

# final acts

of the Regional Administrative  
LF/MF Broadcasting Conference  
(Regions 1 and 3)

**Geneva, 1975**



**Published by the  
International  
Telecommunication Union  
GENEVA, 1976**

ISBN 92-61 00231-5

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## REGIONAL AGREEMENT

### Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1

#### Preamble

With the object of facilitating relations, mutual understanding and cooperation in the field of LF/MF broadcasting;

with a view to improving the use of the frequency bands allocated to the broadcasting service in order to ensure satisfactory reception of the broadcasting service for all countries;

recognizing that all countries large and small have equal rights and that the needs of all countries and in particular the needs of the developing countries shall be fulfilled as far as possible in the implementation of this Agreement;

the delegates of the following Members of the International Telecommunication Union, meeting in Geneva for a regional administrative conference convened under the provisions of the International Telecommunication Convention (Malaga-Torremolinos, 1973), have adopted, subject to the approval of their respective competent authorities, the following provisions relating to the broadcasting service in Regions 1 and 3 for the medium frequency bands and in Region 1 for the low frequency bands:

*Republic of Afghanistan, Algeria (Algerian Democratic and Popular Republic), Federal Republic of Germany, Kingdom of Saudi Arabia, Australia, Austria, People's Republic of Bangladesh, Belgium, Byelorussian Soviet Socialist Republic, Republic of Botswana, People's Republic of Bulgaria, Republic of Burundi, United Republic of Cameroon, Central African Republic, People's Republic of China, Republic of Cyprus, Vatican City State, People's Republic of the Congo, Republic of Korea, Republic of the Ivory Coast, Republic of Dahomey, Denmark, Arab Republic of Egypt, United Arab Emirates, Spain, Ethiopia, Fiji, Finland, France, Gabon Republic, Republic of the Gambia, Ghana, Greece, Republic of Guinea, Republic of Upper Volta, Hungarian People's Republic, Republic of India, Republic of Indonesia, Iran, Ireland, Iceland, State of Israel, Italy, Japan, Hashemite Kingdom of Jordan, Republic of Kenya, State of Kuwait, Kingdom of Lesotho, Lebanon, Republic of Liberia, Libyan Arab Republic, Principality of Liechtenstein, Luxembourg, Malaysia, Malawi, Malagasy Republic, Republic of Mali, Kingdom of Morocco, Mauritius, Islamic Republic of Mauritania, Monaco, Mongolian People's Republic, People's Republic of Mozambique, Nepal, Republic of the Niger, Federal Republic of Nigeria, Norway, New Zealand, Republic of Uganda, Pakistan, Papua New Guinea, Kingdom of the Netherlands, Republic of the Philippines, People's Republic of Poland, Portugal, State of Qatar, Syrian Arab Republic, German Democratic Republic, Ukrainian Soviet Socialist Republic, Socialist Republic of Roumania, United Kingdom of Great Britain and Northern Ireland, Republic of the Senegal, Republic of Singapore, Democratic Republic of the Sudan, Republic of Sri Lanka (Ceylon), Sweden, Confederation of Switzerland, United Republic of Tanzania, Republic of the Chad, Czechoslovak Socialist Republic, Thailand, Togolese Republic, Tunisia, Turkey, Union of Soviet Socialist Republics, Yemen Arab Republic, People's Democratic Republic of Yemen, Socialist Federal Republic of Yugoslavia, Republic of Zaire, Republic of Zambia.*

## ARTICLE 1

**Definitions**

For the purposes of this Agreement, the following terms shall have the meanings defined below:

*Union*: The International Telecommunication Union;

*Secretary-General*: The Secretary-General of the Union;

*I.F.R.B.*: The International Frequency Registration Board;

*C.C.I.R.*: The International Radio Consultative Committee;

*Convention*: The International Telecommunication Convention;

*Radio Regulations*: The Radio Regulations annexed to the Convention:

*Regions 1 and 3*: The geographical areas defined in Nos. 126 and 128 to 132 of the Radio Regulations Geneva, 1959:

*Agreement*: The whole of this Agreement including its annexes:

*Plan*: The Plan and its appendices forming Annex 1 to this Agreement;

*Contracting Member*: Any Member of the Union which has approved or acceded to the Agreement:

*Administration*: Any governmental department or service responsible for discharging the obligations undertaken in the Convention and the Radio Regulations.

## ARTICLE 2

**Frequency Bands**

The provisions of this Agreement apply to the frequency bands between 150 and 285 kHz and between 525 and 1 605 kHz allocated to the broadcasting service under Article 5 of the Radio Regulations, Geneva, 1959.

## ARTICLE 3

**Execution of the Agreement**

1. The Contracting Members shall adopt, for their broadcasting stations operating in Regions 1 and 3 in the frequency bands referred to in the Agreement, the characteristics specified in the Plan.
2. The Contracting Members shall not bring assignments complying with the Plan into use, change the technical characteristics of stations specified in the Plan, or bring new stations into use, except under the conditions set out in Articles 4 and 5 of this Agreement (see also Resolution No. 7).
3. The Contracting Members shall endeavour to agree on the action required to reduce any harmful interference caused by the application of this Agreement.

## ARTICLE 4

**Procedure for Modifications to the Plan**

1. When a Contracting Member proposes to make a modification to the Plan, i.e. either:
  - to change the characteristics of a frequency assignment to a broadcasting station shown in the Plan, whether or not the station has been brought into use, or
  - to bring into use an assignment to a broadcasting station not appearing in the Plan, or



- to change the characteristics of a frequency assignment to a broadcasting station for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or
- to cancel a frequency assignment to a broadcasting station.

the following procedure shall be applied before any notification is made under the provisions of Article 9\* of the Radio Regulations (see Article 5 of this Agreement).

2. In the remainder of the present Article, the term “assignment in accordance with the Agreement” means any frequency assignment appearing in the Plan or for which the procedure of this Article has been successfully applied.

3. *Proposed Changes in the Characteristics of an Assignment or the Bringing into Use of a new Assignment*

3.1 Any administration proposing a change in the characteristics of an assignment or the bringing into use of a new assignment shall seek the agreement of all the administrations having an assignment in accordance with the Agreement, in the same channel or an adjacent channel, which is considered to be affected (see 3.2.5 and 3.3.1).

3.2 *Channels other than Low-Power Channels*

3.2.1 An administration proposing to change the characteristics of an assignment or to bring a new assignment into use shall so inform the I.F.R.B. and furnish the characteristics of the modification or addition in the form adopted in the Plan and its appendices.

3.2.1.1 Where the proposed modification is within the limits defined in 3.2.9, the information shall contain a reference to that paragraph.

3.2.1.2 In all other cases, in order to arrive at the agreement referred to in 3.1, the administration shall notify to the I.F.R.B. the names of the administrations whose agreement it considers should be sought and of those with which agreement has been reached.

3.2.2 The I.F.R.B. shall determine on the basis of Annex 2 to the Agreement the administrations having frequency assignments in accordance with the Agreement which are considered to be affected within the meaning of 3.2.5. The results of these calculations shall be sent immediately by the I.F.R.B. to the administration proposing the modification to the Plan. The I.F.R.B. shall include the names of these administrations in the information received and shall publish the complete information in a special section of its weekly circular.

3.2.3 The I.F.R.B. shall send a telegram to the administrations listed in the special section of the weekly circular drawing their attention to the information it contains and shall also send to them the results of its calculations.

3.2.4 Any administration which considers that it should have been included in the list of administrations whose frequency assignments are considered to be affected may, giving its reasons for so doing, request the I.F.R.B. to include its name. A copy of the request shall be sent to the administration proposing the modifications to the Plan.

3.2.5 Any assignment may be considered affected when its usable field strength is increased by a value equal to or greater than 0.5 dB as a consequence of the proposed modification to the Plan. The usable field strength is calculated at any point on the boundary of the service area resulting from the first recording of the assignment in the Plan. When the original assignment in the Plan has been modified in accordance with the Agreement, the calculation shall take account of this modification. The increase in the usable field strength is calculated in accordance with Annex 2 to the Agreement.

3.2.6 An administration seeking agreement under 3.1 for daytime operation of a station may, by agreement with the affected administrations, use the simplified method of calculation defined in 3.3.4.3 or 3.4.3.3, as appropriate, of Annex 2 to the Agreement.

3.2.7 An administration may ask the administration proposing the modification for the additional information it considers necessary to calculate the increase of the usable field strength. Similarly, the administration proposing the modification may ask any administration whose agreement it seeks for the additional information it considers necessary. The administrations shall inform the I.F.R.B. of such requests.

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\* or the corresponding article of the Radio Regulations currently in force.

3.2.8 Comments from administrations on information published pursuant to 3.2.2 should be sent either directly to the administration proposing the modification or through the I.F.R.B. In any event the I.F.R.B. shall be informed that comments have been made.

3.2.9 The agreement mentioned in 3.1 is not required if the proposed modification either:

- entails no increase in effective monopole radiated power in any direction, or
- relates to a change in the site of the station, within the tolerances specified in 4.9 of Annex 2 to the Agreement.

In either case, the administration intending to modify the Plan may put its project into effect, subject to the application of the provisions of Article 9\* of the Radio Regulations.

3.2.10 An administration which has not notified its comments either to the administration concerned or to the I.F.R.B. within a period of sixteen weeks following the date of the weekly circular referred to in 3.2.2 shall be understood to have agreed to the proposed change. This time limit may be extended by eight weeks in the case of an administration which has requested additional information pursuant to paragraph 3.2.7.

3.2.11 If in seeking agreement an administration makes changes in its initial proposal, it shall again apply the provisions of 3.2.1 and the consequent procedure.

3.2.12 If no comments have been received on expiry of the periods specified in 3.2.10, or if agreement has been reached with the administrations which have made comments, the administration proposing the modification may proceed with its project and shall inform the I.F.R.B. indicating the final characteristics of the assignment together with the names of the administrations with which agreement has been reached.

3.2.13 When the proposed modification to the Plan involves a developing country, administrations shall seek a solution conducive to economical development of the broadcasting system of the developing country, giving due consideration to the principles enunciated to this effect in the Preamble to this Agreement.

3.2.14 The I.F.R.B. shall publish in a special section of its weekly circular the information received under 3.2.12, together with the names of any administrations with which the provisions of this article have been successfully applied. With respect to Contracting Members, the assignment concerned shall enjoy the same status as those appearing in the Plan.

### 3.3 *Low-Power Channels*

3.3.1 Any administration proposing a change in the characteristics of a frequency assignment in a low-power channel or the bringing into use of a new station in such a channel shall seek the agreement of any other administration when the distance between the proposed station and the nearest point on the boundary of the territory of that other administration is less than the corresponding values given in 4.8.3 of Annex 2 to the Agreement.

3.3.2 After having obtained the agreement of the administrations concerned, the administration proposing the modification shall inform the I.F.R.B. indicating the characteristics of the station together with the names of the administrations with which agreement has been reached.

3.3.3 The I.F.R.B. shall publish this information in a special section of its weekly circular. With respect to Contracting Members the assignment concerned shall enjoy the same status as those appearing in the Plan.

3.3.4 The administration may then proceed with its project.

### 3.4 *Additional Provisions for Channels in shared Bands*

The provisions of this Article apply also to frequency assignments to broadcasting stations in frequency bands shared with other radiocommunication services. However, the special sections of the I.F.R.B. weekly circular mentioned in 3.2.2 and 3.2.3 which concern the proposed modifications shall be considered by these other services to be for information only (see also Resolution No. 7).

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\* or the corresponding article of the Radio Regulations currently in force.

3.5 *Provisions common to all Channels*

3.5.1 If no agreement is reached between the administrations concerned, the I.F.R.B. shall make any study that may be requested by these administrations; the Board shall inform them of the result of the study and shall make such recommendations it may be able to offer for the solution of the problem.

3.5.2 Any administration may at any stage in the procedure described, or before applying it, request the assistance of the I.F.R.B., particularly in seeking the agreement of another administration.

3.5.3 If, after application of the procedure described in this Article, the administrations concerned have been unable to reach agreement, they may resort to the procedure described in Article 50 of the Convention. Administrations may also agree to apply the Optional Additional Protocol to the Convention.

3.5.4 In any case, the relevant provisions of Article 9\* of the Radio Regulations shall be applied when assignments are notified. When, no agreement having been reached, the I.F.R.B., following the notification of an assignment, records it in the Master International Frequency Register, the entry shall be accompanied by a symbol indicating that the entry has been made subject to the reservation that no harmful interference will be caused to frequency assignments in conformity with the Agreement.

3.5.5 The I.F.R.B. shall maintain an up-to-date master copy of the Plan, and of Appendix 1 relating to low-power channels, taking account of the application of the procedure specified in this Article; to this end the I.F.R.B. shall prepare a document listing the amendments to be made to the Plan and Appendix 1 as a result of modifications made in accordance with the procedure of this Article and of the addition of new assignments in conformity with the Agreement.

3.5.6 The Secretary-General shall be informed by the I.F.R.B. of these changes made in the Plan and shall publish an up-to-date version of the Plan in an appropriate form as and when the circumstances justify and in any case every three years.

4. *Cancellation of Assignments*

When an assignment in accordance with the Agreement is released, whether or not as a result of a modification (for instance a change of frequency), the administration concerned shall immediately so inform the I.F.R.B. The I.F.R.B. shall publish this information in a special section of its weekly circular.

ARTICLE 5

**Notification of Frequency Assignments**

1. Whenever an administration intends to put into use an assignment in conformity with the Agreement it shall notify this assignment to the I.F.R.B. in accordance with the provisions of Article 9\* of the Radio Regulations. Any such assignment recorded in the Master Register as a result of the application of the provisions of Article 9\* of the Radio Regulations, shall, in addition to a date in Column 2a or Column 2b, bear a special symbol in the Remarks column.

2. In relations between Contracting Members, all frequency assignments brought into use in conformity with the Agreement and recorded in the Master Register shall be considered to have the same status, irrespective of the dates entered in Column 2a or Column 2b for such assignments.

ARTICLE 6

**Special Arrangements**

In addition to the procedures provided for in Article 4 of the Agreement and to facilitate their application with a view to improving the utilization of the Plan, Contracting Members may conclude special arrangements in accordance with the pertinent provisions of the Convention and of the Radio Regulations.

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\* or the corresponding article of the Radio Regulations currently in force.

## ARTICLE 7

**Scope of Application of the Agreement**

1. This Agreement shall bind Contracting Members in their relations with one another but does not bind those Members with respect to non-Contracting countries.
2. If a Member makes reservations with regard to any provision of this Agreement, other Members shall be free to disregard that provision in their relations with the Member which has made such reservations.

## ARTICLE 8

**Approval of the Agreement**

Members shall notify their approval of this Agreement, as promptly as possible, to the Secretary-General, who shall at once inform the other Members of the Union.

## ARTICLE 9

**Accession to the Agreement**

1. Any Member of the Union in Regions 1 and 3 which has not signed this Agreement may accede thereto at any time. Such accession shall extend to the Plan as amended at the time of the accession and shall be made without reservation. The Secretary-General shall be notified thereof and he shall inform the other Members of the Union.
2. Accession to the Agreement shall take effect on the date on which the notification of accession is received by the Secretary-General.
3. Any Member of the Union party to the Regional Agreement for the African Broadcasting Area (Geneva, 1966) which accedes to the present Agreement in conformity with paragraphs 1 and 2 of this Article, shall by this act of accession terminate its participation in the Regional Agreement for the African Broadcasting Area and the Plan annexed thereto.

## ARTICLE 10

**Termination of Participation in the Agreement**

1. Any Contracting Member shall have the right at any time to terminate its participation in the Agreement by a notification sent to the Secretary-General who shall inform the other Members of the Union.
2. Such termination of participation shall take effect after a period of one year from the date of receipt, by the Secretary-General, of the said notification.

## ARTICLE 11

**Abrogation of the European Broadcasting Convention  
(Copenhagen, 1948) and annexed Copenhagen Plan**

Additional Protocol I to the Final Acts of the Conference provides for the abrogation of the European Broadcasting Convention (Copenhagen, 1948) and the annexed Copenhagen Plan.

## ARTICLE 12

**Abrogation of the Regional Agreement for the  
African Broadcasting Area (Geneva, 1966)  
and the Plan annexed thereto**

Additional Protocol II to the Final Acts of the Conference provides for the abrogation of the Regional Agreement for the African Broadcasting Area (Geneva, 1966) and the Plan annexed thereto.

ARTICLE 13

**Effective Date of the Agreement**

The Agreement shall enter into force on twenty-three November, one thousand nine hundred and seventy-eight at 0001 hours GMT.

ARTICLE 14

**Duration of the Agreement**

1. The Agreement and the annexed Plan have been established with a view to meeting the requirements of the broadcasting services in the bands concerned for a period of eleven years from the date of entry into force of the Agreement.
2. The Agreement shall remain in force until it is revised by a competent conference of the Members of the Union in Regions 1 and 3.

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IN WITNESS WHEREOF, the Delegates of the Members of the Union mentioned above have, on behalf of their respective competent authorities, signed this Agreement in a single copy in the Chinese, English, French, Russian and Spanish languages, in which, in case of dispute, the French text shall prevail. This copy shall remain deposited in the archives of the Union. The Secretary-General shall forward one certified true copy to each Member in Regions 1 and 3.

Done at Geneva, 22 November 1975.

For the Republic of Afghanistan:

S. M. N. ALAWI  
K. D. KAMRAN

For Algeria (Algerian Democratic and Popular Republic):

HARBI  
SAÏD  
BELAKHDAR  
ABOUDI  
BENACER

For the Federal Republic of Germany:

KUPPER  
VENHAUS

For the Kingdom of Saudi Arabia:

ABDUL RAHMAN DAGHISTANI  
ALI MOHAMED ALBABTAIN

For Australia:

D. M. ROWELL  
C. G. ELWORTHY  
F. M. SHEPHERD  
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J. SANDHAM  
H. F. HAAGENSEN

For Austria:

Dr ALFRED BÖNISCH

For the People's Republic of Bangladesh:

B. M. ADHIKARI  
SAIF UDDIN MALLIK

For Belgium:

P. BOUCHIER  
M. GEWILLIG

For the Byelorussian Soviet Socialist Republic:

P. V. AFANASIEV

For the Republic of Botswana:

POTLAKO MOLEFHE  
S. M. NKWE

For the People's Republic of Bulgaria:

IGNATOV

For the Republic of Burundi:

NZOBAKENGA ROMAIN

For the United Republic of Cameroon:

MAURICE KAMDEM  
FISSOSSOE A KEEDI ISAAC

For the Central African Republic:

JACQUES M'BILO  
MBAYE MARTIN

For the People's Republic of China:

LU KE-CHIN  
HO TA-CHUNG

For the Republic of Cyprus:

CHRISTOFIDES ANDREAS  
ASTREOS PAUL  
MICHAELIDES ANDREAS

For the Vatican City State:

SABINO MAFFEO  
PIER VINCENZO GIUDICI

For the People's Republic of the Congo:

KOUBATIKA DENIS  
POUEBA PAUL ALBERT

For the Republic of Korea:

EUN MO SHIM  
NAI SUNG KIM  
YOUNG HAN LEE

For the Republic of the Ivory Coast:

CHRISTOPHE NOGBOU  
FRANÇOIS KACOU  
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For the Republic of Dahomey:

A. D'OLIVEIRA  
M. DETIEN-HONVO  
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H. C. JØRGENSEN

For the Arab Republic of Egypt:

M. ARAFA ZAYAN  
N. H. ANTAR

For the United Arab Emirates:

ALY A. M. ABU-KANDEEL

For Spain:

JOSÉ MARIA ARTO MADRAZO

For Ethiopia:

TESFATSION SEBHATU  
GESSESE ABAI

For Fiji:

EMORI NAQOVA

For Finland:

K. TERÄSVUO  
R. SVENSSON

For France:

JEAN DE LA GRANDVILLE  
MARIE HUET  
HENRI BERTHOD  
STEPHANE LACHARNAY  
HENRI DE FRANCE

For the Gabon Republic:

N'GUEMA SAMUEL PARFAIT

For the Republic of the Gambia:

AMADOU DODOU JOBE  
EMMANUEL ALEXANDER NYING

For Ghana:

Dr B. A. OPPONG  
R. E. APPIAH  
O. A. KWAWUKUME

For Greece:

ANDREAS METAXAS  
APOSTOLOS CASMAS  
GEORGES KASTANAS  
THEOFANIS KOKKOSSIS  
Prof. MICHEL ANASTASSIADES

For the Republic of Guinea:

MAMADOU SALIOU DIALLO  
SIDIKI TOURE

For the Republic of Upper Volta:

PIERRE CLAVER SONGRÉ  
KABA YOUSOUF

For the Hungarian People's Republic:

HORN DEZSÖ

For the Republic of India:

M. K. BASU  
S. N. MITRA  
M. K. RAO  
C. S. R. RAO  
O. P. KHUSHU

For the Republic of Indonesia:

TH. A. PRATOMO  
ISKANDAR ARFAN

For Iran:

N. MADANI

For Ireland:

ITA MEEHAN  
J. MALONE

For Iceland:

G. ARNAR

For the State of Israel:

M. SHAKKÉD  
J. NITSAN

For Italy:

A. PETTI

For Japan:

TERUO ISHIKAWA  
SHINZABURO TANAKA  
MASAKI SEO

For the Hashemite Kingdom of Jordan:

SALEH KABARITI

For the Republic of Kenya:

SIMEON NDIRITU MACHARIA  
JAMES PETER KIMANI

For the State of Kuwait:

JAWAD A. ALMAZEEDI

For the Kingdom of Lesotho:

F. L. LETELE

For Lebanon:

JOSEPH ROHAYEM

For the Republic of Liberia:

S. RICHELIEU WATKINS

For the Libyan Arab Republic:

AMER SALEM OUN  
WALED ADEB OMAR  
MUHAMMED SALEH ALSABEY

For the Principality of Liechtenstein:

MARIO COMTE DE LEDEBUR

For Luxembourg:

CHARLES REICHLING

For Malaysia:

D. S. VARIYAN  
LAI WING HIN  
MOHAMMAD ALI ISMAIL

For Malawi:

OVERTON CHRISTIE MANDALASI

For the Malagasy Republic:

RANDRIAMBOLOLONA PASCAL  
RANDRIANARIVELO PAUL

For the Republic of Mali:

OUMAR SIDIBE

For the Kingdom of Morocco:

TANANE

For Mauritius:

RAMBERT J. M. H. N.  
SODHOU G.

