FOR THE USE OF THE
BAND 1 605 - 1 705 kHz IN REGION 2

PREAMBLE

[Noting No. 480 of the Radio Regulations, which provides: "In Region 2, the use of the band 1 605 - 1 705 kHz by stations of the broadcasting service shall be subject to a plan to be established by a regional administrative radio conference..."]

Taking account of the pertinent provisions of the International Telecommunication Convention (Nairobi, 1982) and the Radio Regulations in force and fully respecting the sovereign right of each country to regulate within its territory the use of the frequency band 1 605 - 1 705 kHz by the services to which this band is allocated in Article 8 of the Radio Regulations and to reach special arrangements regarding these services with such countries as it may consider appropriate, without prejudice to other countries;

seeking to facilitate mutual understanding and cooperation among Member Countries of Region 2 in achieving a satisfactory broadcasting service in band 1 605 - 1 705 kHz and, to the extent consistent with the Plan established for the broadcasting service in this band, to make provision for the Fixed and Mobile services in the band 1 625 - 1 705 kHz;

recognizing that all countries have equal rights, and that, in the application of the Plan and the provisions of this Agreement the needs of each country, and in particular those of developing countries, shall be met as far as possible;

[recognizing that all countries have equal rights, and that, in the application of the Plan and its provisions, the needs of each country, and in particular those of developing countries, shall be met as far as possible;]

the delegates of the Members of the International Telecommunication Union assembled in Rio de Janeiro from 23 May to 9 June 1988 at a regional administrative conference convened pursuant to the International Telecommunication Convention (Nairobi, 1982), have adopted, subject to approval by the competent authorities of their respective countries, the following provisions relating to the broadcasting service in Region 2 for the frequency band between 1 605 - 1 705 kHz.

ARTICLE 1

1. For the purpose of the Agreement, the following terms shall have the meanings defined below.

- 1.1 Union: The International Telecommunication Union.
- 1.2 Secretary-General: The Secretary-General of the Union.
- 1.3 IFRB: The International Frequency Registration Board.
- 1.4 CCIR: The International Radio Consultative Committee.
- 1.5 Convention: The International Telecommunication Convention.
- 1.6 Radio Regulations: The Radio Regulations supplementing the provisions of the Convention.
- 1.7 Region 2: The geographical area defined in No. 394 of the Radio Regulations, Geneva, 1979.
- 1.8 Master Register: The Master International Frequency Register.
- 1.9 Agreement: This Instrument and its Annexes.
- 1.10 Plan: The Allotment Plan in Article 8 [and the associated provisions¹].
- 1.11 Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention and the Radio Regulations.
- 1.12 Contracting Member: Any member of the Union which has approved the Agreement or acceded to it.
- 1.13 [Affected Administration]
- 1.14 Allotment: Entry in the Plan of a broadcasting channel designated for use by an administration for the (sound) broadcasting service in an allotment area under the conditions specified in the Plan. Each allotment included in the Plan may be used for one or more assignments using the technical criteria specified in Annex 2.
- 1.15 Allotment Area: Specifically defined geographical area within a country to which one or more channels are allotted, as indicated in [].
- 1.16 Assignment:
- Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.*
- 1.17 Conference: The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2, Rio de Janeiro, 1988.

[NOC 1 The allotments converted into assignments appear as Part B of the Plan.]

ARTICLE 2

Frequency band and services

2.1 The provisions of the Agreement shall be applied by the countries parties to the Agreement to the broadcasting service in the frequency band 1 605 - 1 705 kHz and to the fixed and mobile services in the frequency band 1 625 - 1 705 kHz as allocated to Region 2 under Article 8 of the Radio Regulations.

ARTICLE 3

Execution of the Agreement

3.1 The Contracting Members shall adopt for their [broadcasting] stations in Region 2 in the frequency band which is the subject of the Agreement the technical characteristics and standards which are in conformity with the Agreement.

3.2 The Contracting Members may bring into use frequency assignments of the services referred to in Article 2 only under the conditions set out in Articles 5 and 6 of the Agreement.

[3.3 The Contracting Members undertake, to the extent possible, to avoid or to reduce any harmful interference.]

J. ZAVATTIERO
Chairman of Working Group 5A

DRAFT REGIONAL AGREEMENT FOR THE USE BY THE BROADCASTING SERVICE
OF THE BAND 1 605 - 1 705 kHz IN REGION 2PREAMBLE

Noting No. 480 of the Radio Regulations, which provides: "In Region 2, the use of the band 1 605 - 1 705 kHz by stations of the broadcasting service shall be subject to a plan to be established by a regional administrative radio conference...";

fully respecting the sovereign right of each country to regulate within its territory the use of the frequency band 1605-1705 kHz by the broadcasting service, and to reach special arrangements regarding this service with such countries as it may consider appropriate, without prejudice to other administrations;

seeking to facilitate mutual understanding and cooperation among the Members of Region 2 in achieving a satisfactory broadcasting service in MF band 1605-1705 kHz and, to the extent consistent with the Plan to be established for the broadcast use of this band, to make provision for the Fixed and Mobile use of the band 1625 -1705 kHz;

recognizing that all countries have equal rights, and that, in the application of the Plan and its provisions, the needs of each country, and in particular those of developing countries, shall be met as far as possible, and

acknowledging that mutual protection of the broadcasting service is a major objective of all countries and that mutual protection of the fixed and mobile services in a manner consistent with full protection to the Plan and its provisions is likewise a major objective of all countries, in order to ensure better coordination and the use of more efficient facilities;

the delegates of the Members of the International Telecommunication Union assembled in Rio de Janeiro from 23 May to 9 June 1988 at a regional administrative conference convened pursuant to the International Telecommunication Convention (Nairobi, 1982), have adopted, subject to approval by the competent authorities of their respective countries, the following provisions relating to the broadcasting service in Region 2 for the frequency band between 1 605 - 1 705 kHz.

ARTICLE 1

1. For the purpose of the Agreement, the following terms shall have the meanings defined below.

1.1 Union: The International Telecommunication Union.

- 1.2 Secretary-General: The Secretary-General of the Union.
- 1.3 IFRB: The International Frequency Registration Board.
- 1.4 CCIR: The International Radio Consultative Committee.
- 1.5 Convention: The International Telecommunication Convention.
- 1.6 Radio Regulations: The Radio Regulations supplementing the provisions of the Convention.
- 1.7 Region 2: The geographical area defined in No. 394 of the Radio Regulations, Geneva, 1979.
- 1.8 Master Register: The Master International Frequency Register.
- 1.9 Provisions: The provisions adopted herein that are associated with the Plan.
- 1.10 Agreement: This Instrument and its Annexes.
- 1.11 Plan: The Allotment Plan in Article 6 8 and the associated provisions¹.
- 1.12 Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention and the Radio Regulations.
- 1.13 Contracting Member: Any member of the Union which has approved the Agreement or acceded to it.
- 1.14 [Affected Administration]
- 1.15 Allotment: Entry in the Plan of a designated (sound) broadcasting service in an allotment area under the conditions specified in the Plan. Each allotment included in the Plan may be used for one or more assignments using the technical criteria specified in Annex 2.
- 1.16 Allotment Area: Specifically defined geographical area within a country to which one or more channels are allotted, as indicated in [].
- 1.17 Assignment:

Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.
- 1.18 Conference: The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2, held in Rio de Janeiro in 1988.

[NOC 1 The allotments converted into assignments appear as Part B of the Plan.]

ARTICLE 2

[Scope of the Agreement]

2.1 The provisions of the Agreement shall be applied by the countries parties to the Agreement to the broadcasting service in the frequency band 1 605 - 1 705 kHz and to the fixed and mobile services in the frequency band 1 625 - 1 705 kHz as allocated to Region 2 under Article 8 of the Radio Regulations.

ARTICLE 3

Execution of the Agreement

3.1 The Contracting Members shall adopt for their stations in Region 2 in the frequency band which is the subject of the Agreement the technical characteristics and standards which are in conformity with the Agreement.

3.2 The Contracting Members may bring into use frequency assignments of the services referred to in Article 2 only under the conditions set out in Articles 5 and 6 of the Agreement.

3.3 The Contracting Members undertake, to the extent possible, to avoid or to reduce any harmful interference [produced by a station operating in conformity with the Agreement].

J. ZAVATTIERO

Chairman of Working Group 5A

GT/WG-PL1

Draft

PROPOSED STRUCTURE FOR CHAPTER [5]
OF ANNEX [1] TO THE AGREEMENT

CHAPTER [5]

TECHNICAL CRITERIA FOR INTERSERVICE SHARING

- 5.1 Protection of the broadcasting service
 - 5.1.1 Protection ratio criteria
 - 5.1.2 Protected contours for the broadcasting service.
- 5.2 Protection of the permitted services
 - 5.2.1 Protection ratio criteria
 - 5.2.2 Minimum usable field strength to be protected
 - 5.2.3 Protected contours for the permitted services
- 5.3 Principles used for the application of the interregional sharing criteria
 - 5.3.1 Application of No. 346 of the Radio Regulations
 - 5.3.2 Application of the IFRB Technical Standards

J. M. BOILARD
Chairman of GT/WG-PL1

COMMITTEE 4

DRAFT

NOTE BY THE CHAIRMAN OF COMMITTEE 4

List of Proposals for the entry into force of the Agreement

United States of America

USA/12/38 Agreement to enter into force on 1 July 1990 at 00.01 hours
UTC.

Canada

CAN/10/19 Agreement to enter into force on 1 July 1990 at 08.00 hours
UTC.

Brazil

B/11/91 Agreement to enter into force on 1 July 1989 at 00.01 hours
UTC.

Colombia

CLM/22/45 Agreement to enter into force on 1 July 1991 at 01.00 hours
UTC.

M. FERNANDEZ QUIROZ
Chairman of Committee 4

WORKING GROUP 5A

Draft

ARTICLES 7 TO 14
LIST OF PROPOSALS

ARTICLE 7

Special Arrangements

7.1 In order to supplement the procedures laid down in these Provisions, or to facilitate the coordination provided for in Article [] administrations may conclude or continue special arrangements in conformity with the applicable provisions of the Convention and the Radio Regulations.

ARTICLE 8

Plan

Part A: consists of the allotments in the Region-wide Allotment Plan.

Part B: consists of the assignments developed at the Second Session by administrations converting their allotments to assignments.

CAN/10/18
MOD

Plan

The Plan is included in Annex 1.

The Board shall maintain an up-to-date master copy of the Plan. It shall include all allotments derived from the planning at this Conference plus all modifications made as a result of the successful modification procedure described in Article 4B.

The Secretary-General shall be informed by the Board of any modifications made to the Plan and shall publish an up-to-date version of the Plan [in an appropriate form when justified by circumstances].

Plan

NOC Part A: consists of the allotments in the Region-wide Allotment Plan.

NOC Part B: consists of the assignments developed at the Conference by administrations seeking to convert their allotments into assignments.

2/11/77 ADD All the allotments converted into assignments after the entry into force of the Agreement will also be included in Part B of the Plan.

Plan

CLM/22/30
(MOD) Part A: consists of the allotments in the Region 2 Allotment Plan.

CLM/22/31
(MOD) Part B: consists of the assignments of administrations which convert their allotments to assignments.

ARTICLE 2

Scope of Application of the Agreement

9.1 The Agreement is binding upon the Contracting Members in their mutual relations, but not in their relations with non-contracting countries.

9.2 Should a Contracting Member formulate reservations on the application of any provision of the Agreement, the other Contracting Members shall be free to disregard that provision in their relations with the Member that has made the reservations.

B/11/79
MOD

Application of the Agreement

ARTICLE 10

Approval of the Agreement

10.1 The signatory Members shall notify the Secretary-General of their approval of this Agreement as soon as possible by depositing an instrument of approval; the Secretary-General shall immediately inform the other Members of the Union.

Approval or Ratification of the Agreement

CLM/22/44

(MOD)

10.1 The signatory Members shall notify the Secretary-General of their approval or ratification of this Agreement as soon as possible by depositing an instrument of approval; the Secretary-General shall immediately inform the other Members of the Union.

ARTICLE 11

Accession to the Agreement

11.1 Any Member of the Union in Region 2 which has not signed the Agreement may accede to it at any time by depositing an instrument of accession with the Secretary-General, who shall immediately inform the other Members of the Union. Accession shall apply to the Plan as it stands at the time of accession and shall be made without reservation.

11.2 Accession to the Agreement shall become effective on the date on which the instrument of accession is received by the Secretary-General.

ARTICLE 12

Denunciation of the Agreement

12.1 Any Contracting Member may denounce the Agreement at any time by a notification sent to the Secretary-General, who shall inform the other Members of the Union.

12.2 Denunciation shall become effective one year after the date on which the Secretary-General receives the notification of denunciation.

ARTICLE 13

Entry into Force of the Agreement

13.1 The Agreement shall enter into force on [_____], at [_____]
hours UTC.

ARTICLE 14

Duration of the Agreement

14.1 The Agreement shall remain in force until revised by a competent
administrative radio conference.

J. ZAVATTIERO
Chairman of Working Group 5A

COMMITTEE 4

Draft

NOTE BY THE CHAIRMAN OF COMMITTEE 4

Add the following to Part D of Document DT/18:

"It will be noted that Bermuda, Easter Island, Hawaii, Johnston Island and Midway Islands are listed in Table B1 of the Preface to the International Frequency List, although, since these islands are situated more than 500 km away from any other country or geographical area in the region and from each other, all channels may be allotted to these areas."

M. FERNANDEZ
Chairman of Committee 4

COMMITTEE 4

DRAFT

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

Draft Format of Annex 4 to Article 8

Allotment Plan for the Broadcasting Service
in the Band 1 605 - 1 705 kHz in Region 2Column Headings of the PlanPart A: Allotment Plan

- Col. No. 1: Allotment Area: This column contains the symbol designating the country or the geographical area using symbols indicated in Table B1 of the Preface to the International Frequency List followed by the symbol number designating the allotment area given in Part D.
- Col. No. 2: Allotment(s): This column contains the channel number(s) (See Table I showing channel number and corresponding frequencies to be assigned), which may be used for one or more assignments in the allotment area.
- Col. No. 3: Remarks.

TABLE I

Channel number	Corresponding frequency to be assigned (kHz)
1	1 610
2	1 620
3	1 630
4	1 640
5	1 650
6	1 660
7	1 670
8	1 680
9	1 690
10	1 700

Part B: Remaining channels and corresponding allotment areas

Col. No. 1: Allotment area

(See Col. No. 1 of Part A)

Col. No. 2: Remaining Channel(s)

This column contains the channel number(s) (see Table I showing channel numbers and corresponding frequencies to be assigned), which may be used for one or more assignments within the allotment areas given in Column No. 3.

Col. No. 3: Allotment areas that may use the remaining channels

This column contains the allotment areas within which the remaining channels may be used.

Part C: Assignments included in the Plan

Col. No. 1: Allotment Area

(See Col. No. 1 of Part A)

Col. No. 2: Channel Number(s)

(See Table I)

Col. No. 3: Station Name

This column contains the name of the station.

Col. No. 4: Geographical Station Coordinates

This column contains the geographical coordinates (longitude, latitude in degrees and minutes of the station).

Note - If the assignments made during the Conference are made with other than standardized parameters, or if this section is to contain assignments made in application of the agreement (a Committee 5 decision), then it will be necessary to include other columns.

Part D: Maps showing the allotment areas as defined in Article 1

This part contains a series of maps numbered from [] to [] showing the allotment areas*.

* The final version of the maps will be provided with an appropriate scale on A3 format to permit a better identification of the allotment areas.

WORKING GROUP 5-A

Draft

ARTICLE 4

PROCEDURES FOR THE MODIFICATION TO THE PLAN AND THE COORDINATION OF A STATION
WHICH MAY BE INVOLVED IN AN ADJACENT CHANNEL INTERFERENCE SITUATION

SECTION 1: PROCEDURE FOR THE MODIFICATION OF THE PLAN.

1. An administration may at any time modify the Plan by:

- adding an allotment
- deleting an allotment
- changing a channel
- modifying an allotment

appearing in the Plan, subject to the agreement of those administrations having an allotment in the Plan or a frequency assignment recorded in the Master Register which may be affected.

1.1 An allotment of an administration is considered as affected if the limits relating to standardized distance in Section 1.3.1 or 1.3.2 of Annex 2 are exceeded.

1.2 A frequency assignment to a broadcasting station recorded in the Master Register with a favourable finding is considered as affected if the limits prescribed in Section 1.3.3 of Annex 2 are exceeded.

1.3 A frequency assignment to a station of the fixed or mobile services recorded in the Master Register with a favorable finding is considered as affected if, following examination of the modification by the Board as indicated in Section 1.3.4 of Annex 2, the Board reaches an unfavourable finding. [footnote: The administration may request the assistance of the Board in evaluating this source of interference.]

2. An administration proposing to modify its allotment shall inform the Board, communicating the details of the modification together with a map at an appropriate scale indicating the modification of the allotment area required, and the name of the administrations the agreement of which was obtained.

3. Upon receipt of this information, the Board shall verify it to ensure that no other administration is affected.

3bis. When the agreement of all the administrations affected is notified to the Board, it shall publish the information received in a Special Section of its weekly circular indicating that it will modify the Plan accordingly.

4. When the Board is not informed of the agreement of an affected administration, it will return the proposed modification together with the results of its calculations; the administration shall not bring into use its proposed modification until the agreement of the affected administration is obtained.

SECTION 2

PROCEDURE FOR THE COORDINATION OF A BROADCASTING STATION LOCATED WITHIN THE ADJACENT CHANNEL AREA OF AN ALLOTMENT.

4. An administration proposing to bring into use a frequency assignment to a station located within the adjacent channel standardized distance as defined in [] of an allotment pertaining to another administration on an adjacent channel shall seek the agreement of this administration.

5. In seeking the agreement of the administration concerned, the administration proposing to bring into use such a station shall send to the latter a request together with the information listed in [section A of Appendix 1 of the Radio Regulations], with a copy to the Board.

6. The date of receipt by the Board of the copy of the request for agreement shall be considered as the date of commencement of this procedure.

7. Upon receipt of this information, the Board will examine it with a view to ensure that no other administration may be affected. If the Board finds that the agreement of another administration is required, it shall so inform the administration proposing to bring the station into use.

8. Upon receipt of a request for agreement, an administration shall examine the matter and shall, within [90] days:

- either give its agreement to the proposed use or
- communicate the characteristics of its existing or planned stations that may affect the proposed station or may be affected by it.

ADD

8bis In searching an agreement, the administration may consider the possibility, among others, of:

- subdividing the border area
- choosing one or more preferred channels
- agreeing which channels may be used in the subdivided areas without further coordination.

9. If the administration fails to communicate the characteristics of its station within the period prescribed in [8], and the proposing administration wishes to pursue the matter, it may request the assistance of the Board.

10. Upon receipt of a request of assistance from an administration in application of [9], the Board shall request the administration concerned to give its agreement or to communicate the characteristics of its stations.