For the Islamic Republic of Mauritania:

LÔ MEDOUNE  
MANGASSOUBA ALIOU

For Monaco:

SOLAMITO CÉSAR CHARLES  
AUVRAY G. G.

For the Mongolian People's Republic:

D. GARAM-OTCHIR

For the People's Republic of Mozambique:

VALERIANO FERRÃO

For Nepal:

KRISHNA BAHADUR KHATRY

For the Republic of the Niger:

DIALLO MOCTAR

For the Federal Republic of Nigeria:

O. O. KUFORJI  
R. O. IFIDON  
N. A. NZE  
D. J. AWONIYI

For Norway:

OLE J. HAGA  
L. GRIMSTVEIT  
KNUT N. STOKKE  
TORE ØVENSEN

For New Zealand:

DEREK C. ROSE  
ROBERT JOHN BUNDLE  
JOHN PATERSON CARTER  
GEORGE HUGH RAILTON

For the Republic of Uganda:

F. X. B. KATENDE

For Pakistan:

IRFAN ULLAH  
IMAD UDDIN

For Papua New Guinea:

I. EDONI  
R. T. PEARSON  
S. KULUPI

For the Kingdom of the Netherlands:

DIRK VAN DEN BERG  
F. R. NEUBAUER

For the Republic of the Philippines:

Z. C. CARLOS  
L. B. QUINTOS  
C. V. ESPEJO  
G. P. ORDOÑA  
R. N. DIZON JR.

For the People's Republic of Poland:

KONRAD KOZLOWSKI  
HALINA SMOLENSKA

For Portugal:

ADRIANO DE CARVALHO  
DOMINGOS ANTONIO PIRES FRANCO  
VITO RIBEIRO DE OLIVEIRA  
CELSO JOÃO DE ALBUQUERQUE

For the State of Qatar:

ABDULRAHMAN HAMAD ALATTYIA  
ABDUL MALIK MAQSOOD

For the Syrian Arab Republic:

BARA MICHEL

For the German Democratic Republic:

BRUNO CZERWINSKI

For the Ukrainian Soviet Socialist Republic:

SAVANTCHOUK V.

For the Socialist Republic of Roumania:

C. CEAUŢESCU

For the United Kingdom of Great Britain and  
Northern Ireland:

JOLYON DROMGOOLE  
THOMAS KILVINGTON  
ARTHUR CARTER  
ROBERT A. DILWORTH

For the Republic of the Senegal:

IBRAHIMA DIOP  
ABOUBAKARY NDIONGUE

For the Republic of Singapore:

R. G. RAJASINGAM  
SEBASTIAN C. H. TAN

For the Democratic Republic of the Sudan:

ABDULLA SIRAGELDIN HAGAHMED

For the Republic of Sri Lanka (Ceylon):

D. BUELL

For Sweden:

PER ÅKERLIND  
NISSE UHLÉN

For the Confederation of Switzerland:

H. R. PROBST  
W. EBERT  
E. SCHWARZ

For the United Republic of Tanzania:

P. A. SOZIGWA  
P. I. MHUMBIRA

For the Republic of the Chad:

HAMID KANTE

For the Czechoslovak Socialist Republic:

JÍRA JIŘÍ

For Thailand:

V. MENASVETA  
E. KANCHANINDU  
K. PORNSUTEE

For the Togolese Republic:

NENONENE SETH KOUMA

For Tunisia:

SLAHEDDINE BEN HAMIDA  
SALAH HADIJI  
TAÏEB BEN YOUSSEF

For Turkey:

D. ERDEN  
Y. ERTEM  
H. H. ESEN

For the Union of Soviet Socialist Republics:

V. CHAMCHINE

For the Yemen Arab Republic:

AL-NONO HUSSEIN

For the People's Democratic Republic of Yemen:

MOHAMED ALI AZZANI

For the Socialist Federal Republic of Yugoslavia:

ENVER HUMO

For the Republic of Zaire:

YEMBI NSAMPALA  
YAMUSANGIE MAHUMBU

For the Republic of Zambia:

J. D. KALISILIRA  
PETER LANDAN MUSUBA



## **ANNEX 1**

**Plan for the Assignment of Frequencies to Broadcasting Stations  
in the Medium Frequency Bands (other than to Stations using Low-Power Channels)  
in Regions 1 and 3 and in the Low Frequency Bands in Region 1**



### INFORMATION INCLUDED IN THE COLUMNS OF THE PLAN

- Column 1 : *Assigned channel frequency* (kHz).  
*Channel number*; this number is shown in brackets.
- Column 2 : *Name of transmitting station*. The symbol S appearing to the left of the dotted line indicates that the station forms part of a synchronized network, the other stations of which bear the same symbol (see Definitions, Chapter 1 of Annex 2 to the Regional Agreement).
- Column 3 : *Symbol designating the country* or the geographical area in which the station is located (see Table No. 1 of the Preface to the International Frequency List).
- Column 4 : *Geographical coordinates of the transmitting station* in degrees and minutes.
- Column 5 : *Necessary bandwidth* (kHz); the value in kHz is preceded by the symbol A, B, C or D indicating the adjacent channel protection ratio that is to be employed in calculating the usable field strength. The cases corresponding to these symbols are listed in 4.4.2 of Annex 2 to the Agreement.
- Column 6 : *Carrier power* (kW).
- Column 7 : *Maximum radiation* in dB relative to a c.m.f. of 300 V or an e.m.r.p. of 1 kW, determined from the nominal power of the transmitter and the theoretical gain of the antenna without allowing for miscellaneous losses.
- Column 8 : *Azimuth of maximum radiation* in degrees (clockwise) from True North.
- Column 9 : *Azimuths defining the sector of limited radiation* in degrees (clockwise) from True North.
- Column 10: *Maximum agreed radiation in the sector*, in dB relative to a c.m.f. of 300 V or an e.m.r.p. of 1 kW determined from the nominal power of the transmitter and the theoretical gain of the antenna without allowing for miscellaneous losses.
- Column 11: *Type of antenna*. The symbol A indicates a simple vertical base-fed antenna and the symbol B any other type of antenna described in Appendix 2 to the Plan.
- Column 12: *Height of antenna* (metres) for a simple vertical antenna only.
- Column 13: *Ground conductivity*. The numbers 1 to 9 appearing in this column refer to Figures 1 to 9 in Chapter 2 of Annex 2 to the Regional Agreement (page 341 of the Final Acts of the Conference). The number 1 denotes Figure 1, 2 denotes Figure 2, etc.
- Column 14: *Hours of operation* (GMT) in hours and minutes, e.g., 0730-1800, 0000-2400, 0500-0230.
- Column 15: *Remarks* indicated by symbols which are explained in the following pages.

**EXPLANATION OF SYMBOLS USED IN THE  
“REMARKS” COLUMN**

(COLUMN 15 OF THE PLAN AND COLUMN 11 OF THE APPENDIX 1 TO THE PLAN)

1. (Not used)
- 2.\* During the period of the year between the two dates following a symbol, the assignment is used as shown in the schedule in Column 14.
3. This assignment is to be coordinated.
- 4./... This assignment has been coordinated with /...  
Coordination has still to be effected with other countries.
- 5./... This assignment is to be coordinated with /...
6. French assignment for a station operating in the Federal Republic of Germany.
7. This assignment is used within the daytime limits shown in Figure 20 of Annex 2 to this Agreement.
8. The azimuth of maximum radiation may be modified by agreement with the Administration of Czechoslovakia; the latter requests that the gain should be restricted to -8 dB in the sector 320° to 340°.
9. The Polish Administration will adopt additional technical measures to reduce the level of interference in the service area of the station Rhodos operating on 1 260 kHz so that the contribution of the Polish synchronized network to the usable field strength of that station does not exceed 85 dB (µV/m). Final coordination will be effected bilaterally between Greece and Poland.
10. The level of the transmitter power indicated in the Plan is subject to mutual agreement between the Administrations of Cyprus and of the United Kingdom.
- 11./... The entry of this assignment in the Plan has been requested by/...
12. This station will cease operation on this frequency when Osaka starts to operate on 1 179 kHz.
13. This station will not operate on this frequency before 14 May 1977.
14. (Not used)
15. Daytime hours of operation are based on the considerations in 3.3.4.2 of Annex 2 to the Agreement and shall not exceed 0900-1600 GMT in midwinter except by agreement between the administrations concerned.
16. If the administration considers it necessary, this assignment can be coordinated with those of the other administrations concerned in accordance with paragraph 3 of Resolution No. 3.
- 17./... Discussions concerning this assignment did not result in an agreement with the Administrations of/...
- 18./... Discussions concerning this assignment did not result in a satisfactory agreement with the Administrations of/...  
However, the administrations concerned agreed to continue the discussions with a view to reaching a satisfactory agreement.
19. The audio-frequency bandwidth is fixed at 4.5 kHz using, in addition, a high degree of modulation compression (Case D in paragraph 4.4.2.1 of Chapter 4 of Annex 2) provided that the transmitters of other countries operating in adjacent channels which may produce interference also use the technique indicated in Case D.
20. The French Administration, in conjunction with the competent administration for Andorra, will seek practical means of installing a directional antenna at the Sud-Radio station to reduce the radiation from that station in the directions of Warsaw (sector between azimuths 45° and 55°) and Rabat (sector between azimuths 210° and 225°). The administrations concerned will study possible arrangements with a view to reaching agreement.

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\* Followed by two groups of four digits separated by an oblique stroke and each representing a date.

- 21 (Not used)
22. 1 467 kHz night-time;  
594 kHz day-time.
- 23./... It was not possible for one reason or another to coordinate this assignment during the Conference with the Administrations of/...  
However, the administrations concerned propose jointly to seek the basis for a satisfactory agreement.
24. Discussions about this assignment could not take place with the Administration of Israel because the administration which requested this assignment does not recognize that Administration. The provisions of Article 9 of the Radio Regulations shall therefore be applied to this assignment with respect to the assignments of the other administration.
25. This assignment is used in the day-time within the operational limits shown in the dotted lines in Figure 21 of Annex 2 to the Agreement.
- 26./... The hours of operation of this assignment are to be coordinated with the Administration of/...on the basis of Figure 20 of Annex 2 to the Agreement.
27. The Administrations of the Kingdom of Saudi Arabia and the Socialist Federal Republic of Yugoslavia have agreed on the following hours of operation of the transmitter Guriat (612 kHz):
- 1 April to 31 October from 0300-1600 GMT  
1 November to 31 March from 0500-1400 GMT.
- The two Administrations are willing to cooperate in seeking a better solution meeting the needs of both parties in a satisfactory manner.
28. After negotiation the Administrations of Greece and Libya have agreed that when the Libyan stations are brought into use their contribution to interference in Greece shall not exceed 79 dB.
29. Operation of this station will cease on 14 May 1977.
30. The Polish delegation has expressed a reservation concerning the undesirable interference caused to reception of the Polish synchronized network, operating on the frequency 1 206 kHz, on the territory of the People's Republic of Poland by the station Munchen-Ismaning, and considers it necessary to effect further coordination on a bilateral basis.
31. This assignment will no longer be used within the day-time limits shown in Figure 20 of Annex 2 to this Agreement when station Mocimboa (MOZ) is brought into service on frequency 1 224 kHz.
32. The values indicated in Columns 7, 8, 9 and 10 are provisional and subject to agreement between the Administrations of Syria and the Federal Republic of Germany.
33. Discussions about this assignment could not take place because the Administrations of Algeria, Saudi Arabia, Egypt, the United Arab Emirates, Jordan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Qatar, Sudan, Tunisia, the Yemen A.R., the P.D.R. of Yemen, do not recognize the Administration which requested this assignment. The provisions of Article 9 of the Radio Regulations shall therefore apply to this assignment with respect to assignments of the foregoing Administrations.



**APPENDIX 1 TO THE PLAN**

**Frequency Assignments to Stations in the Low-Power Channels**

(See also Resolution No. 2)

**INFORMATION INCLUDED IN THE COLUMNS OF THE TABLE IN  
APPENDIX 1 TO THE PLAN**

- Column 1 : *Assigned channel frequency* (kHz).  
*Channel number*; this number is shown in brackets.
- Column 2 : *Name of transmitting station*. The symbol S appearing to the left of the dotted line indicates that the station forms part of a synchronized network, the other stations of which bear the same symbol (see Definitions, Chapter 1 of Annex 2 to the Regional Agreement).
- Column 3 : *Symbol designating the country*, or the geographical area in which the station is located (see Table No. 1 of the Preface to the International Frequency List).
- Column 4 : *Geographical coordinates of the transmitting station* in degrees and minutes.
- Column 5 : *Necessary bandwidth* (kHz); the value in kHz is preceded by the symbol A, B, C or D indicating the adjacent channel protection ratio that is to be employed in calculating the usable field strength. The cases corresponding to these symbols are listed in 4.4.2 of Annex 2 to the Agreement.
- Column 6 : *Carrier power* (kW).
- Column 7 : *Effective monopole radiated power (e.m.r.p.)* (kW).
- Column 8 : *Height of antenna* (metres).
- Column 9 : *Ground conductivity*. The numbers 1 to 9 appearing in this column refer to Figures 1 to 9 in Chapter 2 of Annex 2 to the Regional Agreement (page 341 of the Final Acts of the Conference). The number 1 denotes Figure 1, 2 denotes Figure 2, etc.
- Column 10: *Hours of operation* (GMT) in hours and minutes, e.g., 0730-1800, 0000-2400, 0500-0230.
- Column 11: *Remarks* indicated by symbols which have the following meaning:
- 3. This assignment is to be coordinated.
  - 4./... This assignment has been coordinated with /...
  - Coordination has still to be effected with other countries.



## **APPENDIX 2 TO THE PLAN**

**Antenna Gain (dB) for different Azimuths and Angles of Elevation**

**INFORMATION CONCERNING THE RADIATION CHARACTERISTICS OF  
TRANSMITTING ANTENNAE OTHER THAN SIMPLE VERTICAL  
BASE-FED ANTENNAE**

Column 1 : *Symbol designating the country* or the geographical area in which the station is located (see Table No. 1 of the Preface to the International Frequency List).

Column 2 : *Assigned channel frequency* (kHz).

Column 3 : *Name of transmitting station*.

Column 4 : *Angle of elevation*.

*Note.* – The azimuths and angles of elevation are expressed in tens of degrees with related values in dB.

## **ANNEX 2**

**Technical Data used in the Preparation of the Plan  
and to be used in the Application of the Agreement**



ANNEX 2

**Technical Data used in the Preparation of the Plan  
and to be used in the Application of the Agreement**

CHAPTER 1

**Definitions**

*Channel* (in AM broadcasting)

Part of the frequency spectrum, the width of which is equal to the necessary bandwidth of the AM broadcasting emission, and which is characterized by the nominal value of the carrier frequency.

*Low-power channel* (LPC)

Channel used by medium frequency broadcasting stations employing a maximum e.m.r.p. of 1 kW (c.m.f. of 300 V).

*Audio-frequency signal-to-interference ratio*

Ratio between the values of the voltage of the wanted signal and the voltage of the interference, measured under specified conditions, at the audio-frequency output of the receiver.

This ratio is generally expressed in dB and corresponds closely to the difference in volume of sound (expressed in dB) between the wanted programme and the interference.

*Audio-frequency protection ratio*

Agreed minimum value of the audio-frequency signal-to-interference ratio considered necessary to achieve a subjectively defined reception quality.

This ratio may have different values according to the type of service desired.

*Radio-frequency wanted-to-interfering signal ratio*

Ratio between the values of the radio-frequency voltage of the wanted signal and the interfering signal, measured at the input of the receiver under specified conditions.

This ratio is generally expressed in dB.

*Radio-frequency protection ratio*

Value of the radio-frequency wanted-to-interfering signal ratio that enables, under specified conditions, the audio-frequency protection ratio to be obtained at the output of a receiver.

These specified conditions include such diverse parameters as spacing of the wanted and interfering carrier, emission characteristics (type of modulation, modulation depth, etc.), receiver input and output levels as well as the receiver characteristics (selectivity and susceptibility to cross-modulation, etc.).

*Usable field strength* ( $E_u$ )

The minimum value of the field strength necessary to permit satisfactory reception, under specified conditions, in the presence of natural noise, man-made noise and interference in a practical situation (or in one resulting from a frequency plan).

*Nominal usable field strength* ( $E_{nom}$ )

The agreed minimum value of the field strength necessary to permit satisfactory reception, under specified conditions, in the presence of natural noise, man-made noise and interference from other transmitters.

The value of the nominal usable field strength is taken as a reference for planning purposes.

*Service area* (of a broadcasting transmitter)

The area in which the field strength of a transmitter is equal to or greater than the usable field strength.

*Cymomotive force* (c.m.f.) (in a given direction)

(See C.C.I.R. Report 618, 1974)

The product formed by multiplying the electric field strength at a given point in space, due to a transmitting station, by the distance of the point from the antenna. This distance must be sufficient for the reactive components of the field to be negligible; moreover the finite conductivity of the ground is supposed to have no effect on propagation.

The c.m.f. is a vector; when necessary it may be expressed in terms of components along axes perpendicular to the direction of propagation.

The c.m.f. is expressed in volts; it corresponds numerically to the field strength in mV/m at a distance of 1 km.

*Effective monopole radiated power* (e.m.r.p.)

(See C.C.I.R. Report 618, 1974)

The power supplied to an antenna multiplied by its gain in a given direction referred to that of a short vertical antenna in the horizontal plane.

*Gain of an antenna* (in a given direction) *referred to a short vertical antenna*

The radiation is expressed either as effective monopole radiated power (e.m.r.p.) or as cymomotive force (c.m.f.). To define the gain of an antenna, in a given direction, referred to a short vertical antenna either of the two following definitions should be adopted:

- the ratio between the c.m.f. of the actual antenna in a given direction and the c.m.f. in the horizontal plane of a short vertical antenna without losses on a perfectly conducting plane, the two antennae being supplied with the same power;
- the ratio of the power required at the input of a short vertical antenna without losses situated on a perfectly conducting horizontal plane to produce the reference e.m.r.p. of 1 kW (c.m.f. of 300 V) in the horizontal direction, to the power supplied to the actual antenna to produce the same e.m.r.p. (c.m.f.) in the given direction.

The ratio, expressed in dB, is the same for the two definitions.

*Synchronized network*

A group of transmitters whose carrier frequencies are identical (or differ only slightly, usually by a fraction of a Hz), and which broadcast the same programme.

## CHAPTER 2

**Ground-Wave Propagation**

2.1 The value of the ground-wave field strength is given by the curves in Figures 1 to 9 taken from C.C.I.R. Recommendation 368-2.

The following points are to be especially noted with regard to them:

- 2.1.1 they refer to a smooth homogeneous earth;
- 2.1.2 no account is taken of tropospheric effects in the frequency bands concerned;
- 2.1.3 the curves refer to the following conditions:
  - they are calculated for the vertical component of electric field from the rigorous analysis of Van der Pol and Bremmer;
  - the transmitter is an ideal Hertzian vertical electric dipole to which a vertical antenna shorter than one quarter wavelength is nearly equivalent;
  - the dipole moment is chosen so that the dipole would radiate 1 kW if the Earth were a perfectly conducting infinite plane under which conditions the radiation field at a distance of 1 km would be  $3 \times 10^5 \mu\text{V/m}$ ;

- the curves are drawn for distances measured around the curved surface of the Earth;
- the inverse-distance curve A shown in the figures, to which the curves are asymptotic at short distances, passes through the field value of  $3 \times 10^5 \mu\text{V/m}$  at a distance of 1 km;

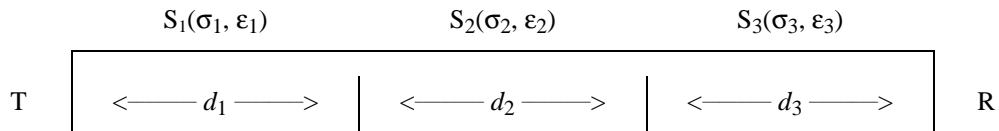
2.1.4 the propagation loss defined in C.C.I.R. Recommendation 341 (1974) for ground waves may be determined from the values of the field strength in dB relative to  $1 \mu\text{V/m}$ , given in the attached curves, by the use of equation (19) of C.C.I.R. Report 112 (1974);

2.1.5 the curves should, in general, be used to determine field strength, only when it is known that ionospheric reflections at the frequency under consideration will be negligible in amplitude – for example, propagation in daylight between 150 kHz and 2 MHz and for distances of less than about 2,000 km.

2.2 *Mixed path*

2.2.1 The curves in Figures 1 to 9 may be used for the determination of propagation over mixed paths (inhomogeneous smooth earth) as follows.

Such paths may be made up of sections  $S_1, S_2, S_3$ , etc. of lengths  $d_1, d_2, d_3$ , etc. having conductivity and dielectric constant  $\sigma_1, \epsilon_1; \sigma_2, \epsilon_2; \sigma_3, \epsilon_3$  etc. shown below for three sections:



There are various semi-empirical methods of determining the propagation over such paths, of which that due to Millington (1949) is the most accurate and has been made to satisfy the reciprocity condition. The method assumes that curves are available for the different types of terrain in the sections  $S_1, S_2, S_3$  etc. assumed to be individually homogeneous, all drawn for the same source T defined, for instance, by a given inverse-distance curve. The values may then finally be scaled up for any other source.