11. If, [60] days following a request sent in application of [10], the Board receives no reply despite its reminders, it shall send another request informing the administration that if within an additional period of [30] days no reply is received, this administration will be deemed to have given its agreement to the proposed use.

12. In case of continuing disagreement, all the stations concerned can be operated only with characteristics not exceeding the standardized parameters and the administrations concerned are deemed to accept any interference that may result from the simultaneous operation of their stations.

J. ZAVATTIERO
Chairman of Working Group 5-A

WORKING GROUP 5A

DRAFT

ARTICLE X

PROCEDURES FOR THE MODIFICATION TO THE PLAN AND THE COORDINATION OF A STATION
WHICH MAY BE INVOLVED IN AN ADJACENT CHANNEL INTERFERENCE SITUATION

SECTION 1 : PROCEDURE FOR THE MODIFICATION OF THE PLAN.

1. An administration may at any time modify the channel or the allotment area of its allotment appearing in the Plan subject to the agreement of those administrations having an allotment in the Plan or a frequency assignment recorded in the Master Register which may be affected.
 - 1.1. An allotment of an administration is considered as affected if the limits in [] are exceeded.
 - 1.2. A frequency assignment to a Broadcasting station recorded in the Master Register with a favorable finding is considered as affected if the limits prescribed in [] are exceeded.
 - 1.3. A frequency assignment of Fixed or Mobile Service recorded in the Master Register with a favorable finding is considered as affected if the limits prescribed in [] are exceeded.
2. An administration proposing to modify its allotment shall inform the Board communicating the details of the modification together with a map at an appropriate scale indicating the modification of the allotment area required, and the name of the administrations the agreement of which was obtained.
3. Upon receipt of this information, the Board shall verify it to ensure that no other administration is affected and, if such is the case, publish the information received in a Special Section of its weekly circular indicating that it will modify the Plan accordingly.
4. If the Board reaches the conclusion that the agreement of another administration is required, it shall return the proposed modification to the administration concerned and shall indicate the results of its calculations.

./.

SECTION 2

PROCEDURE FOR THE COORDINATION OF A BROADCASTING STATION LOCATED WITHIN THE ADJACENT CHANNEL AREA OF AN ALLOTMENT.

4. An administration proposing to bring into use a frequency assignment to a station located within the adjacent channel standardized distance as defined in [] of an allotment pertaining to another administration on an adjacent channel shall seek the agreement of this administration.
5. In seeking the agreement of the administration concerned, the administration proposing to bring into use such a station shall send to the latter a request together with the information listed in [section A of Appendix 1 of the Radio Regulations], with a copy to the Board.
6. The date of receipt by the Board of the copy of the request for agreement shall be considered as the date of commencement of this procedure.
7. Upon receipt of this information, the Board will examine it with a view to ensure that no other administration may be affected. If the Board finds that the agreement of another administration is required, it shall so inform the administration proposing to bring the station into use.
8. Upon receipt of a request for agreement, an administration shall examine the matter and shall, within [90] days:
 - either give its agreement to the proposed use or
 - communicate the characteristics of its existing or planned stations that may affect the proposed station or may be affected by it.
9. If the administration fails to communicate the characteristics of its station within the period prescribed in [8], and the proposing administration wishes to pursue the matter, it may request the assistance of the Board.
10. Upon receipt of a request of assistance from an administration in application of [9], the Board shall request the administration concerned to give its agreement or to communicate the characteristics of its stations.
11. If, [60] days following a request send in application of [10], the Board receives no reply despite its reminders, it shall inform the proposing administration that it may notify the assignment following the procedure of Article []. The Board shall enter a remark in regard of the allotment of the administration which failed to reply, indicating that a station of this administration separated from the allotted area by less than the separation distance shall not cause harmful interference to the station indicated in this symbol and shall not claim protection from this station.
12. In case of continuing disagreement, all the stations concerned can be operated only with characteristics not exceeding the standardized parameters and the administrations concerned are deemed to accept any interference that may result from the simultaneous operation of their stations.

J. ZAVATTIERO
Chairman of Working Group 5A

DRAFT REGIONAL AGREEMENT FOR THE USE OF THE
BAND 1 605 - 1 705 kHz IN REGION 2PREAMBLE

Noting that provision No. 480 of the Radio Regulations, as adopted by WARC-1979, provides that: "In Region 2, the use of the band 1 605 - 1 705 kHz by stations of the broadcasting service shall be subject to a plan to be established by a regional administrative radio conference..."

Taking account of the pertinent provisions of the International Telecommunication Convention (Nairobi, 1982) and the Radio Regulations in force and fully respecting the sovereign right of each country to regulate within its territory the use of the frequency band 1 605 - 1 705 kHz by the services to which this band is allocated in Article 8 of the Radio Regulations and to reach special arrangements regarding these services with such countries as it may consider appropriate, without prejudice to other countries;

seeking to facilitate mutual understanding and cooperation among Member Countries of Region 2 in achieving a satisfactory broadcasting service in band 1 605 - 1 705 kHz and, to the extent consistent with the Plan established for the broadcasting service in this band, to make provision for the fixed and mobile services in the band 1 625 - 1 705 kHz;

recognizing that all countries have equal rights, and that, in the application of the Plan and the provisions of this Agreement the needs of each country, and in particular those of developing countries, shall be met as far as possible;

acknowledging that mutual protection of their broadcasting service is a major objective of all countries, in order to ensure better coordination and the use of more efficient facilities;

the delegates of the Members of the International Telecommunication Union assembled in Rio de Janeiro from 23 May to 9 June 1988 at a regional administrative conference convened pursuant to the International Telecommunication Convention (Nairobi, 1982), have adopted, subject to approval by the competent authorities of their respective countries, the following provisions relating to the broadcasting service in Region 2 for the frequency band between 1 605 - 1 705 kHz.

ARTICLE 1

1. For the purpose of the Agreement, the following terms shall have the meanings defined below.

- 1.1 Union: The International Telecommunication Union.
- 1.2 Secretary-General: The Secretary-General of the Union.
- 1.3 IFRB: The International Frequency Registration Board.
- 1.4 CCIR: The International Radio Consultative Committee.
- 1.5 Convention: The International Telecommunication Convention.
- 1.6 Radio Regulations: The Radio Regulations supplementing the provisions of the Convention.
- 1.7 Region 2: The geographical area defined in No. 394 of the Radio Regulations, Geneva, 1979.
- 1.8 Master Register: The Master International Frequency Register.
- 1.9 Agreement: This Instrument and its Annexes.
- 1.10 Plan: The Allotment Plan in Article 8 [and the associated provisions]. [1]
- 1.11 Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention and the Radio Regulations.
- 1.12 Contracting Member: Any member of the Union which has approved the Agreement or acceded to it.
- 1.13 [Affected Administration]
- 1.14 Allotment: Entry in the Plan of a broadcasting channel designated for use by an administration for the (sound) broadcasting service in an allotment area under the conditions specified in the Plan. Each allotment included in the Plan may be used for one or more assignments using the technical criteria specified in Annex 2.
- 1.15 Allotment Area: Specifically defined geographical area within a country to which one or more channels are allotted, as indicated in [].
- 1.16 Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.
- 1.17 Conference: The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2, Rio de Janeiro, 1988.

[NOC 1 The allotments converted into assignments appear as Part [B] of the Plan.]

ARTICLE 2

Frequency band and services

2.1 The provisions of the Agreement shall be applied by the countries parties to the Agreement to the broadcasting service in the frequency band 1 605 - 1 705 kHz and to the fixed and mobile services in the frequency band 1 625 - 1 705 kHz as allocated to Region 2 under Article 8 of the Radio Regulations.

ARTICLE 3

Execution of the Agreement

3.1 The Contracting Members shall adopt for their [broadcasting] stations in Region 2 in the frequency band which is the subject of the Agreement the technical characteristics and standards which are in conformity with the Agreement.

3.2 The Contracting Members may bring into use frequency assignment of the services referred to in Article 2 only under the conditions set out in Articles 5 and 6 of the Agreement.

3.3 The Contracting Members undertake, to the extent possible, to avoid or to reduce any harmful interference.

[ARTICLE 4]

[ARTICLE 5]

[ARTICLE 6]

ARTICLE 7

Special Arrangements

7.1 In order to supplement the procedures laid down in these Provisions, or to facilitate the coordination provided for in Article [] administrations may conclude or continue special arrangements in conformity with the applicable provisions of the Convention and the Radio Regulations.

ARTICLE 8

Plan

The Plan is included in Annex [1.]

The Board shall maintain an up-to-date master copy of the Plan. It shall include all allotments derived from the planning at this Conference plus all modifications made as a result of the successful modification procedure described in Article 4B.

The Secretary-General shall be informed by the Board of any modifications made to the Plan and shall publish an up-to-date version of the Plan [in an appropriate form when justified by circumstances].

Part [A]: consists of the allotments in the Allotment Plan of Region 2.

[Part [B]: consists of the assignments developed at the Second Session by administrations converting their allotments to assignments.]

ARTICLE 9

Scope of Application of the Agreement

9.1 The Agreement is binding upon the Contracting Members in their mutual relations, but not in their relations with non-contracting countries.

9.2 Should a Contracting Member formulate reservations on the application of any provision of the Agreement, the other Contracting Members shall be free to disregard that provision in their relations with the Member that has made the reservations.

ARTICLE 10

Approval or Ratification of the Agreement

10.1 The signatory Members shall notify the Secretary-General of their approval or ratification of this Agreement as soon as possible by depositing an instrument of approval or ratification; the Secretary-General shall immediately inform the other Members of the Union.

ARTICLE 11

Accession to the Agreement

11.1 Any Member of the Union in Region 2 which has not signed the Agreement may accede to it at any time by depositing an instrument of accession with the Secretary-General, who shall immediately inform the other Members of the Union. Accession shall apply to the Plan as it stands at the time of accession and shall be made without reservation.

11.2 Accession to the Agreement shall become effective on the date on which the instrument of accession is received by the Secretary-General.

ARTICLE 12

Denunciation of the Agreement

12.1 Any Contracting Member may denounce the Agreement at any time by a notification sent to the Secretary-General, who shall inform the other Members of the Union.

12.2 Denunciation shall become effective one year after the date on which the Secretary-General receives the notification of denunciation.

ARTICLE 13

Entry into Force of the Agreement

13.1 The Agreement shall enter into force on [], at [] hours UTC.

ARTICLE 14

Duration of the Agreement

14.1 The Agreement shall remain in force until revised by a competent administrative radio conference.

WORKING GROUP 5-B

Draft

RESOLUTION [COM5/2]

Adjacent Channel Interference to or from Broadcasting
Stations in the Frequency Band below 1 605 kHz

The Regional Administrative Radio Conference to Establish a Plan for the
Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2 (Rio de Janeiro, 1988)

considering

- a) that broadcasting stations may experience interference from first, second and third adjacent channels;
- b) that such an interference may involve stations operated in the two channels above and below 1 600 kHz;
- c) that this Conference is not empowered to take any action with respect to any assignment below 1 605 kHz that is recorded in the Master Register or that appears in any Regional Agreement;
- d) that administrations need to know in advance where and when adjacent channel interference may occur in order to take appropriate measures for its avoidance,

resolves to request the IFRB

as a matter of assistance to administrations in application of No. 999 of the Radio Regulations to evaluate the level of adjacent channel interference that may exist between any existing or projected assignments on the channels 1 580, 1 590, 1 600, 1 610, 1 620, 1 630 kHz and to communicate the results to the administrations concerned.

L. M. PALMER

Chairman of Working Group 5-B

WORKING GROUP 5BDraft

RESOLUTION [COM 5/2]

Protection of Allotment Plan from Rio Plan Assignments

The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2 (Rio de Janeiro, 1988)

considering

- a) that broadcasting stations may be established on the frequencies 1 580, 1 590, and 1 600 kHz in accordance with the Final Acts of the Regional Administrative MF Broadcasting Conference (Region 2) Rio de Janeiro 1981;
- b) that stations on these frequencies may cause adjacent channel interference to stations in the 1 605 - 1 705 kHz band; and
- c) that third adjacent channel interference between stations in the band 1 605 - 1 705 kHz was ignored only because of the modest power level of a station with standard parameters,

requests the IFRB

- a) to protect 1 610 and 1 620 kHz allotments from new or modified first or second adjacent channel assignments on 1 590, and 1 600 kHz in accordance with the procedure for non-allotted channels under Annex 6. If an assignment being modified already encroaches on an allotment, the degree of encroachment shall not be allowed to increase; and
- b) to protect 1 610, 1 620, and 1 630 kHz allotments from new or modified third adjacent channel assignments on 1 580, 1 590, and 1 600 kHz by ensuring that the 25 mV/m contour of these new or modified assignments do not overlap the allotment. If an assignment being modified already encroaches on an allotment, the degree of encroachment shall not be allowed to increase.

L. F. PALMER

Chairman of Working Group 5B

WORKING GROUP 5BDraft

RECOMMENDATION [COM5/A]

Relating to the revision of No. 480 of the Radio Regulations

The Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2

considering

- a) that under No. 481 and the Table of Frequency Allocations in Article 8 of the Radio Regulations and until () the band 1 605 - 1 705 kHz is allocated to the fixed, mobile, and aeronautical radionavigation services on a primary basis and to the radiolocation service on a secondary basis;
- b) that under No. 481 and the Table of Frequency Allocations in Article 8 of the Radio Regulations and from () the band 1 605 - 1 625 kHz will be allocated exclusively to the broadcasting service, and the band 1 625 - 1 705 kHz will be allocated to the broadcasting service on a primary basis, to the fixed and mobile services on a permitted basis, and to the radiolocation service on a secondary basis;
- c) that Recommendation No. 504 recommended inter alia that a regional administrative radio conference be convened to establish a plan for the broadcasting service in the band 1 605 - 1 705 kHz in Region 2;
- d) that the First Session of the present Conference, in Recommendation 3, stated that:
 - the Region 2 administrations should henceforth refrain from assigning frequencies in the band 1 625 - 1 705 kHz to their stations in the non-broadcasting service which might inhibit the implementation of the Plan;
 - when using frequencies in the band 1 605 - 1 705 kHz for stations in the non-broadcasting services, administrations should take all necessary steps to ensure that the full implementation of the Plan adopted by the Conference is not compromised;
- e) that, on the basis of No. 480 of the Radio Regulations, this Conference has been empowered to establish a broadcasting Plan for the entire Region;
- f) that the Agenda of the WARC-ORB(2) includes the consideration of No. 480 of the Radio Regulations, and, therefore, it would be useful to RARC-BCR2(2) to recommend a new wording for this Regulation,

recommends to the World Administrative Radio Conference (ORB-88)

1. that No. 480 of the Radio Regulations be modified to read as follows:

MOD 480

--

2. that, as a consequence, No. 481 of the Radio Regulations can be
suppressed/modified as follows:

Mod RR481 []

further recommends to the World Administrative Radio Conference (ORB-88)

that Recommendation 504 can be suppressed;

instructs the Secretary-General to forward this Recommendation to the
WARC-ORB(2).

L. F. PALMER
Chairman of Working Group 5B

WORKING GROUP 5-B

Draft

RESOLUTION [COM5/1]

Continued Operation of Services other than the Broadcasting Service
in the Band 1 605 - 1 705 kHz

The Regional Administrative Radio Conference to Establish a Plan for the
Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2 (Rio de Janeiro, 1988),
considering

- a) that the band 1 605 - 1 705 kHz is allocated in Region 2 on a primary basis to the fixed, mobile and aeronautical radionavigation services until a date adopted by this Conference;
- b) that as of the above date in Region 2 the band 1 605 - 1 625 kHz is exclusively allocated to the broadcasting service and the band 1 625 - 1 705 kHz is allocated to the broadcasting service on a primary basis, to the fixed and mobile services on a permitted basis, and to the radiolocation service on a secondary basis;
- c) that this Conference adopted the date of [1 July 1990] for the entry into force of the change in the Table of Frequency Allocations as required by No. 481 of the Radio Regulations;
- d) that as of the above date stations of the fixed and mobile services in the band 1 605 - 1 625 kHz may continue to operate only on the basis of No. 342 of the Radio Regulations;

noting

- a) that administrations have been requested by the First Session of the Conference to take all necessary steps to ensure that the full implementation of the plan is not compromised;
- b) that some administrations may wish to continue the operation of stations of the fixed and mobile services in the band 1 625 - 1 705 kHz;

c) that the IFRB at the request of the First Session carried out an enquiry with administrations having assignments recorded in the Master Register for the services concerned; and

d) the IFRB report to the Conference on this matter.

considering further

that there is a need to assess the possible incompatibilities between allotments in the Plan and remaining frequency assignments used by stations of the fixed and mobile services in the band 1 625 - 1 705 kHz in Region 2.

resolves to request the IFRB

1. to prepare for each Administration of Region 2 in advance of [1 July 1990] the list of assignments to each station of the fixed and mobile services in the band 1 605 - 1 625 kHz and the aeronautical radionavigation service in the band 1 605 - 1 705 kHz and request them to cease the operation of these stations as soon as possible and to notify their cancellation from the Master Register. After [1 July 1990] the Board shall review its findings for those assignments remaining in the Master Register and will include in them a reference to No. 342 of the Radio Regulations;

2. to assess the incompatibility between assignments to the fixed and mobile services in the band 1 625 - 1 705 kHz notified before the date of entry into force of the Final Acts of this Conference and the allotments appearing in the broadcasting Plan using the standardized parameters and the criteria contained in [].

3. to review the finding of any assignment of the fixed and mobile services which is compatible with the broadcasting Plan and enter a remark in an appropriate column of the MIFR to indicate that this finding will be reviewed again when a broadcasting station of the allotment at the origin of the unfavourable finding will be brought into use.

4. to inform the concerned administrations accordingly, noting, in the case of any administration responsible for the non-broadcasting assignment,

a) that the finding for its assignment recorded in the Master Register will be reviewed when a related broadcasting station will be brought into use in the allotment concerned and, to this effect,

b) when applying the procedure of RR1255 to a fixed or mobile station, the two months period specified in this procedure, shall start from the date of bringing into use of a broadcasting station in conformity with the allotment concerned and shall relate to interference exceeding the protection criteria adopted by this Conference.

urges administrations

to take all appropriate steps to eliminate interference to broadcasting stations brought into use in accordance with the Agreement.