For a given frequency, the curve appropriate to the section  $S_1$ , is chosen and the field  $E_1(d_1)$  in dB ( $1 \mu\text{V/m}$ ) at the distance  $d_1$  is then noted. The curve for the section  $S_2$  is then used to find the fields  $E_2(d_1)$  and  $E_2(d_1 + d_2)$  and, similarly, with the curve for the section  $S_3$ , the fields  $E_3(d_1 + d_2)$  and  $E_3(d_1 + d_2 + d_3)$  are found, and so on.

A received field strength  $E_R$  is then defined by

$$E_R = E_1(d_1) - E_2(d_1) + E_2(d_1 + d_2) - E_3(d_1 + d_2) + E_3(d_1 + d_2 + d_3)$$

The procedure is then reversed, and by calling R the transmitter and T the receiver, a field  $E_T$  is obtained, given by

$$E_T = E_3(d_3) - E_2(d_3) + E_2(d_3 + d_2) - E_1(d_3 + d_2) + E_1(d_3 + d_2 + d_1)$$

The required field is given by  $\frac{1}{2}(E_R + E_T)$ , the extension to more sections being obvious.

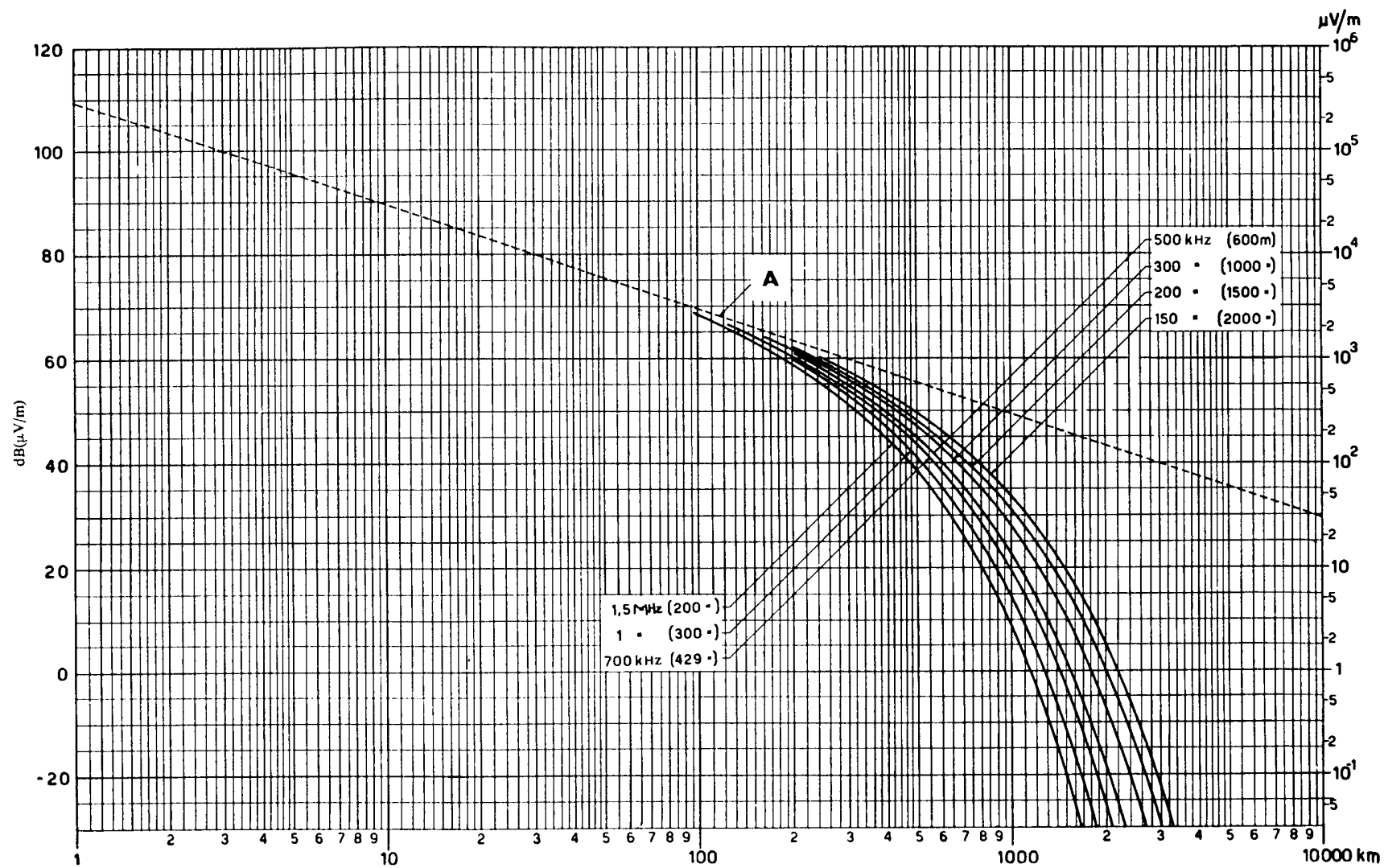


FIGURE 1

*Courbes de propagation de l'onde de sol;*  
*Mer,  $\sigma = 4 \text{ S/m}$ ,  $\epsilon = 80$*

A: Inverse de la distance

FIGURE 1

*Ground-Wave Propagation Curves;*  
*Sea,  $\sigma = 4 \text{ S/m}$ ,  $\epsilon = 80$*

A: Inverse distance curve

FIGURA 1

*Curvas de propagación de la onda de superficie;*  
*Mar,  $\sigma = 4 \text{ S/m}$ ,  $\epsilon = 80$*

A: Inversa de la distancia



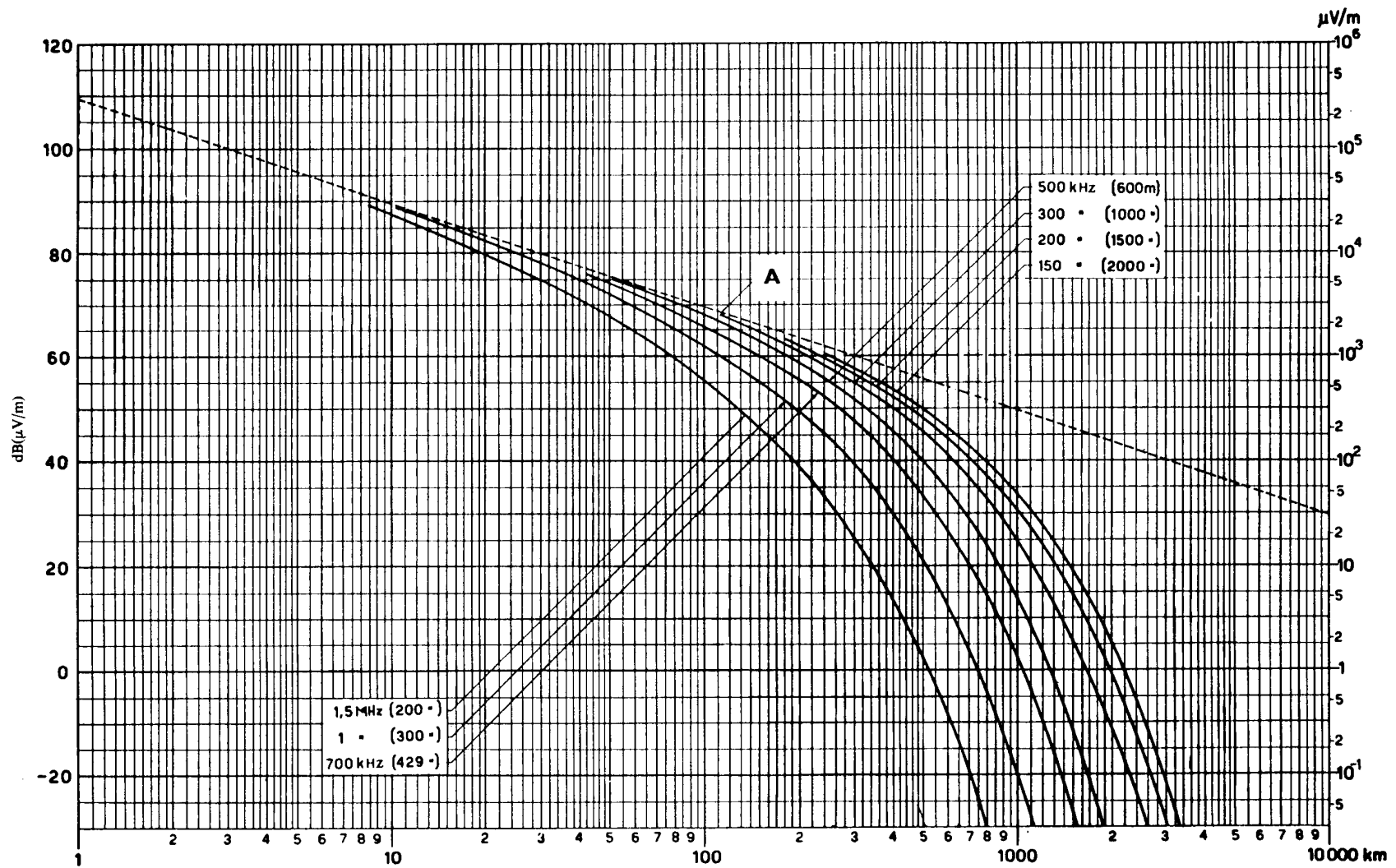


FIGURE 2

*Courbes de propagation de l'onde de sol;  
Terre,  $\sigma = 3 \times 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inverse de la distance

FIGURE 2

*Ground-Wave Propagation Curves;  
Earth,  $\sigma = 3 \times 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inverse distance curve

FIGURA 2

*Curvas de propagación de la onda de superficie;  
Tierra,  $\sigma = 3 \times 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inversa de la distancia

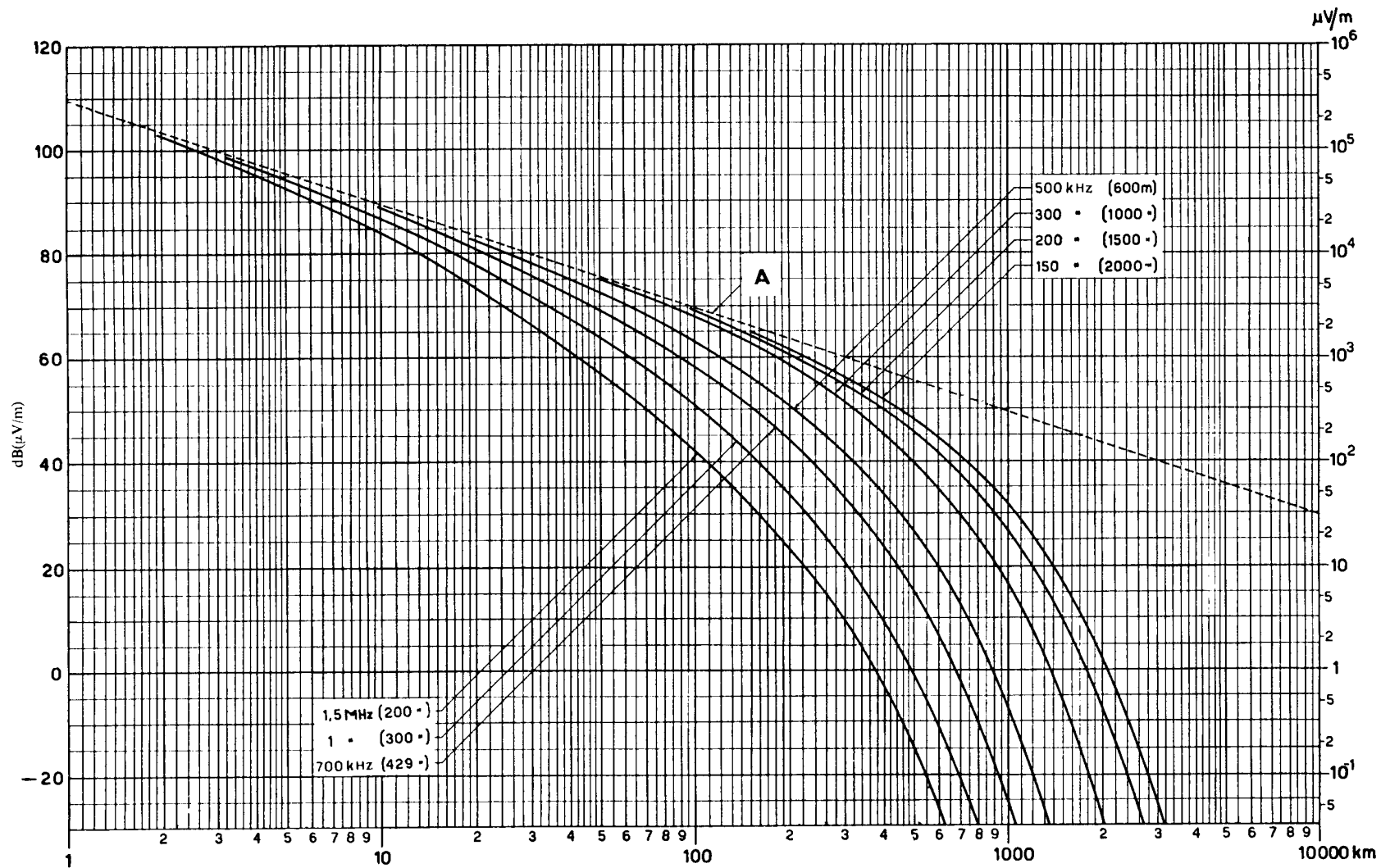


FIGURE 3

*Courbes de propagation de l'onde de sol;  
Terre,  $\sigma = 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inverse de la distance

FIGURE 3

*Ground-Wave Propagation Curves;  
Earth,  $\sigma = 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inverse distance curve

FIGURA 3

*Curvas de propagación de la onda de superficie;  
Tierra,  $\sigma = 10^{-2}$  S/m,  $\epsilon = 4$*

A: Inversa de la distancia

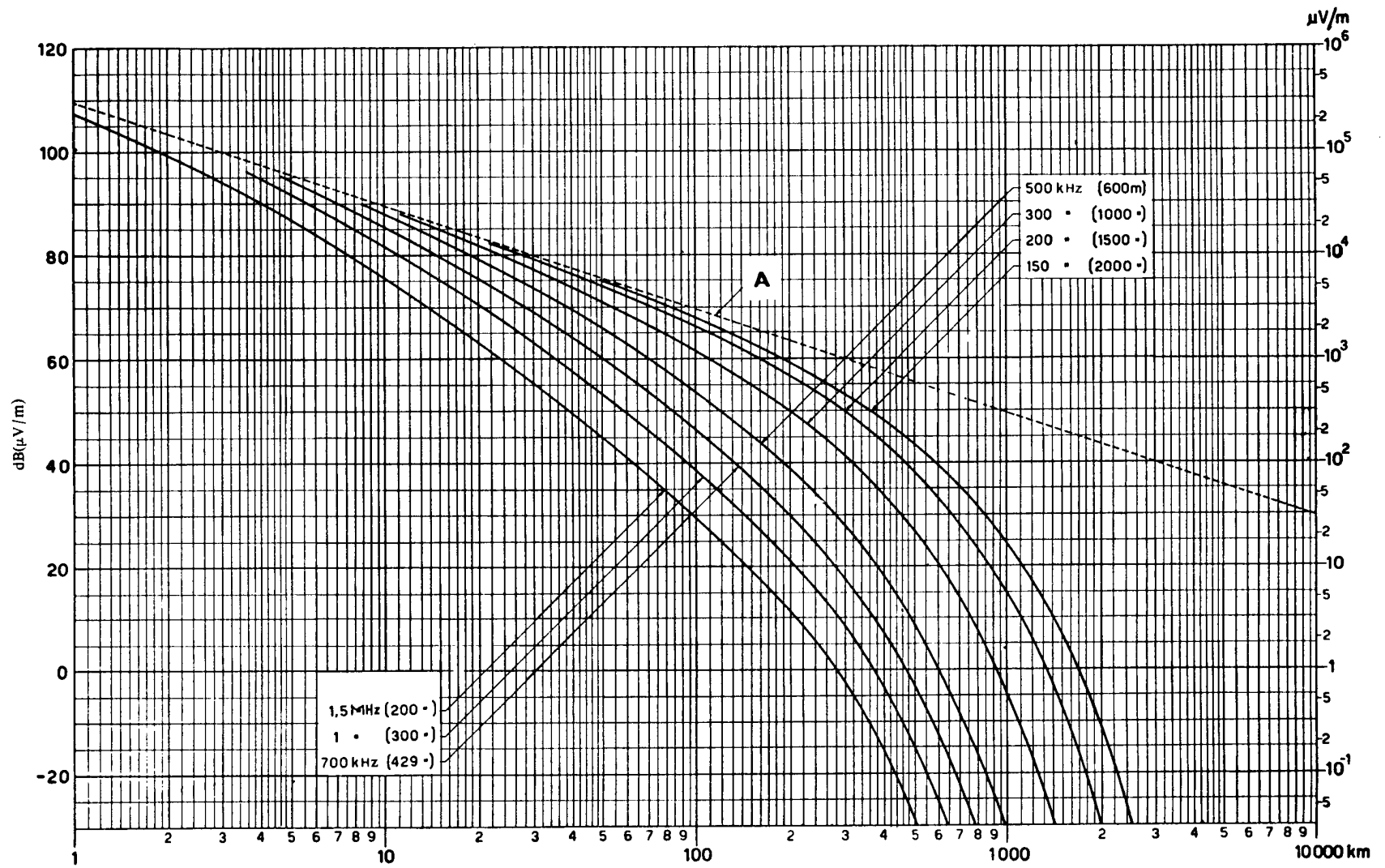


FIGURE 4

*Courbes de propagation de l'onde de sol;  
Terre,  $\sigma = 3 \times 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inverse de la distance

FIGURE 4

*Ground-Wave Propagation Curves;  
Earth,  $\sigma = 3 \times 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inverse distance curve

FIGURA 4

*Curvas de propagación de la onda de superficie;  
Tierra,  $\sigma = 3 \times 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inversa de la distancia

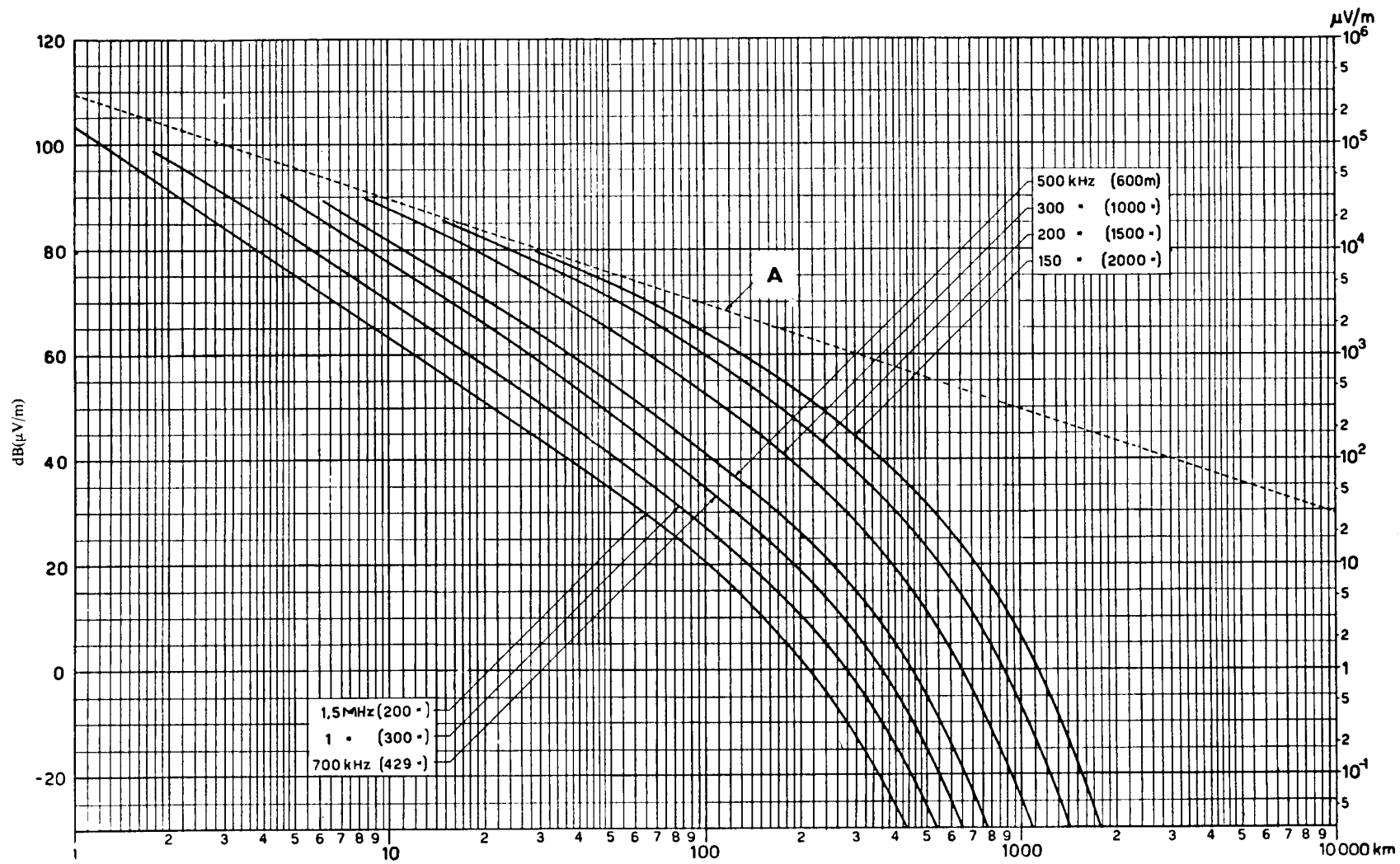


FIGURE 5

*Courbes de propagation de l'onde de sol;*  
*Terre,  $\sigma = 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inverse de la distance

FIGURE 5

*Ground-Wave Propagation Curves;*  
*Earth,  $\sigma = 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inverse distance curve

FIGURA 5

*Curvas de propagación de la onda de superficie;*  
*Tierra,  $\sigma = 10^{-3}$  S/m,  $\epsilon = 4$*

A: Inversa de la distancia

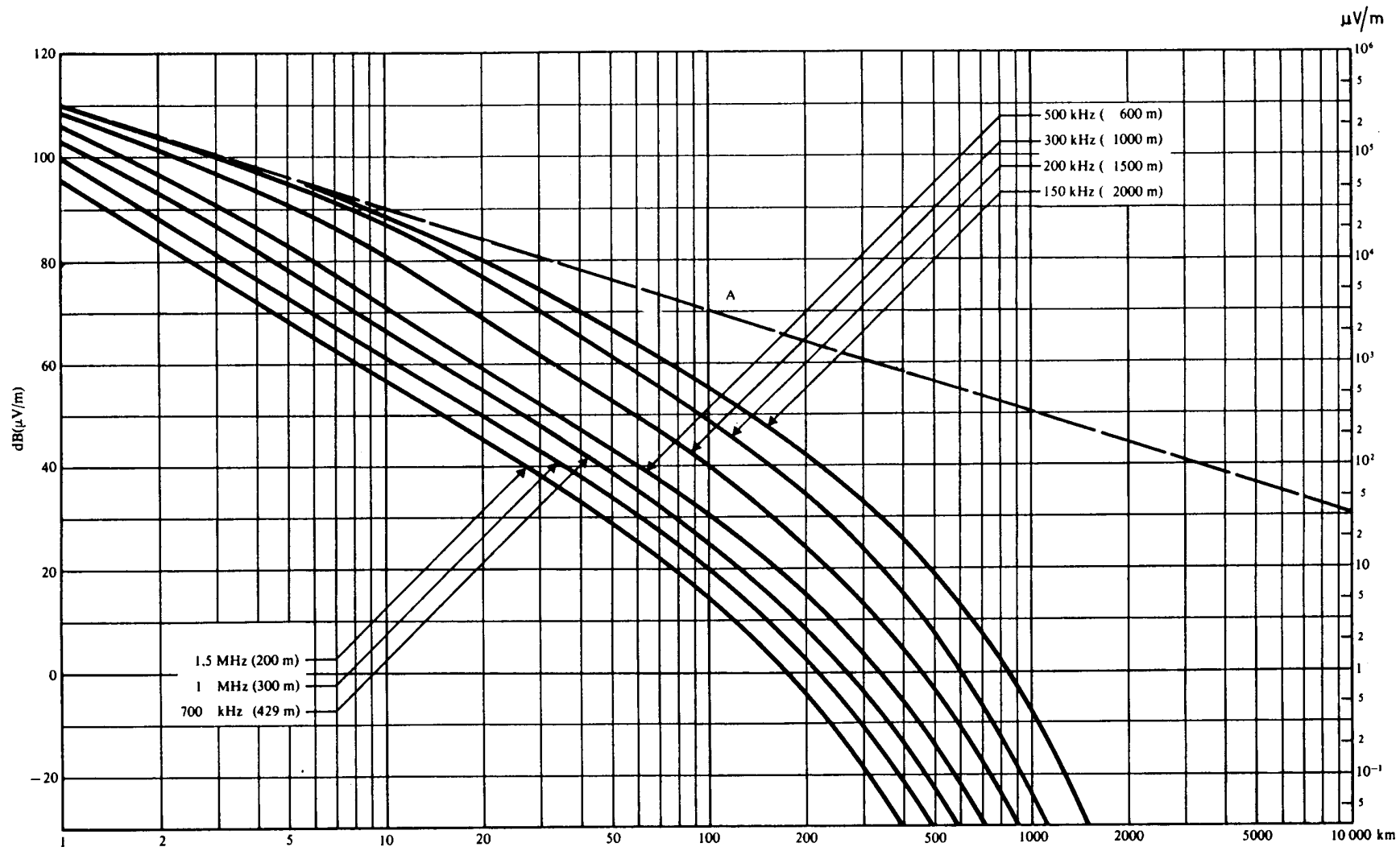


FIGURE 6  
 Courbes de propagation de l'onde de sol;  
 Terre,  $\sigma = 3 \times 10^{-4}$  S/m,  $\epsilon = 4$   
 A: Inverse de la distance

FIGURE 6  
 Ground-Wave Propagation Curves;  
 Earth,  $\sigma = 3 \times 10^{-4}$  S/m,  $\epsilon = 4$   
 A: Inverse distance curve

FIGURA 6  
 Curvas de propagación de la onda de superficie;  
 Tierra,  $\sigma = 3 \times 10^{-4}$  S/m,  $\epsilon = 4$   
 A: Inversa de la distancia

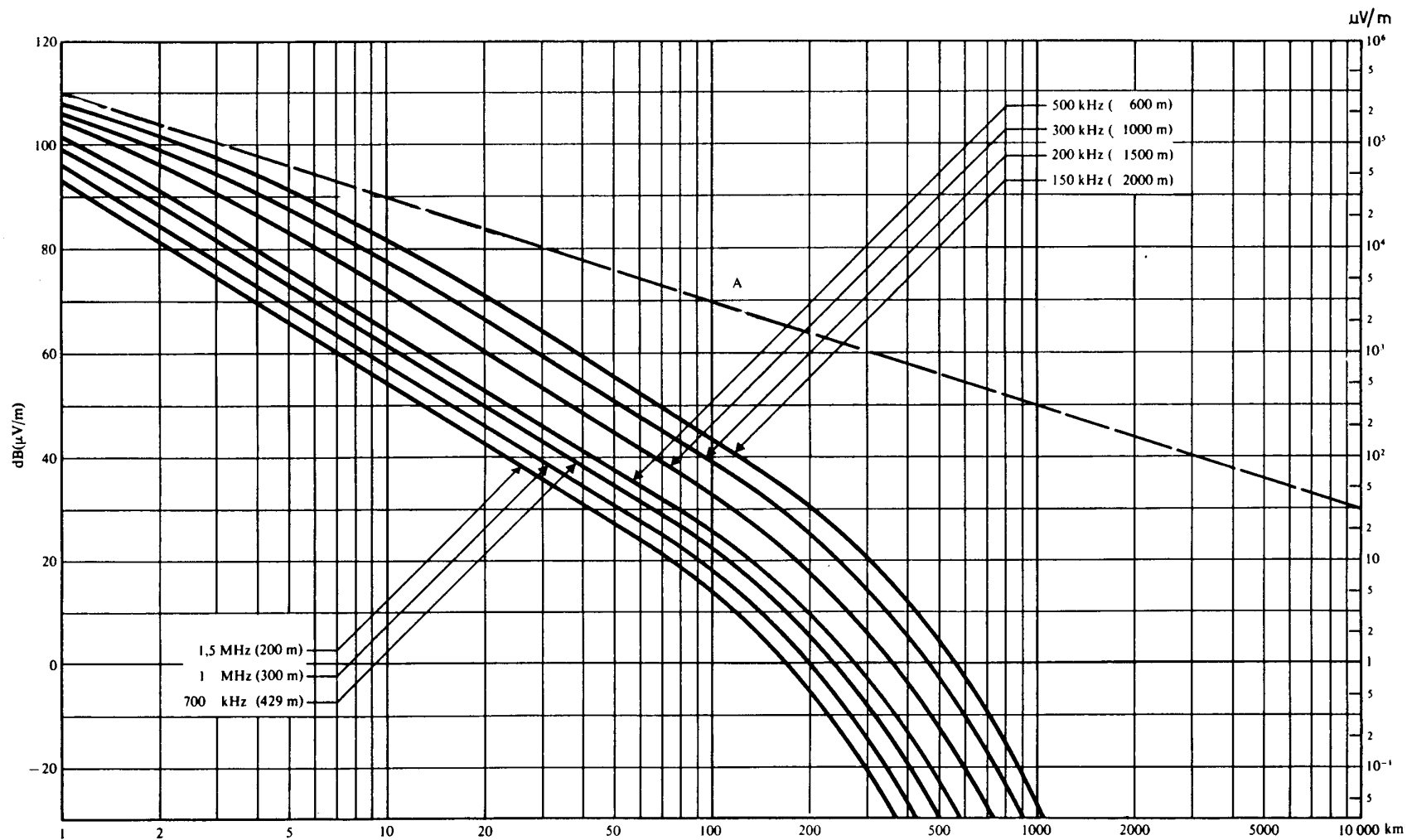


FIGURE 7

*Courbes de propagation de l'onde de sol;  
Terre,  $\sigma = 10^{-4}$  S/m,  $\epsilon = 4$*

A: Inverse de la distance

FIGURE 7

*Ground-Wave Propagation Curves;  
Earth,  $\sigma = 10^{-4}$  S/m,  $\epsilon = 4$*

A: Inverse distance curve

FIGURA 7

*Curvas de propagación de la onda de superficie;  
Tierra,  $\sigma = 10^{-4}$  S/m,  $\epsilon = 4$*

A: Inversa de la distancia

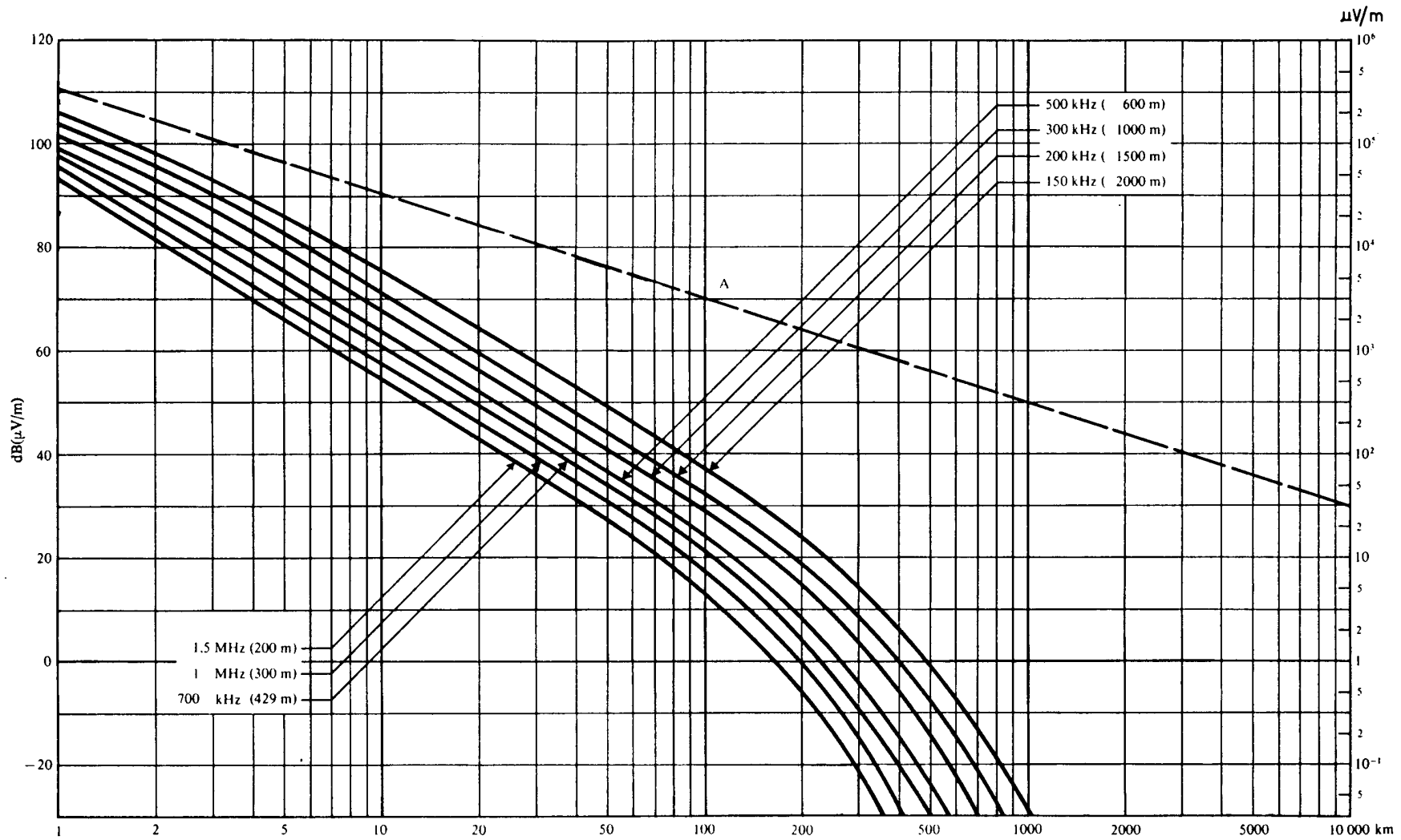


FIGURE 8  
*Courbes de propagation de l'onde de sol;*  
*Terre,  $\sigma = 3 \times 10^{-5}$  S/m,  $\epsilon = 4$*   
 A: Inverse de la distance

FIGURE 8  
*Ground-Wave Propagation Curves;*  
*Earth,  $\sigma = 3 \times 10^{-5}$  S/m,  $\epsilon = 4$*   
 A: Inverse distance curve

FIGURA 8  
*Curvas de propagación de la onda de superficie;*  
*Tierra,  $\sigma = 3 \times 10^{-5}$  S/m,  $\epsilon = 4$*   
 A: Inversa de la distancia

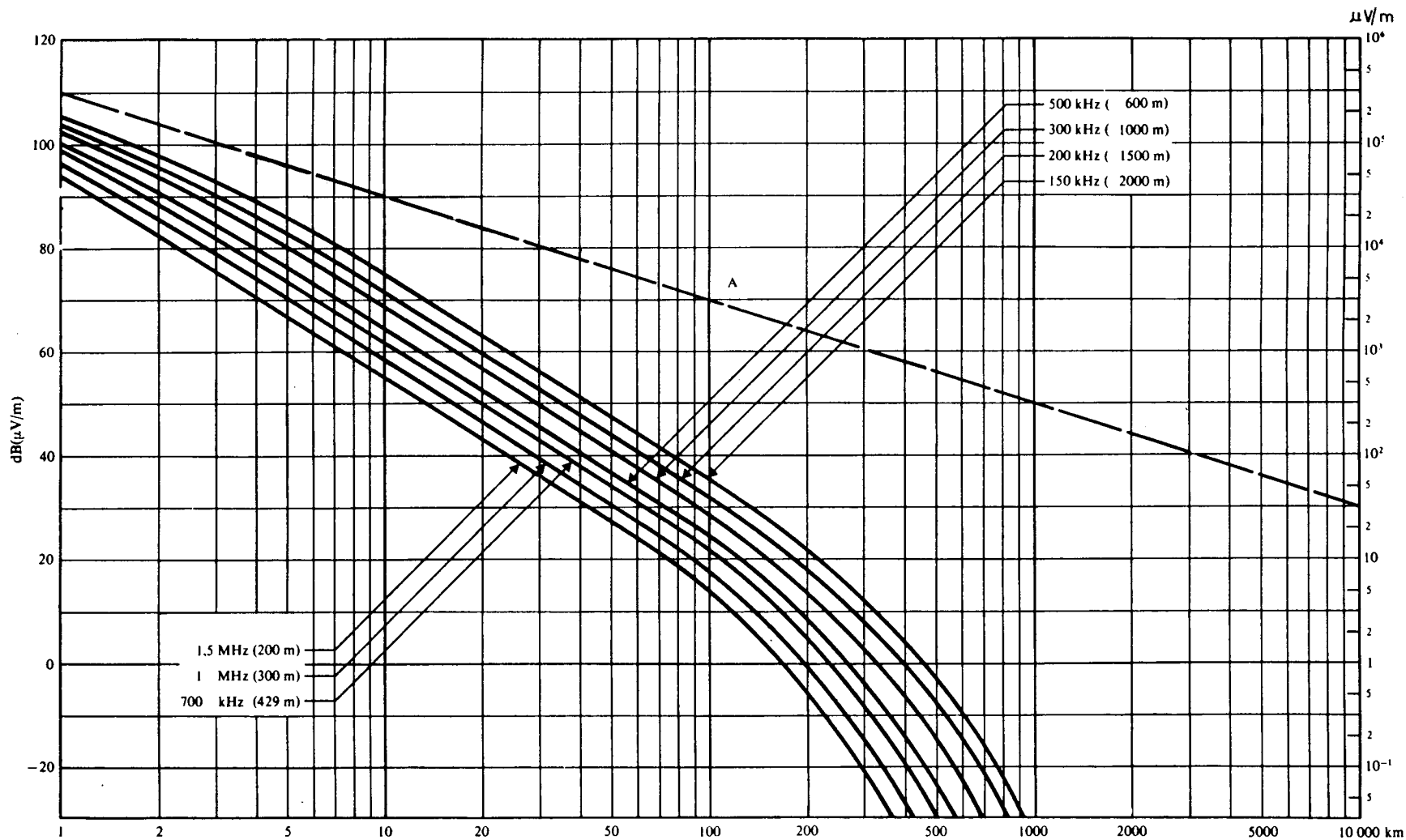


FIGURE 9  
 Courbes de propagation de l'onde de sol;  
 Terre,  $\sigma = 10^{-5}$  S/m,  $\epsilon = 4$   
 A: Inverse de la distance

FIGURE 9  
 Ground-Wave Propagation Curves;  
 Earth,  $\sigma = 10^{-5}$  S/m,  $\epsilon = 4$   
 A: Inverse distance curve

FIGURA 9  
 Curvas de propagación de la onda de superficie;  
 Tierra,  $\sigma = 10^{-5}$  S/m,  $\epsilon = 4$   
 A: Inversa de la distancia



## CHAPTER 3

**Sky-Wave Propagation**3.1 *Introduction*

Within Region 1 the sky-wave propagation prediction method described in 3.3 should be used.

Within the Asian part of Region 3 situated North of the parallel 11° S, the sky-wave propagation prediction method described in 3.4 should be used.

Within the part of Region 3 situated South of the parallel 11° S, the method described in 3.5 should be used.

For a path with terminals in different regions, the method used should be that which applies at the midpoint of the great-circle path.

Within the whole of Regions 1 and 3 the radiation in a given direction is expressed in dB with reference to a c.m.f. of 300 V or an e.m.r.p. of 1 kW. The powers are expressed in dB relative to 1 kW.

3.2 *Symbols*

- $b$  = Solar-activity factor given in 3.3.2.6;
- $d$  = Great-circle ground distance between transmitter and receiver (km);
- $F_o$  = Annual median field strength at the reference time in dB relative to 1  $\mu\text{V/m}$ ;
- $F_c$  = Field strength in dB relative to 1  $\mu\text{V/m}$  deduced from the Cairo North/South curve (Figure 22);
- $F_t$  = Annual median field strength in dB relative to 1  $\mu\text{V/m}$  at time  $t$ ;
- $f$  = Frequency (kHz);
- $f'$  = A frequency (kHz) defined in equation (6);
- $G$  = Antenna gain (dB) referred to a short vertical antenna in the direction of propagation;
- $G_o$  = Sea gain for a path terminal on the coast (dB);
- $G_s$  = Sea gain for a path terminal near the sea (dB);
- $h$  = Transmitting antenna height (in wavelengths);
- $h_r$  = Height of reflecting layer (km);
- $I$  = Magnetic dip angle (degrees);
- $k$  = Basic loss factor due to absorption in the ionosphere;
- $k_R$  = Loss factor incorporating effects of ionospheric absorption, focusing and terminal losses, and losses between hops on multi-hop paths;
- $L_p$  = Excess polarizing coupling loss (dB);
- $L_t$  = Hourly loss factor (dB);
- $P$  = Radiated power (dB relative to 1 kW);
- $p$  = Slant propagation distance (km);
- $Q$  = A sea gain parameter given in 3.3.2.3;
- $R$  = Twelve-month smoothed Zurich sunspot number (Wolf number);
- $s$  = Distance of path terminal from sea (km) measured along great-circle path;
- $t$  = Time relative to sunset or sunrise (hours);

$V$	=	Transmitter cymomotive force (dB relative to a reference cymomotive force of 300 V);
$\theta$	=	Direction of propagation relative to magnetic East-West (degrees);
$\lambda$	=	Wavelength;
$\Phi$	=	A geomagnetic latitude parameter;
$\Phi_T$	=	Geomagnetic latitude of transmitter
$\Phi_R$	=	Geomagnetic latitude of receiver
		} in degrees, positive in Northern hemisphere, negative in Southern hemisphere.

### 3.3 Sky-Wave Field-Strength Prediction Method for the Frequency Range 150 kHz to 1 605 kHz for Region 1

#### 3.3.1 Introduction

This method of prediction gives the night-time sky-wave field strength produced for a given power radiated from one or more vertical antennae, when measured by a loop antenna at ground level aligned in a vertical plane along the great-circle path to the transmitter. It applies for paths of lengths up to 12,000 km.

#### 3.3.2 Annual Median Night-Time Field Strength

The predicted sky-wave field strength is given by:

$$F_o = V + G_s - L_p + (105.3 - 20 \log_{10} p) - 10^{-3} k_{RP} \quad (1)$$

where  $F_o$  = annual median of half-hourly median field strengths (dB relative to 1  $\mu$ V/m) at the reference time defined in 3.3.2.1.