DRAFT

RESOLUTION No. [COM5/1]

Continued Operation of Services Other Than The Broadcasting Services
In The Band 1 605 - 1 705 kHz

The Regional Administrative Radio Conference to Establish a Plan for
the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2 (Second
Session, Rio de Janeiro, 1988)

considering

- a) that the band 1 605 - 1 705 kHz is allocated in Region 2 on a primary basis to the fixed, mobile and aeronautical radionavigation services until a date adopted by this Conference;
- b) that as of the above date in Region 2 the band 1 605 - 1 625 kHz is exclusively allocated to the broadcasting service and the band 1 625 - 1 705 kHz is allocated to the broadcasting service on a primary basis, to the fixed and mobile services on a premitted basis, and to the radiolocation service on a secondary basis;
- c) that this Conference adopted the date of [.....] for the entry into force of the change in the Table of Frequency allocations as required by RR481;
- d) that as of the above date stations of the fixed and mobile services in the band 1 605 - 1 625 kHz and stations of the aeronautical radionavigation service in the band 1 605 - 1 705 kHz may continue to operate only on the basis of RR342;

noting

- a) that administrations have been requested by the First Session of the Conference to take all necessary steps to ensure that the full implementation of the plan is not compromised;
- b) that some administrations may wish to continue the operation of stations of the fixed and mobile services in the band 1 625 - 1 705 kHz;

../.

c) that the IFRB at the request of the First Session carried out an enquiry with administrations having assignments recorded in the master register for the services concerned; and

d) the IFRB report to the Conference on this matter.

considering further

that there is a need to assess the possible incompatibilities in operation between allotments in the Plan and remaining frequency assignments used by stations of the fixed and mobile services in the band 1 625 - 1 705 kHz in Region 2.

resolves to request the IFRB

1. to prepare for each Administration of Region 2 in advance of [the date of entry into force of the Final Acts of this Conference], the list of assignments to each station of the fixed and mobile services in the band 1 605 - 1 625 kHz and the aeronautical radionavigation service in the band 1 605 - 1 705 kHz and request them to cease the operation of these stations as soon as possible and to notify their cancellation from the Master Register. After [] the Board shall review its findings for those assignments remaining in the Master Register and will include in them a reference to RR342;
2. to assess the incompatibility between assignments to the fixed and mobile services in the band 1 625 - 1 705 kHz notified before the date of entry into force of the Final Acts of this Conference and the allotments appearing in the broadcasting Plan using the standardized parameters and the criteria contained in [];
3. to enter a remark in an appropriate column of the Master Register in regard of any assignment of the fixed and mobile services which is incompatible with the broadcasting Plan; and
4. to inform the concerned administrations accordingly, noting, in the case of any administration responsible for the non-broadcasting assignment,
 - a) that the finding for its assignment recorded in the Master Register will be reviewed when a related broadcasting station will be brought into use in the allotment concerned; and
 - b) when applying the procedure of RR1255 to a fixed or mobile station, the two months period specified in this procedure, shall start from the date of bringing into use of a broadcasting station in conformity with the allotment concerned and shall relate to interference exceeding the protection criteria adopted by this Conference.

urges administrations

to take all appropriate steps to eliminate interference to
broadcasting stations brought into use in accordance with the agreement.

GT/WG-PL

Draft

NOTE OF THE CHAIRMAN OF GT/WG-PL

Following informal discussion taken place among the Chairmen of Committee 4, Committee 5 and of WG/GT-PL, it has been proposed that Annex 1 and Annex 2 of the Agreement would have the structure outlined in the Annex.

M. PIZARRO ARAGONES
Chairman of WG/GT-PL

Annex: 1

ANNEX

ANNEX 1- TECHNICAL DATA USED IN PREPARING THE PLAN AND FOR ITS IMPLEMENTATION
[from GT/WG PL]

ANNEX 2- LIMITS TO DETERMINE WHEN THE SERVICES OF ANOTHER ADMINISTRATION ARE
AFFECTED

1. Modification of the Plan

In the application of Art. 4 of the Agreement, an administration is affected if the following criteria are not met:

1.1 Co-channel separation distances

If the separation distance between the edge of the allotment area of the proposed modification and any co channel allotment area in the plan is less the following standardized distances;

- | | |
|---|----------|
| - land path noise zone 1 | - 330 Km |
| - land path noise zone 2 | - 120 Km |
| - sea or mixed path in both noise zones | - 550 Km |

1.2 Broadcasting stations recorded in the MIFR

[to be completed by GT/WG-PL]

1.3 Fixed and Mobile stations recorded in the MIFR

[to be completed by GT/WG-PL]

1.4 Allotment areas

Any modification to an allotment area shall be defined by national borders, sea coasts and meridians of longitude and parallels of latitude integral multiples of 15 minutes.

2. Adjacent Channel Criteria

2.1 With respect to para. [], the agreement of another administration is required if the distance from the notified station to the edge of the allotment area of another administration on an adjacent channel is less than the following:

- for the first adjacent channel

land path in noise zone 1- 53 Km;
land path in noise zone 2- 35 Km;
sea path or mixed path in both noise zones- []

- for the second adjacent channel

land path in noise zone 1- []
land path in noise zone 2- []
sea path or mixed path in both noise zones- []

2.2 In the case of the notification of Broadcasting stations using non standard parameters, these limits are to be modified as described below.

[values of separation distance depending on the effective radiated power in the direction concerned] / or

[actual calculation providing the appropriate protection ratio]

3. Use of Non Standard Parameters

[In the application of Article 4, another administration is affected if the field strength in any part of its allotment area, calculated using the notified characteristics, exceeds the field strength that would result from a station using standardized parameters located at the nearest point. [for ground-wave interference, the calculation shall be made using an uniform ground conductivity of 10 mS for land paths and 5000 mS for sea and mixed paths.]]

4. Use of Un-allotted Channels

In the application of Article 4, another administration is affected if the field strength in any part of its allotment area exceeds the field strength that would result from a station using standardized parameters located at the standardized distance. [For ground-wave interference, the calculation shall be made using an uniform ground conductivity of 10 mS for land paths and 5000 mS for sea and mixed paths.]

5. Use of Remaining Channels

[To be developed if requested by Committee 5]

6. Relationship Between the Broadcasting and the Fixed and Mobile Services

6.1 Protection of the Broadcasting Allotments from Stations of the Fixed and Mobile Service.

[An administration having an allotment in the Plan is considered as affected if

- there is overlap of the bands
- the field strength at the edge of the allotment area exceeds the nominal field strength minus the appropriate protection ratio [see ...]].

6.2 Protection of Broadcasting Stations Recorded in the Master Register from stations of the Fixed and Mobile Service.

[An administration having an allotment in the Plan is considered as affected if

- there is overlap of the bands
- the field strength at the edge of the service area exceeds the wanted field strength minus the appropriate protection ratio [see ...]].

6.3 Protection of Stations of the Fixed and Mobile Service recorded in the Master Register from stations of Broadcasting service

[]

6.4 Protection of stations of the Fixed and Mobile Service recorded in the Master Register from other stations of the same services

In examining notices of stations of the Fixed or Mobile service with respect to other assignments of the fixed and mobile services recorded in the Master Register, the Board shall use its technical standards for the band and service concerned using the criteria that the Board uses for a favorable finding RR1241.

WORKING GROUP 5-B

Draft

RESOLUTION [COM5/3]

Relating to the application of the Plan and associated provisions for
the broadcasting service in Region 2 in the Band 1 605 - 1 705 kHz

The Regional Administrative Radio Conference to Establish a Plan for the
Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2 (Rio de Janeiro, 1988)

noting

- a) that in accordance with No. 480 of the Radio Regulations adopted by
WARC-1979, the use of the band 1 605 - 1 705 kHz by stations of the broadcasting
service shall be subject to a plan to be established by a regional administrative
radio conference; and
- b) that in its Resolution No. 952 the Administrative Council assigned to the
Conference the task to prepare a plan together with procedures governing the use of
the band 1 625 - 1 705 kHz by other services in Region 2 and procedures to be applied
for the implementation of the plan,

having considered

- a) that the planning of the band 1 605 - 1 705 kHz was based on allotting
channels to allotment areas derived from the adoption of standardized parameters and
standardized distances;
- b) that the use of non standardized parameters can be accommodated when not in
conflict with the Plan; and
- c) that provisions were made for administrations to use non-allotted channels
without conflicting with the Plan,

noting further

- a) that the Conference adopted an agreement containing the provisions applicable
to those countries of the Region which will be party to the agreement;
- b) that in order to ensure that implementation of broadcasting stations in
Region 2 in the band 1 605 - 1 705 kHz is without prejudice to the regional
broadcasting plan there is a need to revise No. 480 of the Radio Regulations;
- c) that to this effect the Conference has prepared a revised text of No. 480
of the Radio Regulations for consideration by the World Administrative Radio
Conference ORB-88, the agenda of which contains the following text:

"15. to consider and, if appropriate, revise No. 480 of the Radio Regulations only to the extent necessary to ensure that implementation of broadcasting stations in Region 2 in the band 1 605 - 1 705 kHz is without prejudice to the regional broadcasting plan adopted at the Second Session of RARC BC-R2;"

recognizing

that some of the provisions adopted by the Conference derive from the nature of the plan and are closely related to it in such a way that they shall be considered as an integral part of the Plan,

resolves

1. that the plan to be used in accordance with No. 480 of the Radio Regulations is the plan contained in the Final Acts of this Conference;
2. that administrations may assign frequencies to their broadcasting stations in conformity with the Plan using non-standardized parameters under the conditions specified in Annex 1 to this Resolution;
3. that administrations may assign frequencies to their broadcasting stations on channels not allotted to them in the area concerned under the conditions specified in Annex 1 to this Resolution;
4. to recommend to the World Administrative Radio Conference ORB-88 the revised text of No. 480 of the Radio Regulations as contained in Annex 2; and
5. that in accordance with the revised text of No. 480 of the Radio Regulations the Board when examining frequency assignment notices to stations in Region 2 of the fixed and mobile services in the band 1 625 - 1 705 kHz, with respect to RR1241, shall in addition to the assignments referred to in RR1241 take account of the allotments appearing in the Plan specified in resolves 1.

further resolves

that the date for the change in the Table of Frequency Allocations as required by No. 481 of the Radio Regulations shall be 1 July 1990.