Figure 10 shows the value of  $(105.3 - 20 \log_{10} p)$  as a function of the ground distance.

##### 3.3.2.1 Reference Time

The reference time is taken as six hours after the time at which the sun sets at a point S on the surface of the earth. For paths shorter than 2,000 km, S is the mid-point of the path. On longer paths, S is 750 km from the terminal where the sun sets last, measured along the great-circle path.

##### 3.3.2.2 Cymomotive Force

The cymomotive force V in the azimuth and the elevation of the direction of propagation is calculated by the formula:

$$V = P' + G \quad (2)$$

where  $P'$ , expressed in dB (kW), is the power supplied by the transmitter to the antenna transmission line, while neglecting various losses in the antenna and its transmission line,

and where  $G$  is the gain, in dB, of the antenna in the direction of propagation, referred to a short vertical antenna.

For a simple vertical antenna, without losses, this gain is given, in dB, by Figure 11.

##### 3.3.2.3 Sea Gain

$G_s$  is the additional signal gain when one or both terminals is situated near the sea.  $G_s$  for a single terminal is given by:

$$G_s = G_o - 10^{-3} \frac{Qsf}{G_o} \text{ (dB)} \quad (3)$$

where  $G_o$  is the gain when the terminal is on the coast,  $f$  is the frequency in kHz and  $s$  is the distance in km of the terminal from the sea, measured along the great-circle path.  $Q = 0.44$  in the LF band and 1.75 in the MF band.  $G_o$  is given in Figure 12 as a function of  $d$  for the above-mentioned bands. In the MF band,  $G_o = 10$  dB when  $d > 6,500$  km. Equation (3) applies for values of  $s$  such that  $G_s > 0$ . For larger values of  $s$ ,  $G_s = 0$ . If both terminals are near the sea,  $G_s$  is the sum of the values of  $G_s$  for the individual terminals.

### 3.3.2.4 Excess Polarization Coupling Loss

$L_p$  is the excess polarization coupling loss. In the LF band,  $L_p = 0$ . In the MF band, at low latitudes, for  $|I| \leq 45^\circ$ , the following formula applies for each terminal:

$$L_p = 180(36 + \theta^2 + I^2)^{-1/2} - 2(\text{dB}) \quad (4)$$

(See Figure 13)

where  $I$  is the magnetic dip in degrees at the terminal and  $\theta$  is the path azimuth measured in degrees from the magnetic E-W direction, such that  $|\theta| \leq 90^\circ$ . For  $|I| > 45^\circ$ ,  $L_p = 0$ .  $L_p$  should be evaluated separately for the two terminals, because of the different  $\theta$  and  $I$  that may apply, and the two  $L_p$  values added. The most accurate available values of magnetic dip and declination should be used in determining  $\theta$  and  $I$  (see Figures 14 and 15).

### 3.3.2.5 Slant Propagation Distance

For paths longer than 1,000 km,  $p$  is approximately equal to the ground distance  $d$  (km). For shorter paths,

$$p = (d^2 + 4h_r^2)^{1/2} \quad (5)$$

where  $h_r = 100$  km if  $f \leq f'$  and 220 km if  $f > f'$ , where  $f'$  (in kHz) is given by

$$f' = 350 + \left[ (2.8d)^3 + 300^3 \right]^{1/3} \quad (6)$$

(See Figure 16)

Equation (5) may be used for paths of any length with negligible error.

### 3.3.2.6 Loss Factor due to Absorption in the ionosphere

The loss factor due to absorption in the ionosphere  $k_R$  is given by

$$k_R = k + 10^{-2} bR \quad (7)$$

where

$$k = 1.9f^{0.15} + 0.24f^{0.4} (\tan^2 \Phi - \tan^2 37^\circ) \quad (8)$$

(See Figure 17)

In the LF band,  $b = 0$ . In the MF band,  $b = 1$  for Europe and 0 elsewhere.

For paths shorter than 3,000 km:

$$\Phi = 0.5(\Phi_T + \Phi_R) \quad (9)$$

where  $\Phi_T$  and  $\Phi_R$  are the geomagnetic latitudes (see Figure 18) at the transmitter and receiver respectively, determined by assuming an earth-centered dipole field model with northern pole having the geographical coordinates,  $78.5^\circ$  N,  $69^\circ$  W.  $\Phi_T$  and  $\Phi_R$  are taken as positive in the northern hemisphere and negative in the southern hemisphere. Paths longer than 3,000 km are divided into two equal sections which are considered separately. The value of  $\Phi$  for each half-path is derived by taking the average of the geomagnetic latitudes at one terminal and at the mid-point of the whole path, the geomagnetic latitude at the mid-point of the whole path being assumed to be the average of  $\Phi_T$  and  $\Phi_R$ . As a consequence:

$$\Phi = 0.25(3\Phi_T + \Phi_R) \quad (10)$$

for the first half of the path and

$$\Phi = 0.25(\Phi_T + 3\Phi_R) \quad (11)$$

for the second half.

The values of  $k$  calculated from equation (8) for the two half-paths are then averaged and used in equation (7).

If  $|\Phi| > 60^\circ$ , equation (8) is evaluated for  $\Phi = 60^\circ$ .

### 3.3.4 Nocturnal Variation of Annual Median Field Strength

3.3.4.1 Nocturnal variation of annual median field strength is given by:

$$F_t = F_o - L_t$$

Figure 19 shows the average of the annual median variations during the night, derived from Figure 8 of C.C.I.R. Report 264 (1974) and Figure 5 of C.C.I.R. Report 431 (1974) respectively; the time  $t$  is the time in hours relative to the sunrise or sunset reference times as appropriate. These are taken at the ground at the mid-path position for  $d < 2,000$  km and, for longer paths, at 750 km from the terminal where the sun sets last or rises first.

3.3.4.2 The calculation of the interfering signal strength of a station is based on the method indicated in 3.3.4.1, for the lowest hourly loss factor during the common operating schedule of the wanted and interfering transmitters. The results may be extrapolated where necessary.

3.3.4.3 For daytime operation administrations by mutual agreement may use Figure 20 (for temperate zones) and Figure 21 (for the equatorial zone) as the basis of calculation; the sky-wave field strength, calculated at the reference time at the interfering station, is then reduced by 20 dB, or by 40 dB in the case of the dotted curve of Figure 21. Figures 20 and 21 refer to local mean time at the station site. This local mean time (LMT) is equal to Greenwich Mean Time plus or minus the number of hours and minutes corresponding to the longitude of the station.

### 3.3.5 Day-to-Day and Short-Period Variations of Field Strength

The field strength exceeded for 10% of the total time on a limited series of nights, during short periods centred on a specific hour is 8 dB greater in the LF band and 10 dB greater in the MF band than the values of  $F_o$  and  $F_t$  given above.

### 3.4 Sky-Wave Field-Strength Prediction Method for the Frequency Range 525 kHz to 1 605 kHz for the Asian part of Region 3, North of 11° S

#### 3.4.1 Propagation Curve

In the Asian area of the Region 3 situated to the North of 11° S the Cairo North-South propagation curve referred to the annual midnight median value should be used for sky-wave predictions. This curve appears in Figure 22. This curve refers to an e.m.r.p. of 1 kW or a c.m.f. of 300 V. The field  $F_o$ , in dB, is given by

$$F_o = F_c - L_p + V \quad (12)$$

#### 3.4.2 Excess Polarization Coupling Loss ( $L_p$ )

$L_p$  is the excess polarization coupling loss. In the MF band at low latitudes for  $|I| \leq 45^\circ$  the following formula applies for each terminal:

$$L_p = 180(36 + \theta^2 + I^2)^{-1/2} - 2(\text{dB}) \quad (13)$$

(See Figure 13)

where  $I$  is the magnetic dip in degrees at the terminal and  $\theta$  is the path azimuth measured in degrees from the magnetic E-W direction, such that  $|\theta| \leq 90^\circ$ . For  $|I| > 45^\circ$ ,  $L_p = 0$ .  $L_p$  should be evaluated separately for the two terminals, because of the different  $\theta$  and  $I$  that may apply, and the two  $L_p$  values added. The most accurate available values of magnetic dip and declination should be used in determining  $\theta$  and  $I$  (see Figures 14 and 15).

### 3.4.3 Nocturnal Variation of Annual Median Field Strength

3.4.3.1 The nocturnal variation of the annual median field strength is given by

$$F_t = F_o - L_t \quad (14)$$

In Figure 19, time  $t$  is the time in hours relative to the sunrise or sunset reference times as appropriate. These are taken at the ground at the mid-path position for  $d < 2,000$  km and at 750 km from the terminal where the sun sets last or rises first for longer paths.

3.4.3.2 The calculation of the interfering signal strength of a station is based on the method indicated in 3.4.3.1 for the lowest hourly loss factor during the common operating schedule of the wanted and interfering transmitters. The results may be extrapolated where necessary.

3.4.3.3 For daytime operation administrations by mutual agreement may use Figure 20 (for temperate zones) and Figure 21 (for the equatorial zone) as the basis of calculation; the sky-wave field strength, calculated at the reference time at the interfering station, is then reduced by 20 dB, or by 40 dB in the case of the dotted curve of Figure 21. Figures 20 and 21 refer to local mean time at the station site.. This local mean time (LMT) is equal to Greenwich Mean Time plus or minus the number of hours and minutes corresponding to the longitude of the station.

3.4.4 *Day-to-Day and Short-Period Variations of Field Strength*

The field strength exceeded for 10% of the total time on a limited series of nights, during short periods centred on a specific hour is 10 dB greater in the MF band than the values of  $F_o$  and  $F_t$  given above.

3.5 *Sky-Wave Field-Strength Prediction Method for the Frequency Range 525 kHz to 1 605 kHz for the part of Region 3, South of 11° S*

3.5.1 *Symbols*

See 3.2.

3.5.2 *Introduction*

See 3.3.1 with regard to the MF band.

3.5.3 *Annual Median Night-Time Field Strength*

The predicted sky-wave field strength is given by

$$F_o = V + G_s - L_p + 108 - 20\log_{10} p - 0.8 \times 10^{-3} k_R p \quad (15)$$

where  $F_o$  = annual median of half-hourly median field strengths (dB relative to 1 μV/m) at the reference time defined in 3.3.2.1.

3.5.3.1 *Reference Time*

See 3.3.2.1.

3.5.3. *Cymomotive Force*

See 3.3.2.2.

3.5.3.3 *Sea Gain*

See 3.3.2.3 with regard to the MF band.

3.5.3.4 *Excess Polarization Coupling Loss*

See 3.3.2.4 with regard to the MF band.

3.5.3.5 *Slant Propagation Distance*

See 3.3.2.5.

3.5.3.6 *Loss Factor due to Absorption in the Ionosphere*

The loss factor due to absorption in the ionosphere  $k_R$  is given by:

$$k_R = k + 10^{-2} bR \quad (16)$$

where

$$k = 1.9 f^{0.15} + 0.24 f^{0.4} (\tan^2 \Phi - \tan^2 37^\circ) \quad (17)$$

(See Figure 17)

In the MF band,  $b = 1$

For paths shorter than 3,000 km

$$\Phi = 0.5(\Phi_T + \Phi_R) \quad (18)$$

where  $\Phi_T$  and  $\Phi_R$  are the geomagnetic latitudes (see Figure 18) at the transmitter and receiver respectively, determined by assuming an earth-centred dipole field model with northern pole having the geographical coordinates, 78.5° N, 69° W.  $\Phi_T$  and  $\Phi_R$  are taken as negative in the southern hemisphere. Paths longer than 3,000 km are divided into two equal sections which are considered separately. The value  $\Phi$  for each half-path is derived by taking the average of the geomagnetic latitudes at one terminal and at the mid-point of the whole path, the geomagnetic latitude at the mid-point of the whole path being assumed to be the average of  $\Phi_T$  and  $\Phi_R$ . As a consequence:

$$\Phi = 0.25(3\Phi_T + \Phi_R) \quad (19)$$

for the first half of the path and

$$\Phi = 0.25(\Phi_T + 3\Phi_R) \quad (20)$$

for the second half. The values of  $k$  calculated from equation (17) for the two half-paths are then averaged and used in equation (16).

If  $|\Phi| > 60^\circ$ , equation (17) is evaluated for  $\Phi = 60^\circ$ .

#### 3.5.4 *Nocturnal Variation of Annual Median Field Strength*

See 3.3.4.

#### 3.5.5 *Day-to-Day and Short-Period Variations of Field Strength*

The field strength exceeded for 10% of the total time on a limited series of nights, during short periods centred on a specific hour is 7 dB greater in the MF band than the values of  $F_o$  and  $F_t$  given in 3.3.4.

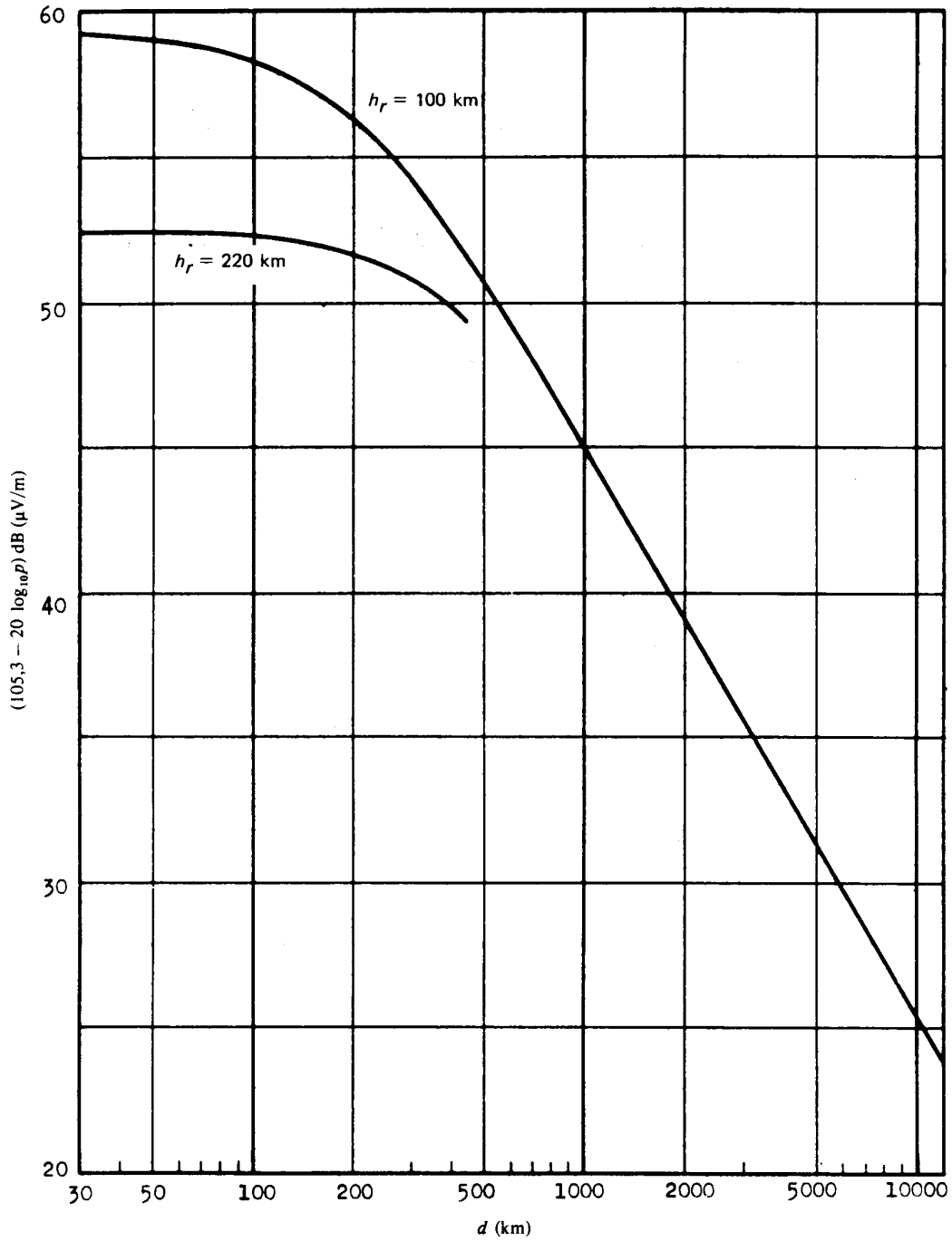


FIGURE 10

*Champ de référence*

Valeur de  $(105,3 - 20 \log_{10} p)$  en fonction de  $d$  où  $p = (d^2 + 4h_r^2)^{1/2}$

FIGURE 10

*Basic Field Strength*

Value of  $(105,3 - 20 \log_{10} p)$  as a function of  $d$  where  $p = (d^2 + 4h_r^2)^{1/2}$

FIGURA 10

*Intensidad de campo de referencia*

Valor de  $(105,3 - 20 \log_{10} p)$  en función de  $d$  siendo  $p = (d^2 + 4h_r^2)^{1/2}$

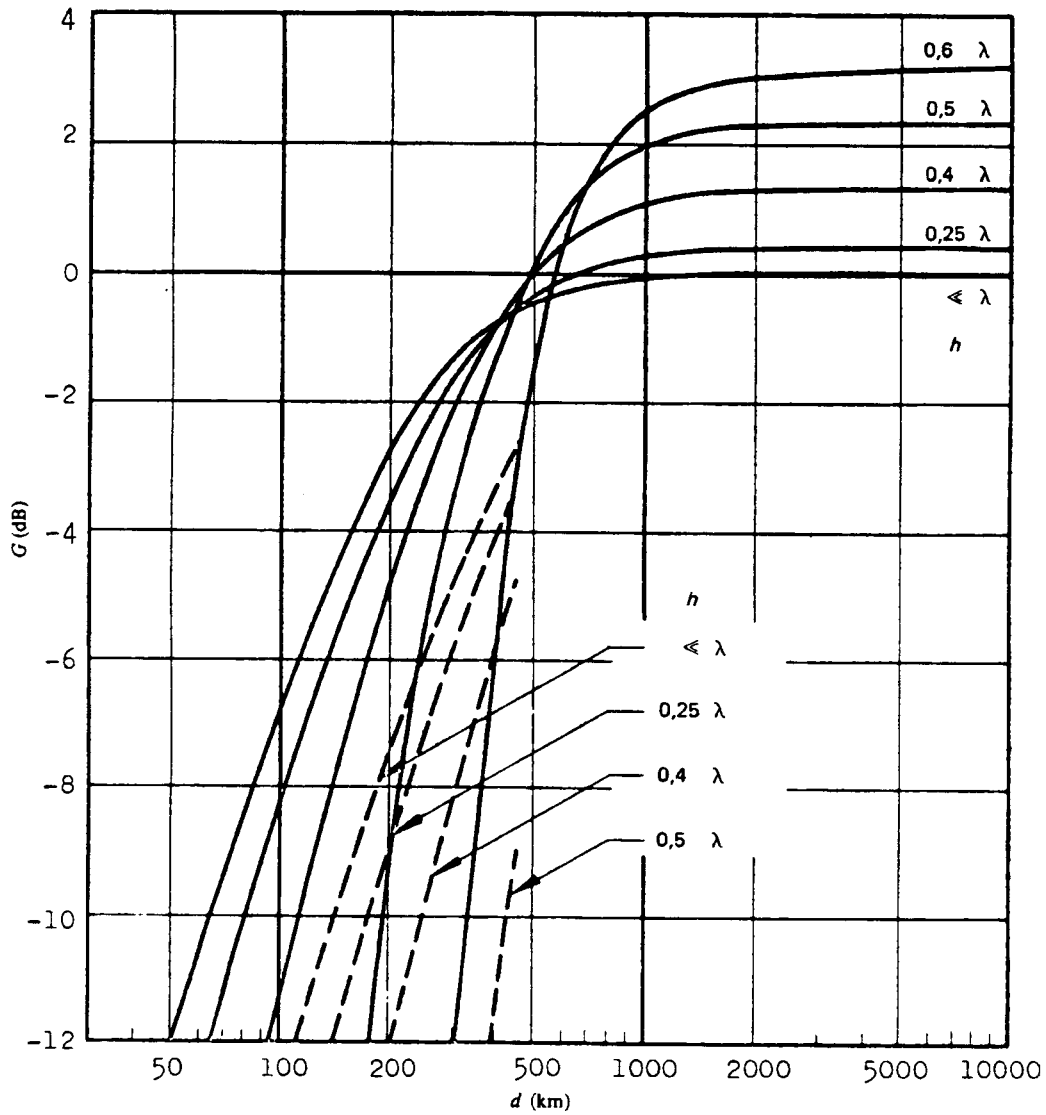


FIGURE 11

Gain de l'antenne d'émission dans le cas d'une antenne verticale simple

$h$  = hauteur de l'antenne

————— réflexion sur la couche E ( $h_r = 100$  km)

- - - - - réflexion sur la couche F ( $h_r = 220$  km)

FIGURE 11

Transmitting Antenna Gain for a simple Vertical Antenna

$h$  = Antenna height

————— E layer reflection ( $h_r = 100$  km)

- - - - - F layer reflection ( $h_r = 220$  km)

FIGURA 11

Ganancia de la antena transmisora en el caso de una antena vertical simple

$h$  = altura de la antena

————— reflexión en la capa E ( $h_r = 100$  km)

- - - - - reflexión en la capa F ( $h_r = 220$  km)