ANNEX 1

Provisions associated with the Plan

- The standardized technical parameters.
- The conditions relating to the use of non-standardized parameters.
- The conditions relating to the use of non-allotted channels.

ANNEX 2

RR 480 In Region 2, the use of the band 1 605 - 1 705 kHz by stations of the broadcasting service is subject to the Plan established by the Regional Administrative Radio Conference, Rio de Janeiro, 1988.

In Region 2, frequency assignments to stations of the fixed and mobile services in the band 1 625 - 1 705 kHz notified under No. 1241, shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference, Rio de Janeiro, 1988.

L. M. PALMER
Chairman of Working Group 5-B

Draft

RESOLUTION [COM5/3]

Relating to the application of the Plan and associated provisions for the broadcasting service in Region 2 in the band 1 605 - 1 705 kHz

The Regional Administrative Radio Conference to establish a Plan for the Broadcasting Service in the Band 1 605 - 1 705 kHz in Region 2,

noting

- a). that in accordance with No. 480 of the Radio Regulations adopted in 1979 the use of the band 1 605 - 1 705 kHz by stations of the broadcasting service shall be subject to a plan to be established by a regional administrative radio conference; and
- b) that in its Resolution No. 952 the Administrative Council assigned to the Conference the task to prepare a plan together with procedures governing the use of the band 1 625 - 1 705 kHz by other services in Region 2 and procedures to be applied for the implementation of the plan,

having considered

- a) that the planning of the band 1 605 - 1 705 kHz should be based on allotting channels to allotment areas derived from the adoption of standardized parameters and standardized distances;
- b) that the use of non standardized parameters can be accommodated when not in conflict with the Plan; and
- c) that provisions should be made for administrations to use non-allotted channels without conflicting with the Plan,

noting further

- a) that the Conference adopted an agreement containing the provisions applicable to all countries of the Region which will be party to the agreement;
- b) that the application of the provisions contained in the agreement by countries non-party to this agreement requires the revision of No. 480 of the Radio Regulations; and
- c) that to this effect the Conference is required to prepare a final text of this provision for consideration by the World Administrative Radio Conference ORB-88 as point of its agenda,

recognizing

that some of the provisions adopted by the Conference derive from the nature of the plan and are closely related to it in such a way that they shall be considered as an integral part of the Plan,

resolves

1. that the plan to be used in accordance with No. 480 of the Radio Regulations is the plan contained in the Final Acts of this Conference;
2. that conformity with the plan must include conformity with the provisions in Annex 1 to this Resolution;
3. to adopt the revised text of No. 480 of the Radio Regulations as contained in Annex 2 hereto and to forward it to the World Administrative Radio Conference ORB-88; and
4. that the Board when examining frequency assignment notices to stations in Region 2 of the fixed and mobile services in the band 1 625 - 1 705 kHz, with respect to RR1241, shall in addition to the assignments referred to in RR1241 take account of the allotments [/assignments] appearing in the Plan specified in resolves 1.

ANNEX 1

Provisions associated with the Plan

- The standardized technical parameters.
- The conditions relating to the use of non-standardized parameters.
- The conditions relating to the use of non-allotted channels.

ANNEX 2

(Modifications Proposed)

MOD 480
(BRAZIL)

Broadcasting stations in the band 1605 - 1705 kHz in Region 2 shall be established and operated in accordance with the Plan for the band whose first version was drawn up by the Regional Administrative Radio Conference of 1988. Fixed and Mobile stations of Region 2 may be introduced on the condition that they protect the allotment Plan for the broadcasting service and do not inhibit its implementation.

MOD 480
(CANADA)

In Region 2, the use of the band 1605-1705 kHz by stations of the broadcasting service shall be subject to a the provisions and associated Plan to be established by a regional administrative radio conference (see Recommendation 504) held in Rio de Janeiro (1988).

MOD 480
(USA)

"Stations in the broadcasting service in the Band 1605 - 1705 kHz in Region 2 shall be established and operated in accordance with the Allotment Plan for the band that was established by a Regional Conference in 1988. Stations in the fixed and mobile services in the band 1625 - 1705 kHz may be introduced on the condition that they protect the Allotment Plan for the broadcasting service and do not inhibit its implementation."

MOD 480
(CUBA)

In Region 2, the use of the 1605 - 1705 kHz band by the broadcasting service is subject to the Plan adopted by the Regional Administrative Radio Conference, Rio de Janeiro, 1988.

MOD 481
(CANADA)

In Region 2, until the dates decided by the regional administrative radio conference referred to in No. 480, [] the band 1605-1705 kHz is allocated to the fixed, mobile and aeronautical radionavigation services on a primary basis and to the radiolocation service on a secondary basis (see Recommendation 504).

DRAFT

ARTICLE 5

IMPLEMENTATION OF THE PLAN, PROCEDURES FOR THE NOTIFICATION OF
FREQUENCY ASSIGNMENTS TO STATIONS OF THE BROADCASTING SERVICE

SECTION 1: IMPLEMENTATION OF THE PLAN

1.. An administration may at any time:

1.1 Make assignments corresponding to any of its allotments, at one or more locations within the respective allotment area with characteristics which do not exceed the standardized parameters given in [].

1.2 Make assignments corresponding to any of its allotments, at one or more locations within the respective allotment area with non standardized parameters subject to not exceeding the limits specified in [] except with the agreement of any affected administration.

1.3 Make assignments corresponding to any of its allotment, at one or more locations separated by less than the standardized adjacent channel distance specified in [.....] from the limit of an allotment area to which a [a first or a second] adjacent channel is allotted subject to the application of the procedure contained in Section 2 of Article 4.

1.4 Make an assignment to a station at any location of its territory on any channel not allotted to it in the area concerned subject to not exceeding the limits specified in [] except with the agreement of any administration concerned.

SECTION 2: NOTIFICATION OF ASSIGNMENTS TO STATIONS OF THE BROADCASTING
SERVICE

1. Wherever an administration intends to bring into use an assignment to a station of the Broadcasting service in conformity with this Agreement, it shall notify it to the Board in accordance with Art. 12 of the Radio Regulations.

2. Complete notices which are in conformity with the Convention and the provisions of the Radio Regulations (except those relating to the probability of harmful interference) shall be examined by the Board in application of No. 1245 to determine if the following conditions are satisfied:

./.

2.1 Assignments corresponding to allotted channels

2.1.1 for a station using non-standardized parameters the field strength at any location of an allotment area to which the same channel is allotted does not exceed the limits specified in Section [] of Annex 2.

2.1.2 when the station is separated from an adjacent allotment area having an allotment on [the first or second] adjacent channel by less than the distance specified in Section [] of Annex 2, the coordination procedure contained in Section 2 of Article 4 was applied.

2.2 Assignments on non-allotted channels

2.2.1 the field strength at any location of an allotment area to which the same channel is allocated does not exceed the limits specified in Section [..] of Annex 2.

2.2.2 the field strength at any location of an allotment area to which the [first or second] adjacent channel is allotted does not exceed the limits specified in Section [...] of Annex 2.

2.2.3 the field strength does not exceed the limits specified in Section [] of Annex 2 with respect to a broadcasting station recorded in the Master Register on the same channel with a favorable finding.

2.2.4 the field strength does not exceed the limits contained in Section [...] of Annex 2 with respect to a station of the Fixed or Mobile Services recorded in the Master Register with a favorable finding on behalf of a contracting party.

3. Notices of frequency assignments in conformity with this Agreement shall not be examined by the Board under No. 1241 with respect to frequency assignments recorded in the Master Register on behalf of Contracting Members.

4. If the Board's finding resulting from the examination with respect to the paragraphs 2.1.1 or 2.1.2 or with respect to 2.2.1 to 2.2.4 is favorable, or whenever it is unfavorable and the agreement of the affected administration has been indicated the assignment shall be recorded in the Master Register with a favorable finding.

5. If the Board's examination results in an unfavorable finding and the agreement of the affected administration was not indicated, the notice shall be returned to the notifying administration together with any recommendation that the Board may offer for the resolution of the problem.

6. If the administration resubmits the notice and the finding remains unfavorable and the agreement with the affected administrations has not been indicated effected, the notice shall be returned to the administration.

7. In relations between Contracting Members, all frequency assignments to broadcasting stations on allotted channels brought into service in conformity with this Agreement and recorded in the Master Register shall be considered as having the same status irrespective of the date or dates entered in Column 2 for such assignments.

DRAFT

ARTICLE 6

NOTIFICATION OF ASSIGNMENTS TO STATIONS OF THE FIXED AND
MOBILE SERVICES IN THE BAND 1 624 - 1 705 kHz

1. Whenever an administration intends to bring into use an assignment to a station of the Fixed and Mobile Services in the band 1 625 - 1 705 kHz it shall notify it to the Board in accordance with Art. 12 of the Radio Regulations.
2. Complete notices which are in conformity with the Convention and the provisions of the Radio Regulations (except those relating to the probability of harmful interference) shall be examined by the Board in application of No. 1245 to determine if the following conditions are satisfied:
 - 2.1 the field strength does not exceed the limits specified in Section [..] of Annex 2 in any location of an allotment whose allotted channel contains all or part of the assigned band of the notified assignment.
 - 2.2 the limits specified in Section [] of Annex 2 are not exceeded at the edge of the service area of a broadcasting station recorded in the Master Register with a favorable finding on a channel that encompasses totally or partly the assigned band of the notified assignment.
 - 2.3 using the criteria contained in Section [...] of Annex 2, no harmful interference is caused to a station of the Fixed or Mobile Services recorded in the Master Register on behalf of a Contracting Member and:
 - a) which bears a date in column 2a or
 - b) is in conformity with the provision No. 1240 and bears a date in column 2b but has not, in fact, caused harmful interference to any frequency assignment with a date in column 2a or to any assignment in conformity with No. 1240 with an earlier date in column 2b.
3. Notices of frequency assignments of the Fixed and Mobile Services, shall not be examined by the Board under No. 1241 with respect to frequency assignments recorded in the Master Register on behalf of Contracting Members.