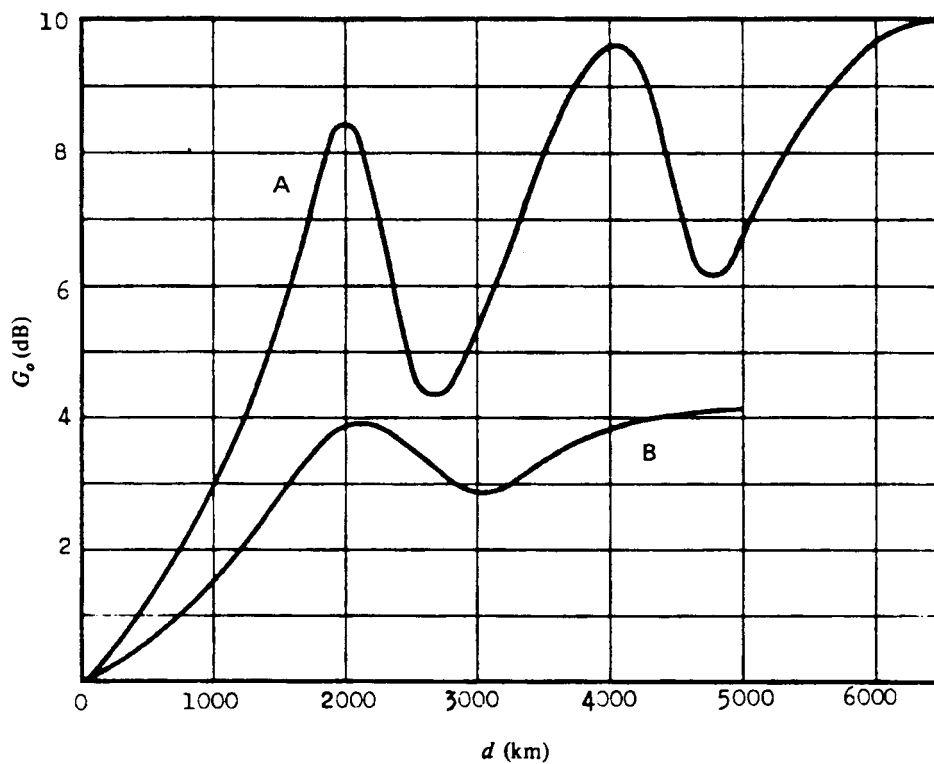


FIGURE 12

*Gain dû à la proximité de la mer pour une seule extrémité située sur la côte*

- A = Ondes hectométriques
- B = Ondes kilométriques

FIGURE 12

*Sea Gain for a single Terminal on the Coast*

- A = MF
- B = LF

FIGURA 12

*Ganancia debida al mar para un solo terminal en la costa*

- A = Ondas hectométricas
- B = Ondas kilométricas

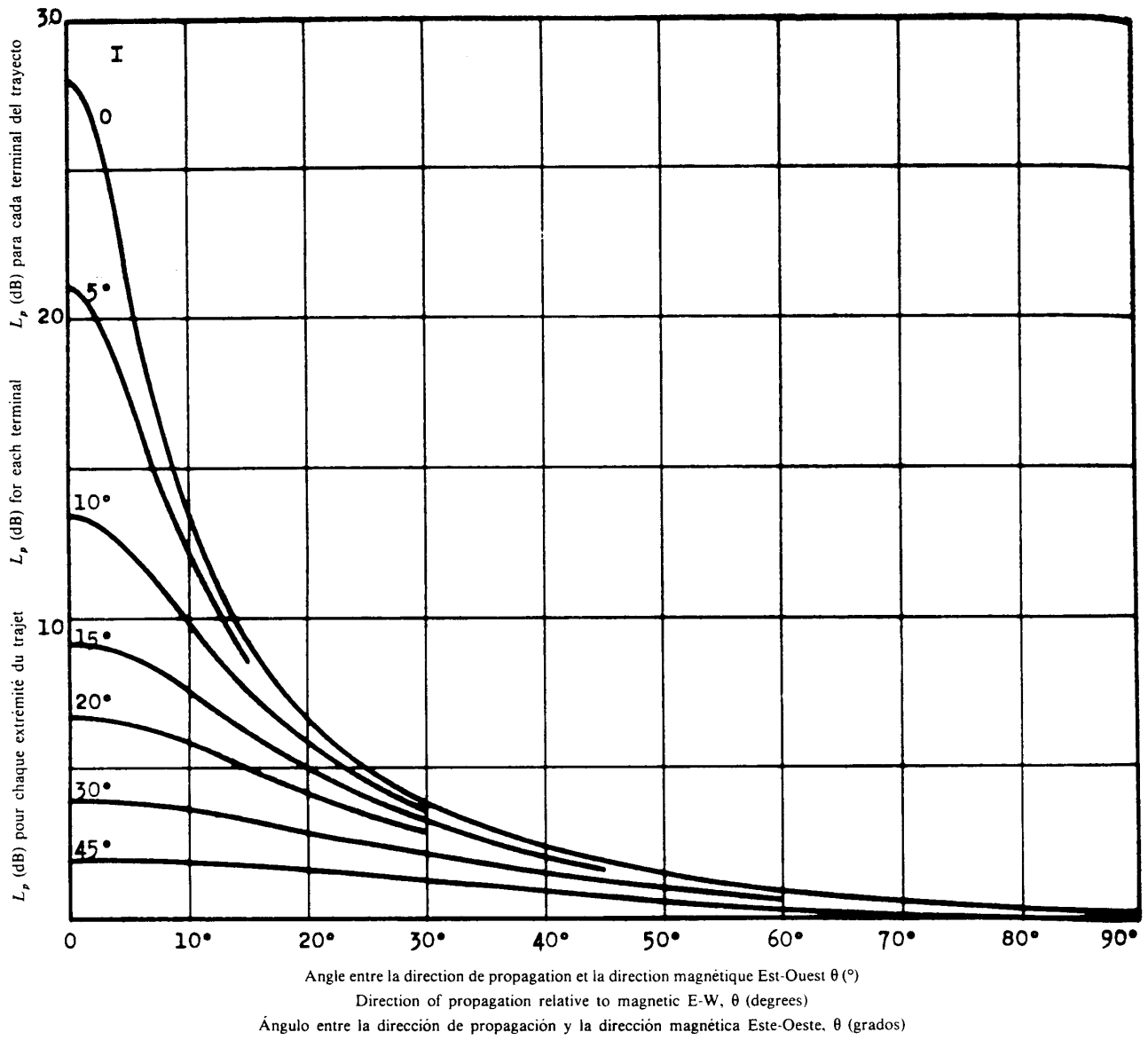


FIGURE 13

*Affaiblissement supplémentaire dû au couplage de polarisation  $L_p$*

FIGURE 13

*Excess Polarization Coupling Loss  $L_p$*

FIGURA 13

*Pérdida suplementaria debida al acoplamiento de polarización,  $L_p$*

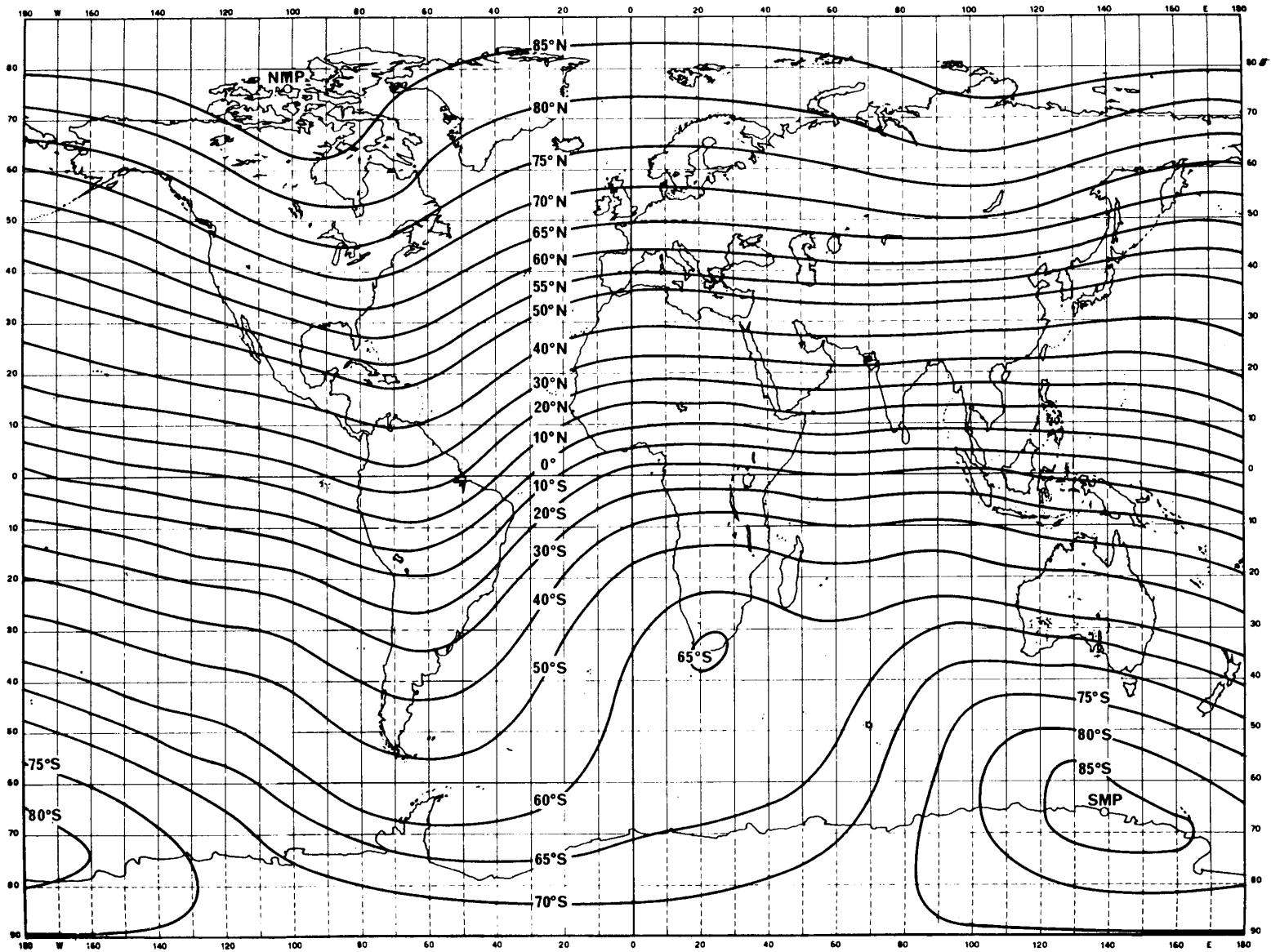


FIGURE 14 – FIGURA 14

Carte de l'inclinaison magnétique – Map of magnetic Dip – Mapa de la inclinación magnética

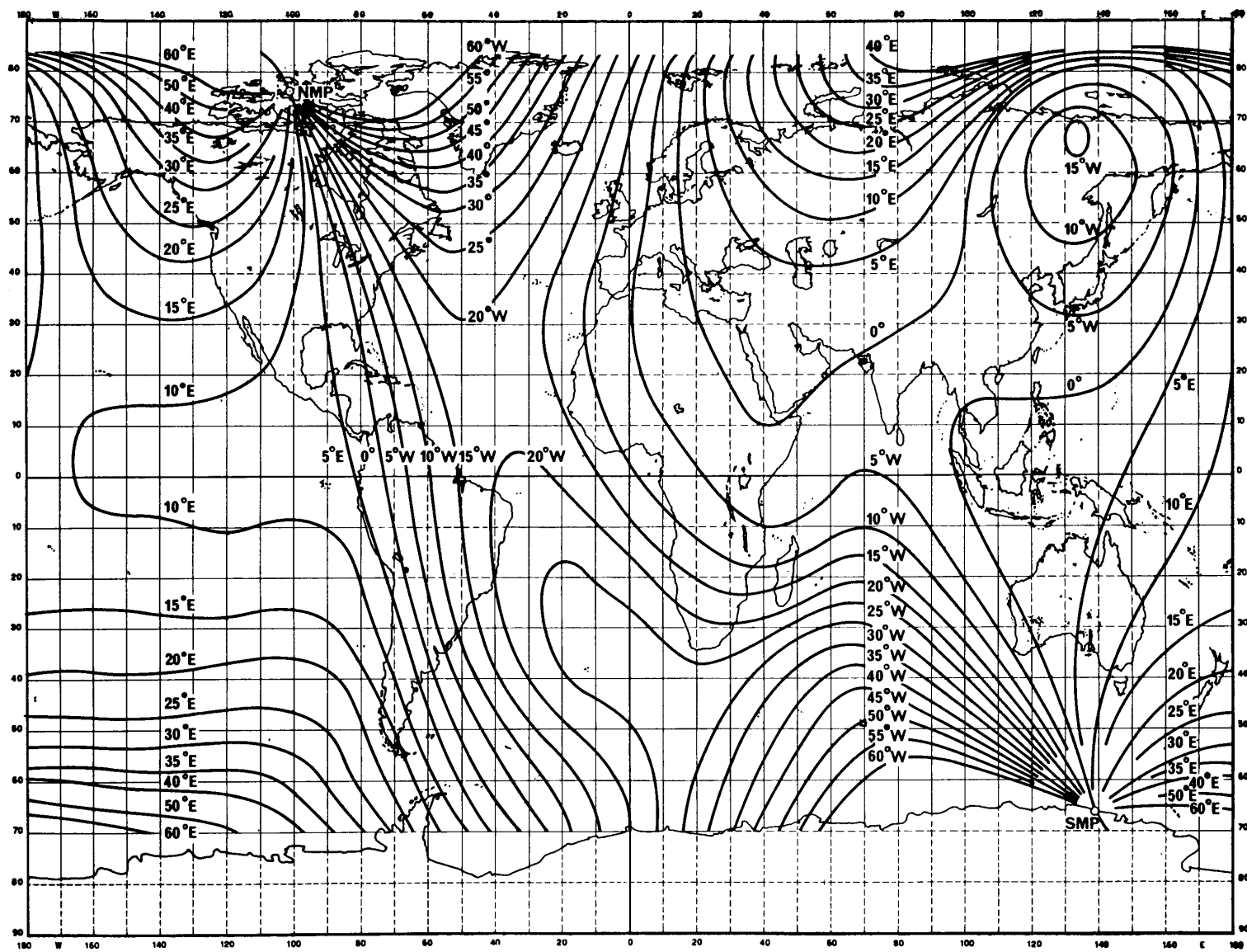


FIGURE 15 – FIGURA 15

Carte de déclinaison magnétique – Map of magnetic Declination – Mapa de la declinación magnética

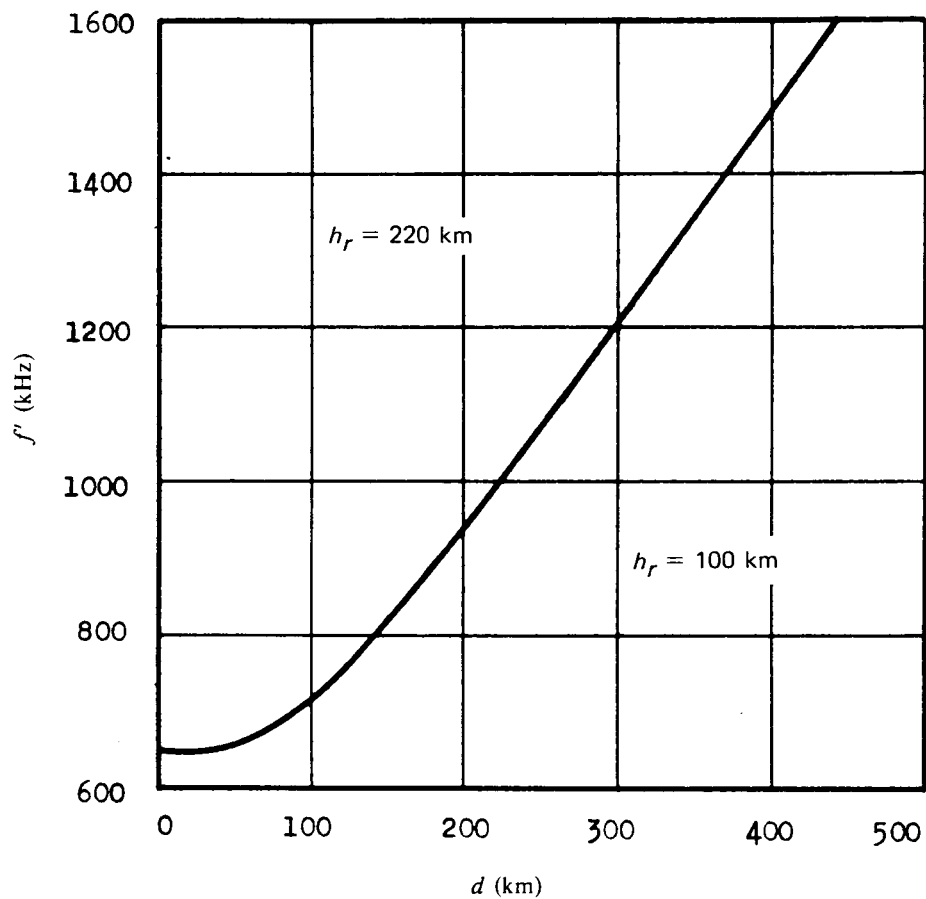


FIGURE 16

*Fréquence  $f'$  définie par la formule (6)*

FIGURE 16

*Frequency  $f'$  defined in Equation (6)*

FIGURA 16

*Frecuencia  $f'$  definida por la fórmula (6)*

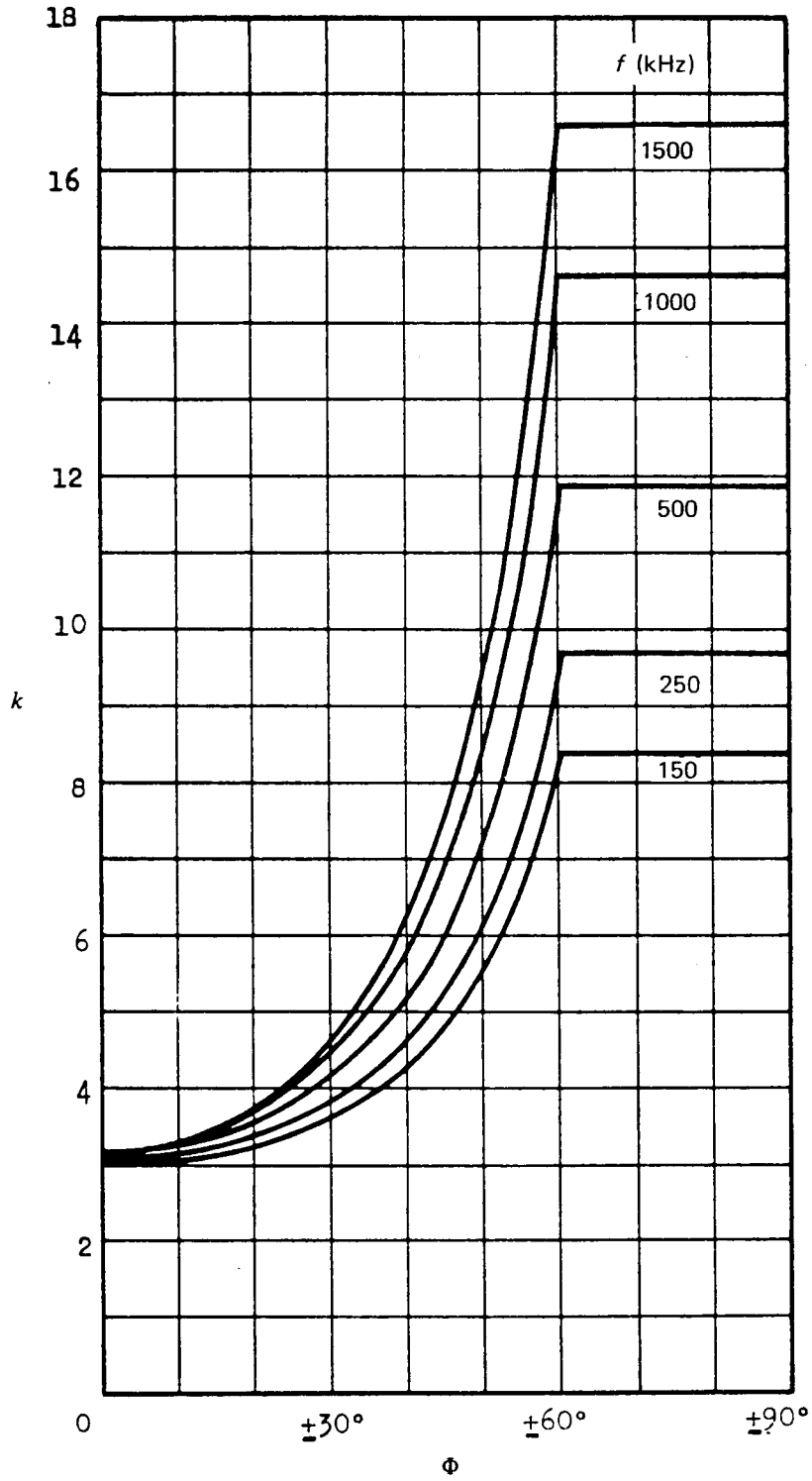


FIGURE 17

*Coefficient de pertes de référence dues à l'absorption ionosphérique défini par la formule (8)*

FIGURE 17

*Basic Loss Factor due to Ionospheric Absorption defined in Equation (8)*

FIGURA 17

*Factor de pérdida debida a la absorción ionosférica definido por la fórmula (8)*