./.

4. If the Board's finding resulting from the examination with respect to the paragraphs 2.1 to 2.3 is favorable, or whenever it is unfavorable and the agreement of the affected administration has been communicated to the Board the assignment shall be recorded in the Master Register with a favorable finding.
5. If the Board's examination results in an unfavorable finding and the agreement of the affected administration was not communicated to the Board, the notice shall be returned to the notifying administration together with any recommendation that the Board may offer for the resolution of the problem.
6. If the administration resubmits the notice and the finding remains unfavorable and the agreement with the affected administrations has not been indicated effected, the notice shall be returned to the administration.

J. ZAVATTIERO
Chairman of Working Group 5A

COMMITTEE 2

DRAFT

REPORT OF COMMITTEE 2 TO THE PLENARY MEETING
(CREDENTIALS)

1. Terms of reference of the Committee

The terms of reference of the Committee are set out in Document 26.

2. Meetings

The Committee met twice, on 25 May and 31 May 1988.

At its first meeting, it set up a Working Group consisting of the Chairman and Vice-Chairman of the Committee and one delegate from Brazil, to verify delegations' credentials in accordance with Article 67 of the International Telecommunication Convention, Nairobi (1982).

3. Conclusions

The conclusions reached by the Committee are reproduced in the Annex attached hereto and submitted to the Plenary Meeting for approval.

4. Final remark

The Committee recommends that the Plenary Meeting authorize the Chairman and Vice-Chairman of Committee 2 to verify the credentials received after the date of the present Report and to submit their conclusions to the Plenary Meeting on the matter.

C. MATTHEW
Chairman of Committee 2

Annex : 1

ANNEX

1. Credentials found to be in order, deposited by the delegations of countries having the right to vote

(In French alphabetical order)

Antigua and Barbuda
Argentine Republic
Canada
Chile
Colombia (Republic of)
Cuba
France
Haiti (Republic of)
Paraguay (Republic of)
United Kingdom of Great Britain and Northern Ireland
Suriname (Republic of)
Uruguay (Eastern Republic of)
Venezuela (Republic of)

Conclusion : The delegations of these countries are entitled to vote and to sign the Final Acts.

2. Credentials found to be in order, deposited by the delegations of countries which do not have the right to vote (see Document 14)

(In French alphabetical order)

Brazil (Federative Republic of)
Costa Rica
Honduras (Republic of)

Conclusion : The delegations of these countries are not entitled to vote, but may sign the Final Acts.

3. Delegations attending the Conference which have not deposited credentials

Barbados
United States of America
Mexico
*Nicaragua
*Peru
Trinidad and Tobago

Conclusion : The delegations of these countries are neither entitled to vote nor to sign the Final Acts.

* Appears in the list of countries which have lost their right to vote (see Document 14)

COMMITTEE 4

Draft

NOTE BY THE CHAIRMAN OF COM4

There are many offshore islands not listed in Table B1 of the Preface to the International Frequency List, which are more than 500 kilometers from any other countries or geographic areas (for example, Fernando de Noronha is a Brazilian island off the shore of Brazil, and the Galapagos are Equadorian islands off the coast of Equador). Although these islands are not shown on the maps of the allotment areas, all ten channels are allotted to each of these islands. A note to this effect could be added to Part C of Document 63.

M. FERNANDEZ-QUIROZ
Chairman of Committee 4

DRAFT

ANNEX 1

PROVISIONS ASSOCIATED WITH THE PLAN

(RESOLUTION [COM5/3])

Section 1.

STANDARDIZED PARAMETERS

1.1 The Plan ~~shall-be~~ is based on a channel spacing of 10 kHz and carrier frequencies which are integral multiples of 10 kHz, beginning at 1 610 kHz.

1.2 The Plan ~~shall-be~~ is based on double-sideband amplitude modulation with full carrier A3E.

Classes of emission other than A3E ~~could~~ may also be used on condition that the energy level outside the necessary bandwidth does not exceed that normally expected in A3E emission, for instance to accommodate stereophonic systems.

1.3 The Plan ~~shall-be~~ is based on a necessary bandwidth of 10 kHz for which only 5 kHz audio bandwidth can be obtained. While this might be an appropriate value within some administrations, others may wish to employ wider bandwidth systems with necessary bandwidths of the order of 20 kHz. However, the protection ratios selected allow operation with 20 kHz occupied bandwidth without an appreciable increase in interference. Stations operating on the frequency 1 700 kHz shall take into account No. 343 of the Radio Regulations.

1.4 The Plan is based on the protection of the nominal usable field strength (E_{nom}) of a broadcasting station which is defined as follows:

Agreed minimum value of the field strength required to provide satisfactory reception, under specified conditions, in the presence of atmospheric noise, man-made noise and interference from other transmitters. The value of nominal usable field strength has been employed as the reference for planning.

Table of nominal usable field strength

	Noise zone 1	Noise zone 2
Daytime	0.5 mV/m	1.25 mV/m
Night-time	3.3 mV/m	6 mV/m

1.5 The Plan is based on two noise zones defined as follows:

Noise zone 1

Comprises the whole of Region 2 with the exception of noise zone 2.

Noise zone 2

Comprises the area within the line defined by the coordinates 20 S/45 W, the meridian 45 W to the coordinates 16 N/45 W, the parallel 16 N to the coordinates 16 N/ 68 W, the meridian 68 W to the coordinates 20 N/68 W, the parallel 20 N to the coordinates 20 N/75 W, the meridian 75 W to the coordinates 18 N/75 W, EXCEPT JAMAICA, the parallel 18 N to coordinates 18 N/88 W, the northeast coast of BELIZE, and the frontier between MEXICO and BELIZE, the frontier between MEXICO and GUATEMALA, the south coast of GUATEMALA and EL SALVADOR until meridian 90 W, meridian 90 W to coordinates 5 N/90 W, parallel 5 N to coordinates 5 N/95 W, meridian 95 W to parallel 20, with the exception of CHILE and PARAGUAY, until the frontier between PARAGUAY and BRAZIL until 45 W. BOLIVIA is entirely included in Noise Zone 2.

1.6 The Plan is based on the following protection ratios:

- The co-channel protection ratio ~~shall-be~~ is 26 dB;
- the protection ratio for the first adjacent channel ~~shall-be~~ is 0 dB;
- the protection ratio for the second adjacent channel ~~shall-be~~ is -29.5 dB.

1.7 The Allotment Plan is based on the following standard parameters for day and night and for noise zones 1 and 2:

Station power: 1 kW

Antenna: omnidirectional with 90° electrical height

1.8 The Allotment Plan is based on the following co-channel standardized distances

- for noise zone 1 land path: 330 km, based on skywave protection for the night-time E_{nom} of 3.3. mV/m;
- for noise zone 2 land path: 120 km, based on groundwave protection for the daytime E_{nom} of 1.25 mV/m;
- for sea paths and mixed paths in noise zones 1 and 2: 500 km.

1.9 The Allotment Plan is based on the following adjacent channel standardized distance

- ground path in noise zone 1: 53 km
- sea path in noise zone 1: 310 km
- ground path in noise zone 2: 35 km
- sea path in noise zone 2: 160 km

Section 3

Use of non-allotted channels

Any administration may use a channel not allotted to it on the condition that no other administration is affected by such a use. If the service rendered by a Broadcasting, a fixed or a mobile station is affected the agreement of the administration on behalf of which the assignment is recorded in the MIFR is required. An administration is considered as affected by the use of a non-allotted channel:

- a) If the sky-wave or ground wave field strength in any part of its allotment area on the co-channel or adjacent channel, calculated using notified characteristics, exceeds the E_{nom} divided by the appropriate protection ratio. However, in the case of mixed or sea paths the ground wave field strength produced at the boundary of the allotment area shall not exceed the field strength that would be produced by a station with standardized parameters located at the standardized distance.
- b) If it has a broadcasting assignment with non-standardized parameters recorded in the MIFR on either a co-channel or an adjacent channel and the sky-wave or ground wave field strength at the limit of the E_{nom} contour calculated using notified characteristics, exceeds the E_{nom} divided by the appropriate protection ratio.

However, where the contour corresponding to the nominal usable field strength extends beyond the border of the country in which the station is located, the maximum permissible interfering field strength at the border shall be the field strength of the protected station calculated along the border divided by the protection ratio. [For protection purposes, the border of a country should be deemed to encompass only its land area, including islands.]

c) If it has a broadcasting assignment on a non-allotted channel recorded in the MIFR on either a co-channel or an adjacent channel and the ground wave the sky wave protection criteria are based on site-to-site calculations.

d) If it has a fixed or mobile station recorded in the MIFR and the Board formulates an unfavourable finding.

L.M. PALMER
Chairman of Working Group 5-B

BUDGET CONTROL
COMMITTEEDRAFT REPORT OF THE
BUDGET CONTROL COMMITTEE TO THE PLENARY MEETING

The Budget Control Committee held three meetings during the Conference and examined the various items of its terms of reference.

Pursuant to Nos. 475 to 479 of the International Telecommunication Convention, Nairobi, 1982, the terms of reference of the Budget Control Committee are as follows:

- a) to approve the organization and the facilities available to delegates;
- b) to examine and approve the accounts for expenditure incurred throughout the duration of the Conference;
- c) to estimate the costs that implementation of the decisions taken by the Conference may entail.