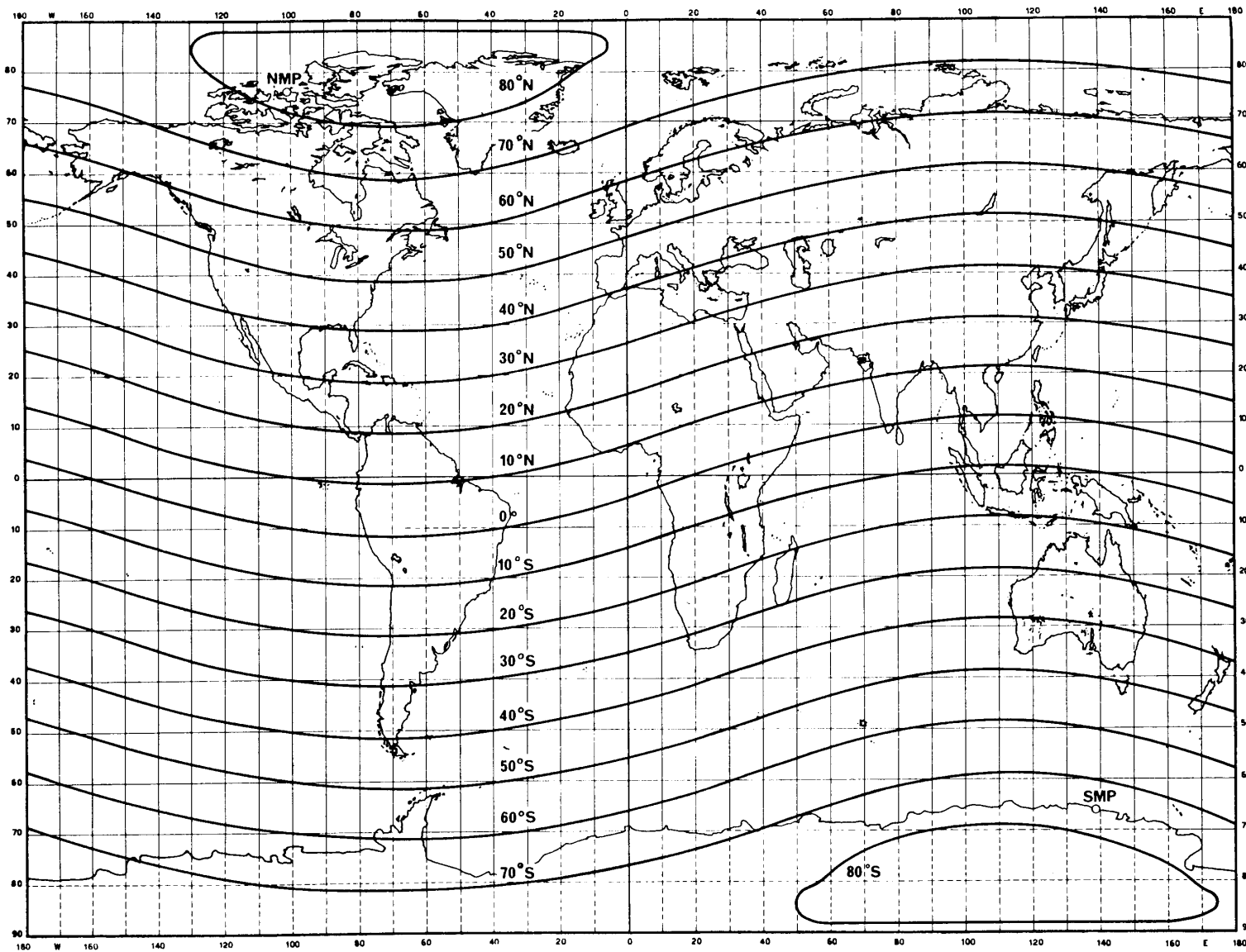


FIGURE 18 – FIGURA 18

Carte des latitudes géomagnétiques – Geomagnetic Latitude Map – Mapa de latitudes geomagnéticas

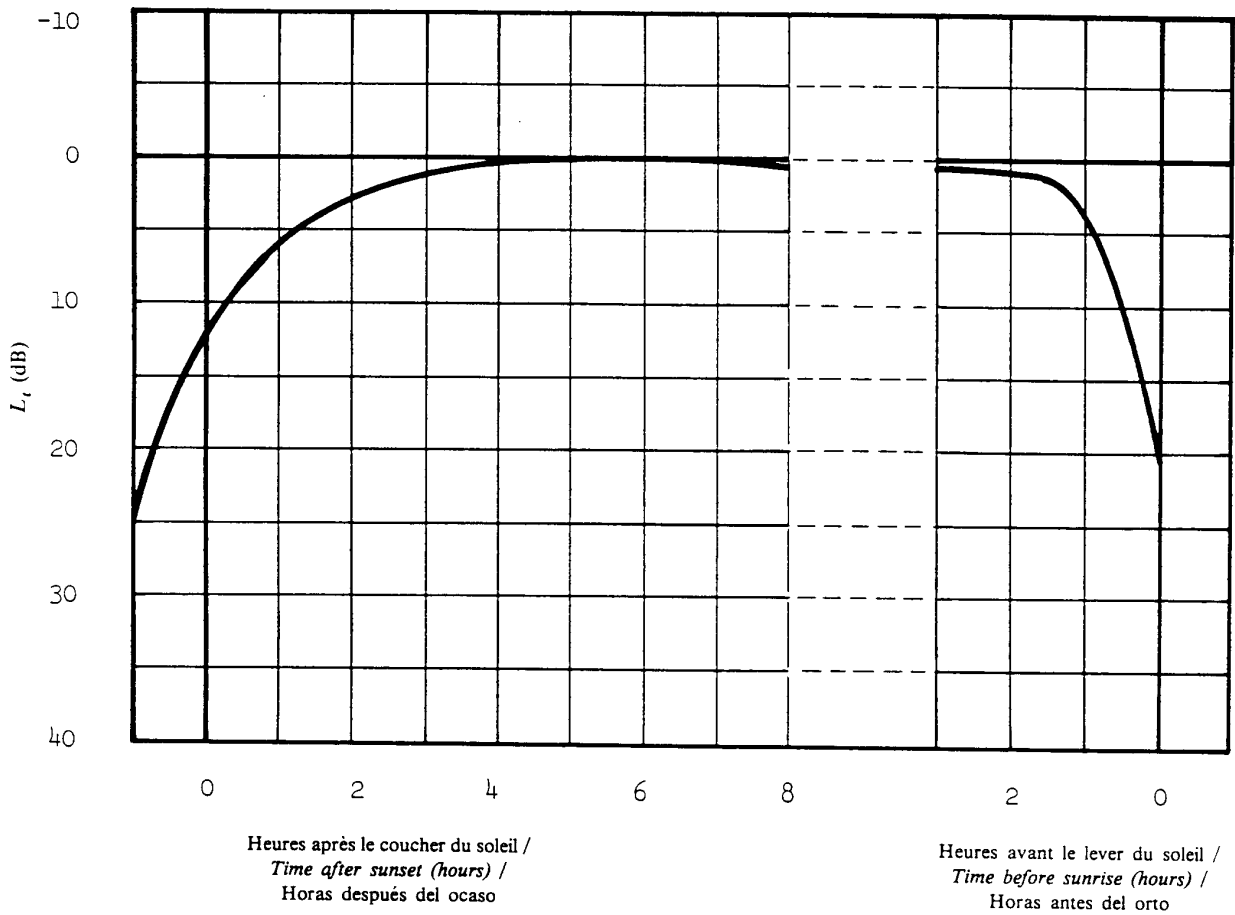


FIGURE 19 – FIGURA 19

*Coefficient d'affaiblissement horaire ( $L_t$ )  
 (entre le coucher et le lever du soleil)  
 Hourly Loss Factor ( $L_t$ )  
 (during the night)  
 Factor de pérdida horaria ( $L_t$ )  
 (entre el ocaso y el orto)*



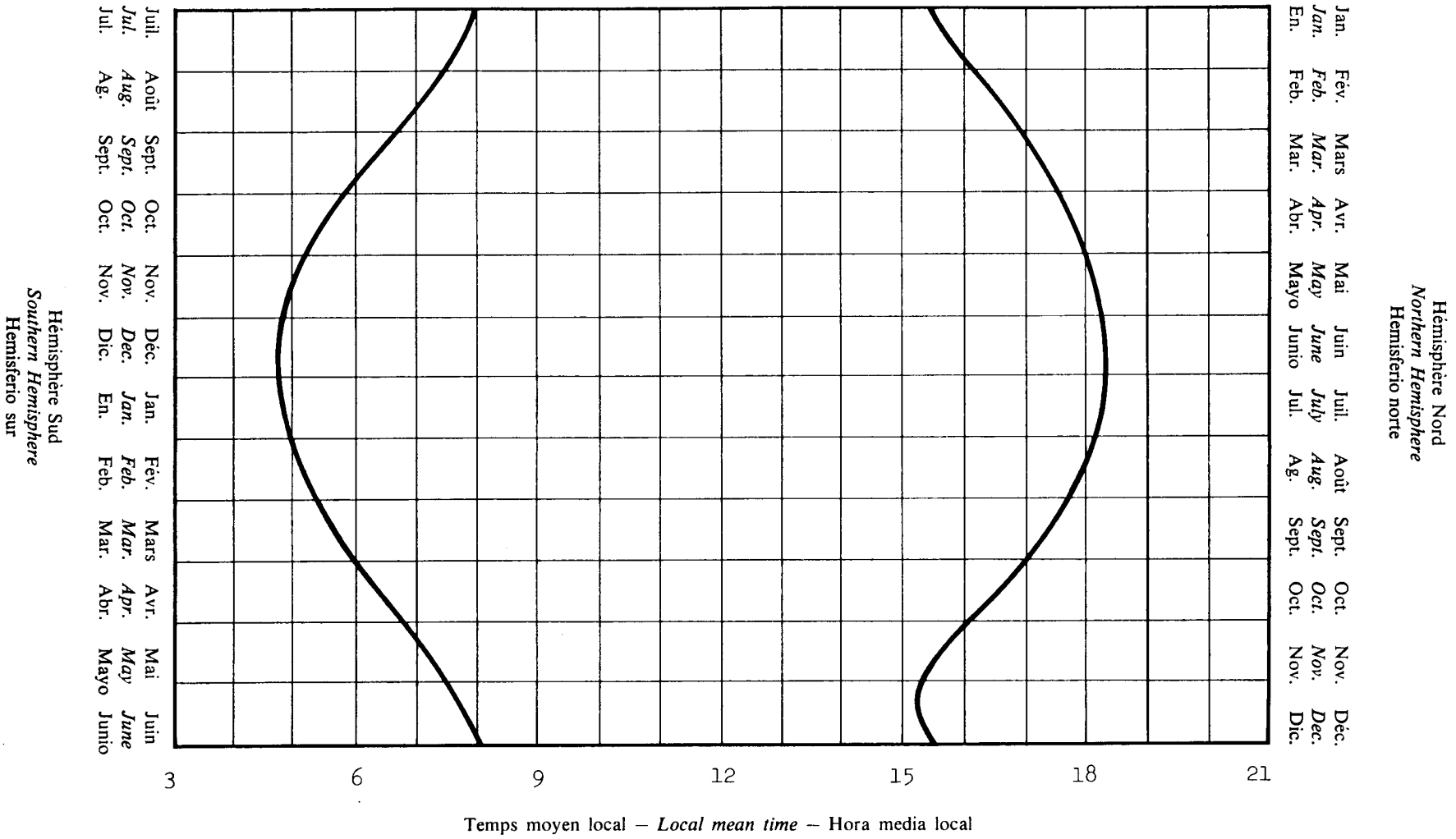


FIGURE 20 – FIGURA 20

*Limites de fonctionnement de jour aux latitudes tempérées (30° – 60°)*  
*Limits of Daytime Operation at Temperate Latitudes (30° – 60°)*  
*Limites de funcionamiento diurno en latitudes templadas (30° – 60°)*

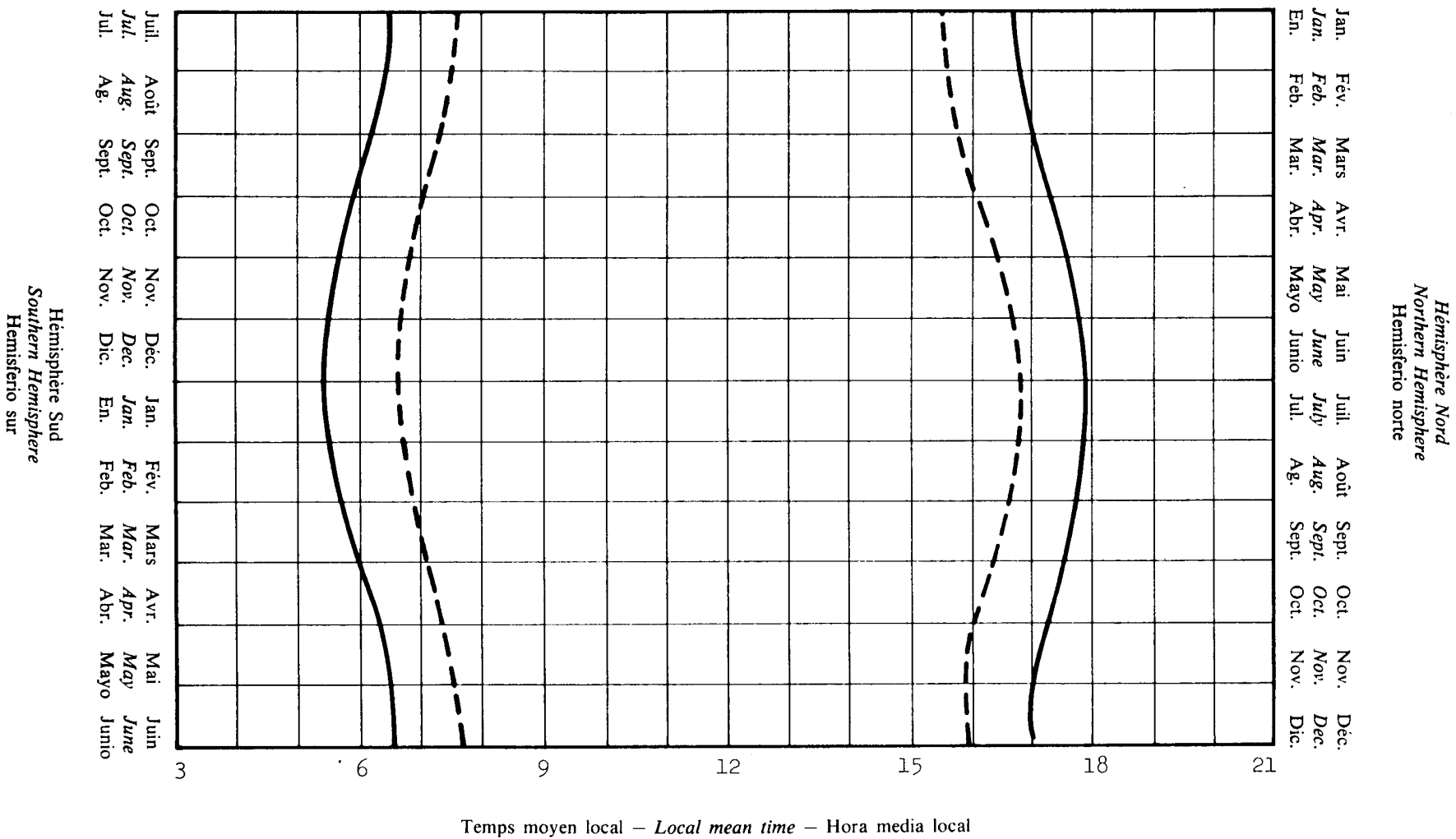


FIGURE 21 – FIGURA 21

*Limites de fonctionnement de jour aux latitudes équatoriales (0° – 30°)*  
*Limits of Daytime Operation at the Equatorial Latitudes (0° – 30°)*  
*Limites de funcionamiento diurno en latitudes ecuatoriales (0° – 30°)*

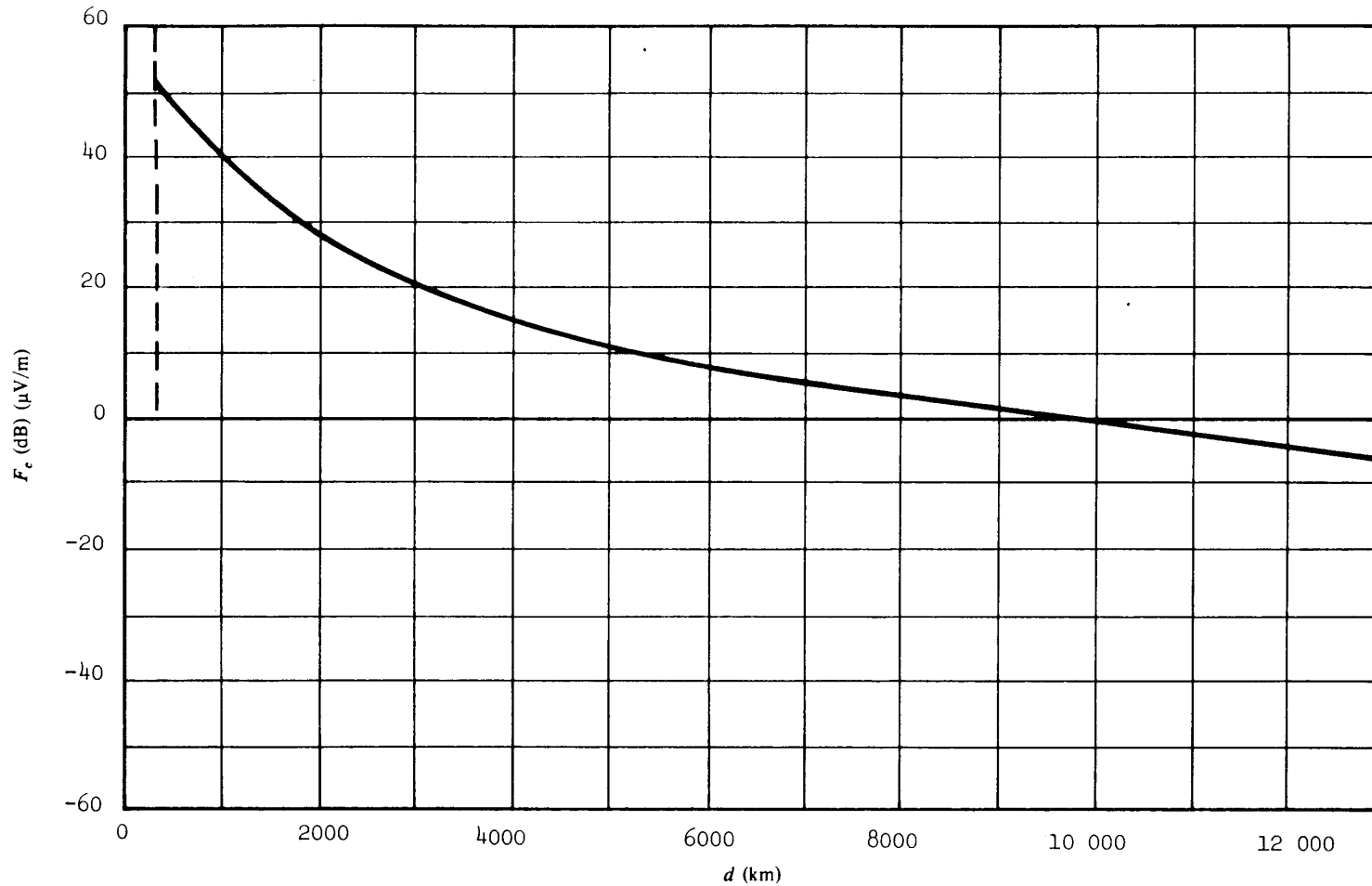


FIGURE 22

*Champ de l'onde ionosphérique – valeur médiane annuelle à minuit tirée de la courbe Nord-Sud du Caire*

FIGURE 22

*Annual Midnight Median Value of Sky-Wave Field Strength of Cairo North/South Curve*

FIGURA 22

*Intensidad de campo de la onda ionosférica – valor mediano anual a medianoche obtenido de la curva Norte-Sur de El Cairo*

## CHAPTER 4

**Broadcasting Standards**4.1 *Class of Emission*

The Plan is established for a system with double sideband amplitude modulation with full carrier (A3).

4.2 *Power*

The power of a transmitter is the carrier power in the absence of modulation.

4.3 *Radiated Power*

The radiated power is assumed to be the product of the nominal power of the transmitter and the gain of the antenna (relative to a short vertical antenna) without taking into account any losses\*. It is expressed either by the cymomotive force (c.m.f. in V or in dB relative to 300 V) or by the effective monopole radiated power (e.m.r.p. in kW or in dB relative to 1 kW).

4.4 *Protection Ratios*

In applying the Agreement, the values of the co-channel and adjacent channel protection ratios given below should be used unless otherwise agreed between the administrations concerned.

In the case of fluctuating wanted or unwanted signals, the values of the protection ratio apply for at least 50% of the nights of the year at midnight.

4.4.1 *Co-Channel Protection Ratios*

30 dB for a stable wanted signal interfered with by a stable or fluctuating signal,

27 dB for a fluctuating wanted signal interfered with by a stable or fluctuating signal,

8 dB for a wanted signal interfered with by a signal from a transmitter in the same synchronized network.

4.4.2 *Adjacent Channel Protection Ratio*

4.4.2.1 For a stable wanted signal the adjacent channel protection ratio in different cases is given below:

*Case A:* 9 dB when a limited degree of modulation compression is applied at the transmitter input, such as in good quality transmissions, and when the bandwidth of the audio-frequency modulating signal is of the order of 10 kHz;

*Case B:* 7 dB when a high degree of modulation compression (at least 10 dB greater than in the preceding case) is applied by means of an automatic device and when the bandwidth of the audio-frequency modulating signal is of the order of 10 kHz;

*Case C:* 5 dB when a limited degree of modulation compression is applied and when the bandwidth of the audio-frequency modulating signal is of the order of 4.5 kHz;

*Case D:* 0 dB when a high degree of modulation compression is applied by means of an automatic device and when the bandwidth of the audio-frequency modulating signal is of the order of 4.5 kHz.