1. Assessment of the organization and the facilities made available to delegates

In the absence of any comments in this regard from the delegations, Committee 3 found that the organization and the facilities made available to delegates were very satisfactory.

2. Budget of the Conference

The Budget Control Committee examined the budget of the Conference approved by the Administrative Council at its 42nd session, 1987, amounting to 850,000 Swiss francs.

The Committee further noted that the budget of the Conference had been adjusted in accordance with Administrative Council Resolution No. 647 to take account of changes in salaries and allowances in the common system of the United Nations and specialized agencies. The budget, adjusted on 31 May 1988, is set out in Annex 1 to this report.

3. Position of Conference expenditure

Under No. 478 of the Convention, the Budget Control Committee is required to present a report to the Plenary Meeting showing, as accurately as possible, the estimated total expenditure of the Conference.

Accordingly, Annex 2 hereto gives a statement of the Conference budget with a breakdown of credits for the various budgetary sub-heads and items and actual expenditure as at 6 June 1988. The statement also gives an indication of expenditure committed until that date and estimated expenditure up to the closing date of the Conference.

The statement reveals that total expenditure is estimated at 819,000 Swiss francs, thus leaving a surplus of 49,000 Swiss francs over the budget approved by the Administrative Council and adjusted in accordance with Resolution No. 647.

4. Recognized private operating agencies and international organizations participating in the work of the Conference

Under Article 16 of the Financial Regulations of the Union, the report of the Budget Control Committee to the Plenary Meeting must include a statement of recognized private operating agencies and international organizations required to contribute to defraying Conference expenditure, together with a list of the international organizations exempted from contributing under No. 617 of the Convention.

This statement is set out in Annex 4 hereto.

Since the budget of the Conference amounts to 868,000 Swiss francs and the total number of Members' contributory units is 141 $\frac{3}{8}$, the amount of the contributory unit for recognized private operating agencies and non-exempt international organizations is 6,140 Swiss francs.

5. Sharing of Conference expenditure

Since the present Conference is a regional conference within the meaning of No. 50 of Article 7 of the Nairobi Convention, 1982, the corresponding expenses shall be borne by all the Members of Region 2 and Members of other regions which have participated in the Conference, in accordance with their unit classification, pursuant to No. 115 of Article 15 of the Convention. Annex 3 hereto gives a list of the Members concerned.

According to the statement of accounts in Annex 2, total expenditure is estimated at 819,000 Swiss francs. On the basis of the contributions from international organizations (see section 4 above) and the number of contributory units of the Members required to bear the cost of the Conference, the amount of the contributory unit may be estimated at 5,800 Swiss francs.

Under Article 28 of the Financial Regulations of the Union, interest is payable on regional conference accounts after a period of 60 days from the date of despatch. Since invoices can probably be sent to participants on 30 September 1988, they should be settled by 30 November 1988 at the latest. From 1 December 1988, they will be subject to interest at 3% for the first 180 days and 6% thereafter.

6. Agreement between the host Administration and the Secretary-General of the ITU concerning organization of the Conference

The Budget Control Committee also noted the Agreement between the Government of the Federative Republic of Brazil and the Secretary-General of the International Telecommunication Union relating to the arrangements for the organization of the second session of the BC-R2 Conference (see Document 18).

The Agreement was considered and approved.

7. Documentation fee under the provisional rules for the attendance of regional administrative conferences by Members not belonging to the Region concerned, which entered into force on 1 January 1986

At its 41st session, the Administrative Council determined the method for calculating the documentation fee to be charged to Members of other regions which participate in a regional conference without the right to speak.

This charge is calculated on the basis of credits budgeted, by dividing document production costs plus 10% for other services by the number of sets of documents printed. The relevant fee for this Conference is 255 Swiss francs (see Document No. 17). Annex 5 hereto lists the administrations receiving the documents of the Conference.

8. Additional expenditure to be foreseen for implementation of the decisions of the Conference

No. 478 of the International Telecommunication Convention, Nairobi, 1982, provides that the report of the Budget Control Committee of the Plenary Meeting shall also indicate, as accurately as possible, the costs which may arise from implementation of the decisions taken by the Conference. Article 80 of the Convention relating to the financial responsibilities of administrative conferences lays down that before adopting proposals with financial implications, conferences shall take account of all the Union's budgetary provisions with a view to ensuring that the proposals will not result in expenses beyond the credits which the Administrative Council is empowered to authorize. Furthermore, Resolution No. 48 of the Nairobi Conference stipulates that:

"before adopting resolutions or taking decisions which are likely to result in additional and unforeseen demands upon the budgets of the Union, administrative conferences, having regard to the need for economy, shall:

- 1.1 prepare and take into account estimates of the additional demands made on the budgets of the Union;
- 1.2 where two or more proposals are involved, arrange them in an order of priority;
- 1.3 prepare and submit to the Administrative Council a statement of the estimated budgetary impact, together with a summary of the significance and benefit to the Union of financing the implementation of those decisions, and an indication of priorities where appropriate;"

The post-conference work to be performed by the IFRB will have financial implications, the cost of which may be estimated at 174,000 Swiss francs. This expenditure corresponds to 18 months' work for a P.4 official (see Document 114).

Pursuant to No. 479 of the Convention, this report will be transmitted, together with the observations of the Plenary Meeting, to the Secretary-General for submission to the Administrative Council at its next annual session.

The Plenary Meeting is requested to approve this report.

G.R. BEGLEY
Chairman of the Budget Control Committee

Annexes : 5

ANNEX 1

Section 20.6 - Regional Administrative Conferences
BC-R2 (2)

Items	Budget 1988 Swiss Francs	Budget 1988 adjusted Swiss francs
Subhead II Staff expenses		
20.621 Salaries and related expenses of the Conference Secretariat staff	371,000	383,000
20.622 Salaries and related expenses of the translation, typing and reproduction services staff	320,000	326,000
20.623 Travel (recruitment)	13,000	13,000
20.624 Insurance	18,000	18,000
	722,000	740,000
Subhead III Travel expenses		
20.631 Transport at the conference venue	-	-
20.632 Transport to and from the conference venue	-	-
20.633 Shipping of equipment to and from the confer.	-	-
	-	-
Subhead IV Premises and equipment		
20.641 Premises, furniture, machines	35,000	35,000
20.642 Document production	15,000	15,000
20.643 Office supplies and overheads	20,000	20,000
20.644 Postage, telephone calls, telegrams	15,000	15,000
20.645 Technical installations	5,000	5,000
20.646 Sundry and unforeseen	10,000	10,000
	100,000	100,000
Subhead V Other expenses		
20.651 Interest credited to the ordinary budget	18,000	18,000
Subhead VI Final Acts		
20.661 Production expenses of Final Acts	10,000	10,000
Total, Section 20.6	850,000	868,000

ANNEX 2

. This annex will contain the table from the document entitled
"Position of Conference expenditure as at 6 June 1988.

ANNEX 3

CONTRIBUTIONS FROM MEMBERS OF THE UNION FOR DEFAYAL
OF THE EXPENSES OF THE REGIONAL CONFERENCE

Pursuant to No. 115 of the International Telecommunication Convention, Nairobi, 1982, expenses incurred by regional administrative conferences shall be borne by the Members of the regions concerned. These Members are as follows :

<u>Members of Region 2</u>		<u>Contributory units</u>
1.	Argentine Republic	3
2.	Antigua and Barbuda	1/8
3.	Bahamas (Commonwealth of the)	1/2
4.	Barbados	1/4
5.	Belize	1/8
6.	Bolivia (Rep. of)	1/4
7.	Brazil (Fed. Rep. of)	3
8.	Canada	18
9.	Chile	1
10.	Colombia (Rep. of)	1
11.	Costa Rica	1/4
12.	Cuba	1/2
13.	Denmark	5
14.	Dominican Republic	1/2
15.	El Salvador (Rep. of)	1/4
16.	Ecuador	1/2
17.	United States of America	30
18.	France	30
19.	Grenada	1/8
20.	Guatemala (Rep. of)	1/4
21.	Guyana	1/4
22.	Haiti (Rep. of)	1/8
23.	Honduras (Rep. of)	1/4
24.	Jamaica	1/4
25.	Mexico	1
26.	Nicaragua	1/4
27.	Panama (Rep. of)	1/2
28.	Paraguay (Rep. of)	1/2
29.	Netherlands (Kingdom of the)	10
30.	Peru	1/4
31.	United Kingdom of Great Britain and Northern Ireland	30
32.	Saint Vincent and the Grenadines	1/8
33.	Suriname (Rep. of)	1/4
34.	Trinidad and Tobago	1
35.	Uruguay (Eastern Rep. of)	1/2
36.	Venezuela (Rep. of)	2
Total		<u>141 7/8</u>

ANNEX 4

LIST OF INTERNATIONAL ORGANIZATIONS AND
RECOGNIZED PRIVATE OPERATING AGENCIES
PARTICIPATING IN THE WORK OF THE CONFERENCE

Contributory
units

1. INTERNATIONAL ORGANIZATIONS
 - A. United Nations, specialized agencies
None
 - B. Regional organizations
None
 - C. Other organizations
International Association of
Broadcasting (AIR)
2. RECOGNIZED PRIVATE OPERATING AGENCIES
None

*)

*) International organization exempted from contributing in accordance with Resolution No. 925 (amended) of the Administrative Council.

ANNEX 5

LIST OF MEMBERS PAYING THE DOCUMENTATION FEE

Swiss francs

Gambia (Republic of)
2 sets

510.-
=====