The above figures are only valid when the same compression is applied to the wanted and unwanted emissions.

When two stations operating in adjacent channels use different bandwidths or different degrees of compression the higher of the two corresponding protection ratios shall be used, unless the two administrations concerned agree each to use the ratio corresponding to the interfering signal.

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\* In practice, for transmitters of nominal power equal to or less than 3 kW account may be taken of various losses if the antenna is short. However, these losses should not exceed:

5 dB for antennae of height less than  $0.1 \lambda$

2 dB for antennae of height between  $0.1$  and  $0.2 \lambda$

Moreover, in cyclonic zones (to be defined by the World Meteorological Organization) the nominal power of the transmitters indicated above can be up to 10 kW instead of 3 kW.

4.4.2.2 For a fluctuating wanted signal the adjacent channel protection ratio values mentioned in paragraph 4.4.2.1 shall be reduced by 3 dB.

4.5 *Minimum Value of Field Strength*

4.5.1 The following minimum values of field strength necessary to overcome natural noise (at 1 MHz) in the three zones A, B and C have been adopted:

Zone A: +60 dB/1µVm

Zone B: +70 dB/1µVm

Zone C: +63 dB/1µVm

4.5.2 Zones A, B and C in Regions 1 and 3 shown in Figure 23 are delineated as follows:

4.5.2.1 The dividing line between zones A and B begins at the point of intersection of parallel 20° N with the western border of Region 1 (No. 126 of the Radio Regulations, 1959). Thence it follows the parallel 20° N up to the point of intersection with meridian 20° E; thence by great-circle arc to the intersection of meridian 44° E with the Equator; thence it follows the Equator up to the intersection with meridian 80° E; thence by great-circle arc to the point with coordinates 100° E, 20° N; thence it follows the parallel 20° N up to the point of intersection with the eastern border of Region 3 (No. 128 of the Radio Regulations, 1959). The territory of the Islamic Republic of Mauritania lies entirely in zone A.

4.5.2.2 The dividing line between zones B and C begins at the point of intersection of parallel 6° S with the western border of Region 1 (No. 126 of the Radio Regulations, 1959); thence it follows the parallel 6° S up to the point of intersection with meridian 20° E; thence by great-circle arc to the point with coordinates 46° E, 26° S; thence by great-circle arc up to the point with coordinates 80° E, 20° S; thence it follows the parallel 20° S up to the point of intersection with the eastern border of Region 3 (No. 128 of the Radio Regulations, 1959).

4.6 *Nominal Usable Field Strength*

The nominal usable field strength values are shown in the following table in dB relative to 1 µV/m.

	Zone A	Zone B	Zone C
A. MF			
Daytime ground-wave service	63	73	66
Night ground-wave service*			
– rural areas**	71	81	74
– urban areas	77	87	80
Low-power channels	88	88	88
B. LF***	77	87	80

\* Where the transmitter power is sufficiently high for the ground-wave service area to be limited by fading due to the sky-wave of the same transmitter, a nominal usable field strength greater than the value given in the table may be chosen. It should not, however, be greater than the ground-wave field strength at the beginning of the fading zone. The fading zone may be defined by taking the protection ratio between the ground-wave and the sky-wave to be equal to the internal protection ratio applicable to a synchronized network i.e. 8 dB.

\*\* Some delegations consider a nominal usable strength of 65 dB/1µV/m to be suitable for rural areas in their countries.

\*\*\* Certain delegations consider a value of  $E_{nom}$  of the order of 73 dB/1µV/m to be appropriate in non-tropical rural areas.

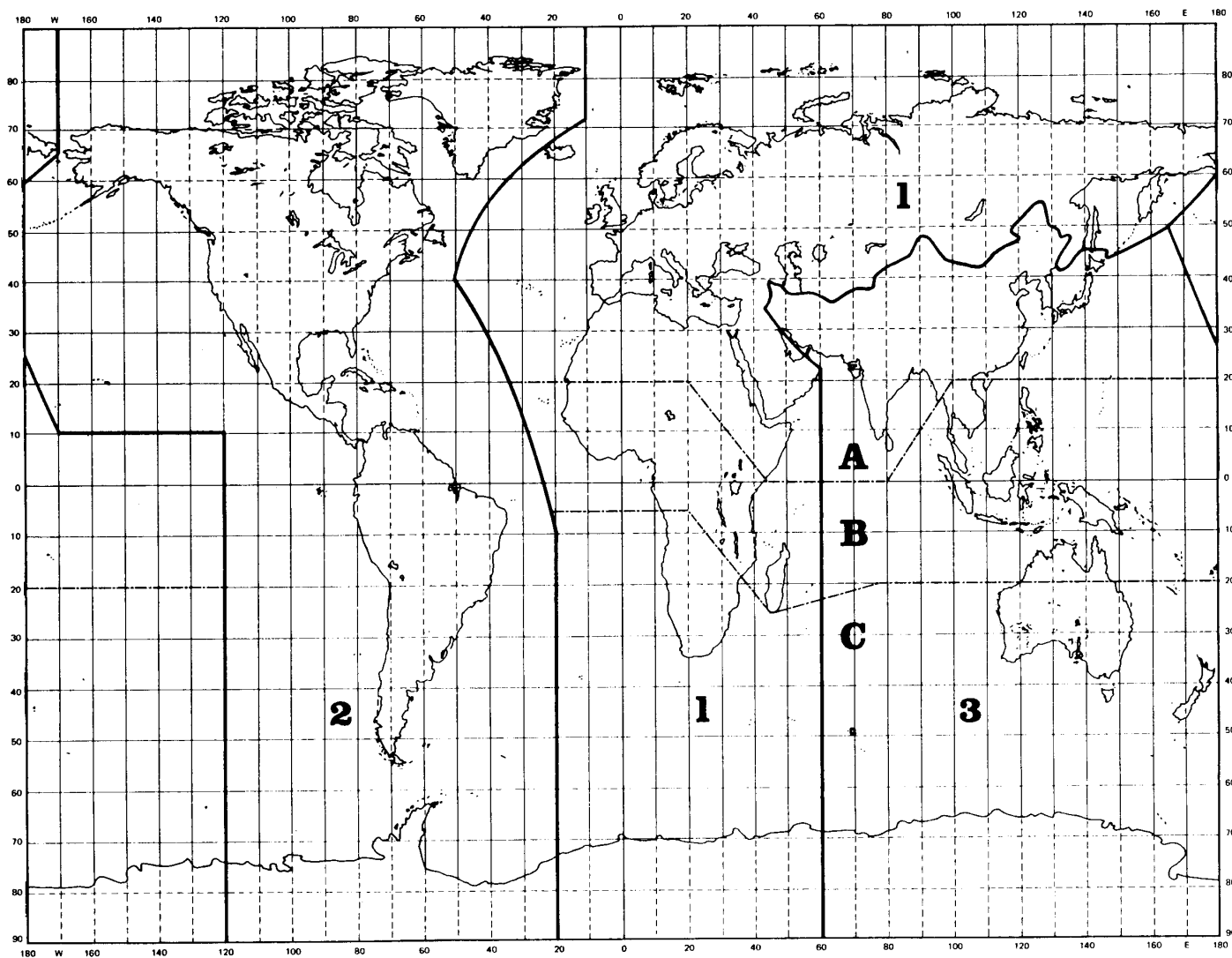


FIGURE 23 – FIGURA 23

*Carte indiquant les limites des zones A, B et C dans les Régions 1 et 3*

*Map showing Boundaries of Zones A, B and C in Regions 1 and 3*

*Mapa de las zonas A, B y C en las Regiones 1 y 3*

4.7 Usable Field Strength

In the presence of a group of transmitters the usable field strength is expressed by

$$E_u = \sqrt{\sum_i (a_i E_{ni})^2 + E_{min}^2}$$

where

$E_{ni}$  : is the field strength of the i-th unwanted transmitter (in  $\mu\text{V/m}$ )

$E_{min}$ : is the minimum usable field strength at the frequency in question (in  $\mu\text{V/m}$ ) (see C.C.I.R. Recommendation 499, 1974)

$a_i$  : is the radio-frequency protection ratio associated with the i-th unwanted transmitter, expressed as a numerical ratio of field strengths.

In the absence of data on man-made noise, the minimum field strength,  $E_{min}$ , can be calculated by correcting the minimum value given in 4.5.1 from the curve in Figure 24, which shows the variation  $\Delta a$  of that value with the frequency.

4.8 Low-Power Channels

4.8.1 The resultant field strength of a low-power transmitter network at the boundary of the territory of any other country should not exceed 0.5 mV/m, except by agreement between the administrations concerned. Where countries are separated by stretches of sea, the 0.5 mV/m field strength shall, in principle, not be exceeded at the mid-point of the over-sea path, unless the administrations concerned conclude other arrangements.

4.8.2 The resultant field strength in mV/m is calculated according to the formula:

$$\sqrt{E_1^2 + E_2^2 + E_3^2 + \dots}$$

where  $E_1, E_2, E_3, \dots$  are the values in mV/m of field strength due to each individual transmitter in a country operating in a given low-power channel. These values are determined with the aid of Figure 25 and only stations within 500 km of the border of a neighbouring country or of the mid-point of an over-sea path will be included in the calculation.

4.8.3 In the application of Article 4 (paragraph 3.3.1) of the Agreement, the table reproduced below will be used:

c.m.f. (V)	e.m.r.p. (kW)	Limiting distance (km)
300	1.0	600
260	0.75	500
212	0.5	400
150	0.25	200, 300*
95	0.1	70, 250*
67	0.05	50, 200*

\* Values for a propagation path over sea.

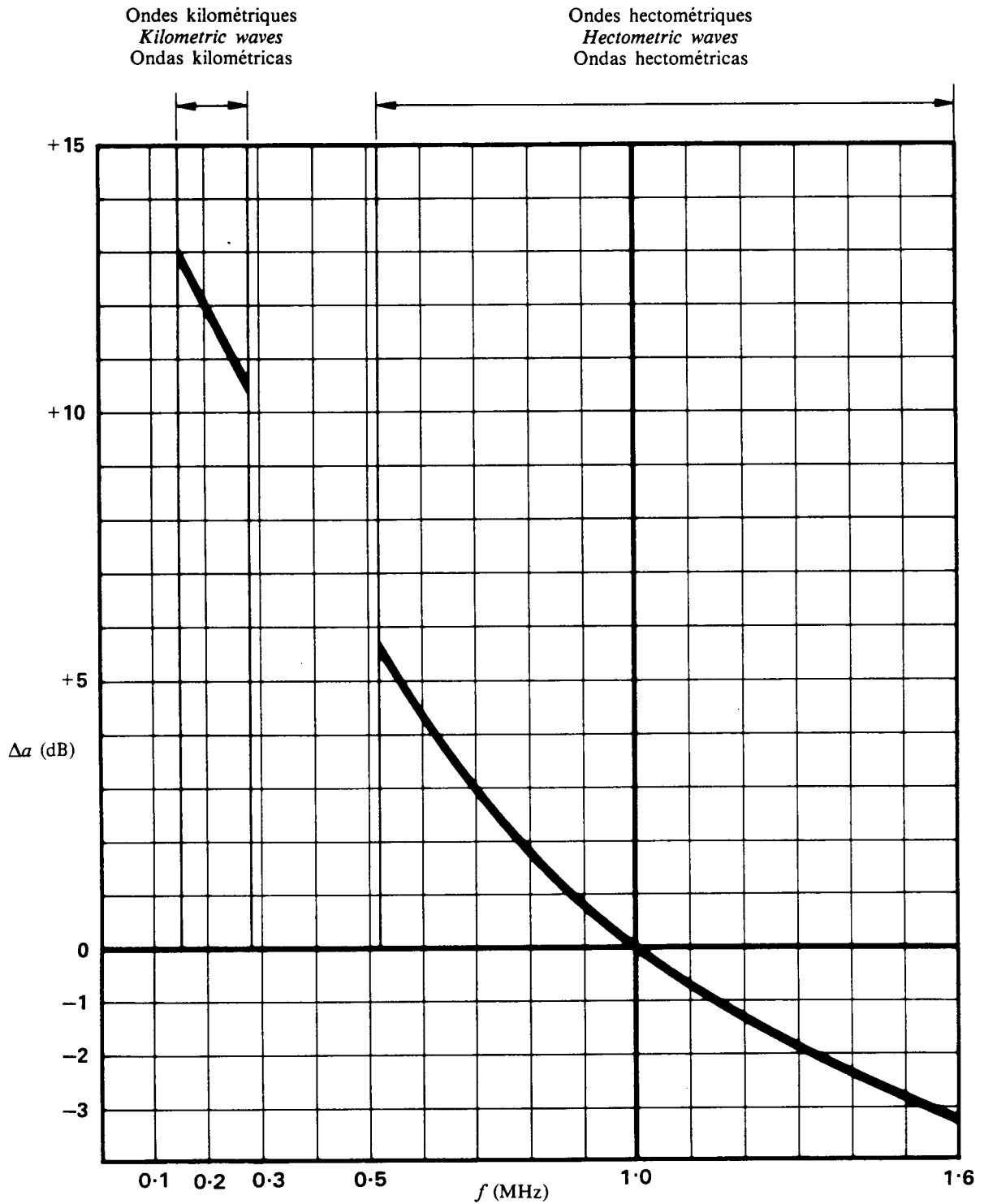


FIGURE 24 - FIGURA 24

*Variation de la valeur minimale du champ en fonction de la fréquence*  
*Variation of Minimum Value of Field Strength with the Frequency*  
*Variación del valor mínimo de la intensidad de campo en función de la frecuencia*



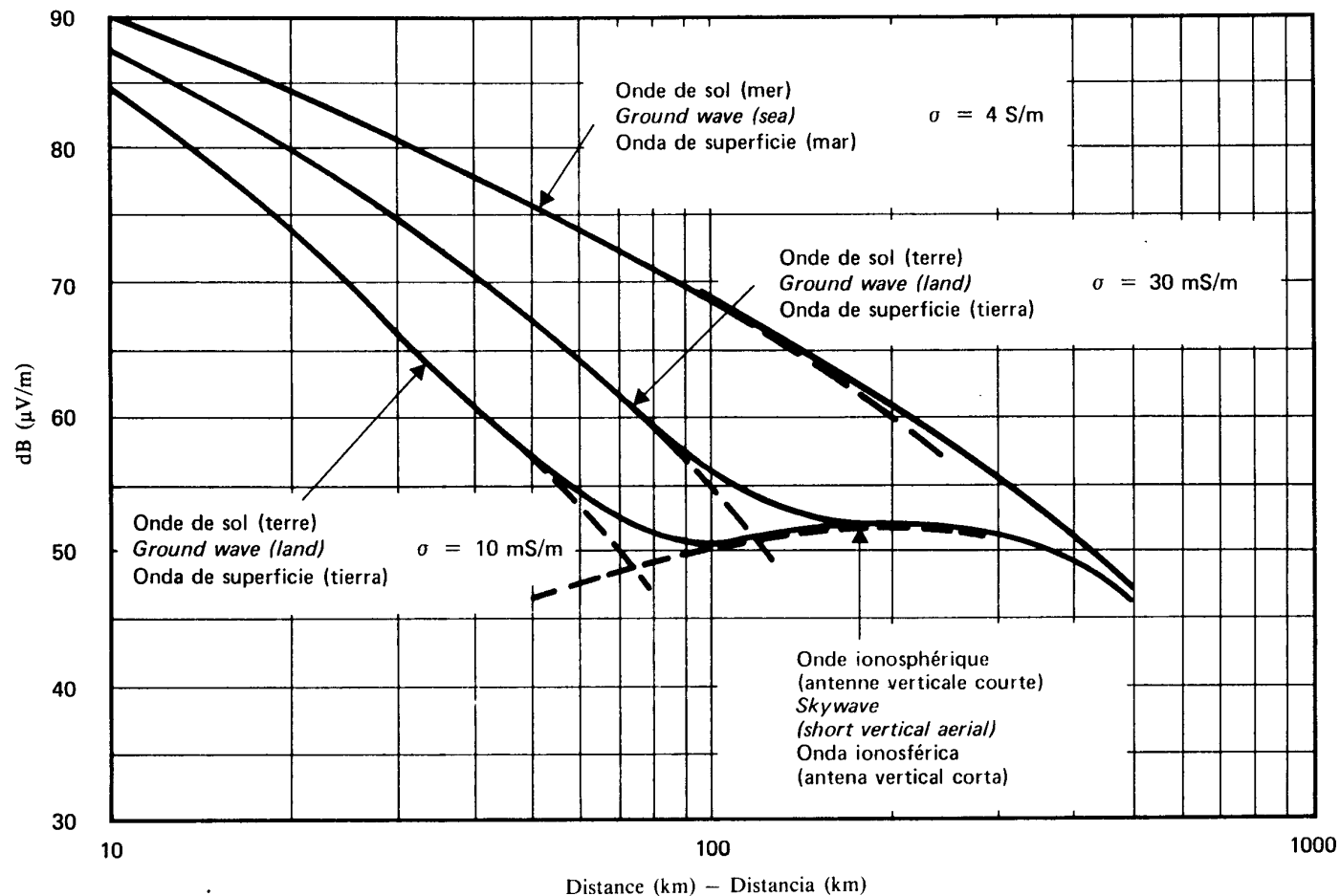


FIGURE 25 – FIGURA 25

*Courbes pour la planification des canaux pour émetteurs de faible puissance ( $f = 1,5 \text{ MHz}$ )*

*Curves for Planning Low-Power Channels ( $f = 1.5 \text{ MHz}$ )*

*Curvas para la planificación de canales de baja potencia ( $f = 1,5 \text{ MHz}$ )*

Champ en dB ( $\mu\text{V/m}$ ) pour une p.a.r.v. de 1 kW ou une f.c.m. de 300 V, dans le plan horizontal  
 Field strength dB ( $\mu\text{V/m}$ ) for an e.m.r.p. of 1 kW or a c.m.f. of 300 V, in the horizontal plane  
 Intensidad de campo en dB ( $\mu\text{V/m}$ ) con relación a 1 kW de p.r.a.v. (f.c.m. = 300 V) en el plano horizontal

#### 4.9 *Transmitter Siting Tolerances*

The tolerances for the siting of transmitters are as follows:

4.9.1 Where both the interfering and the affected transmitters (on the same or adjacent channels) are situated in the part of Region 3 which is North of 11° S or where only one of them is located in this part of Region 3 but the mid-point between the two transmitters is also located in this Region, the tolerance is given in column  $\Delta d_t$  of table 1 relating to the MF band.

4.9.2 For other transmitters, the tolerances are as follows:

4.9.2.1 When a transmitter is situated inland, the tolerable re-siting distance is given in columns  $\Delta d_t$  of table 1 or table 2, as the case may be, provided that the new site is at a distance of not less than 100 km from the coast (MF band) or 200 km (LF band).

4.9.2.2 When the distance of the transmitter from the coast is, or becomes, less than 100 km for MF or 200 km for LF and if the transmitter is moved towards a station on the same or the adjacent channel in the direction of the sea, it is further required that the distance between the transmitter and the coast shall not be reduced by more than is shown in  $\Delta d_m$  of tables 1 and 2.

TABLE 1

MF Band

Distance between transmitters (km)		$\Delta d_t$ (km)	$\Delta d_m$ (km)
same channel	adjacent channel		
> 1 000	> 700	20	2
500 – 1 000	200 – 700	10	2
< 500	< 200	5	2

TABLE 2

LF Band

Distance between transmitters (km)		$\Delta d_t$ (km)	$\Delta d_m$ (km)
same channel	adjacent channel		
> 1 000	> 400	20	5
≤ 1 000	≤ 400	10	5

## **PROTOCOLS**



**FINAL PROTOCOL\***  
**to the**  
**Regional Agreement Concerning the Use by the Broadcasting**  
**Service of Frequencies in the Medium Frequency Bands in**  
**Regions 1 and 3 and in the Low Frequency Bands in Region 1**

At the time of signing the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1, the undersigned delegates take note of the following statements forming part of the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975:

No. 1

*For the Kingdom of Morocco:*

Among the frequency requirements dealt with by the Conference, the Delegation of the Kingdom of Morocco has noted, on the one hand, two assignments for El Ayoun and two for Villa Cisneros and, on the other hand, two assignments for Sebta and Melillia submitted by Spain.

The Moroccan Delegation fully supports the principle adopted at the First Session of the Conference that all countries, large and small, have equal rights.

The Moroccan Delegation bears in mind the efforts made by the Kingdom of Morocco in its approaches to Spain and to the appropriate international authorities to restore to Morocco its lawful rights to the parts of its territory which remain under Spanish domination.

The Delegation of the Kingdom of Morocco, aware of the purely geographical nature of radio frequency assignments, declares that its participation in the preparation of the present Plan for Regions 1 and 3 and its acceptance of the frequency assignments for the stations of El Ayoun, Villa Cisneros, Sebta and Melillia in no way signify a renunciation of the claims formulated by the Government of the Kingdom of Morocco to the parts of its territory in which these stations are situated.

No. 2

*For Spain:*

With reference to its request for assignments for El Aaiun and Villacisneros, the Spanish Delegation wishes to state that it makes the request in accordance with Article 73 of the United Nations Charter, solely and exclusively in the interests of the inhabitants of Western Sahara, without prejudice to the results of the current process of decolonization.

As far as the Spanish stations of Ceuta and Melilla are concerned, the Spanish Delegation wishes to state that both towns are an integral part of Spanish territory and that it is not prepared to accept any discussion on that subject at all.

No. 3

*For the Islamic Republic of Mauritania:*

Among the frequency requirements dealt with by the Conference, the Delegation of the Islamic Republic of Mauritania has noted two assignments for El Aiun and two for Villa Cisneros submitted by the Delegation of Spain.

The Delegation of the Islamic Republic of Mauritania notes that these requirements do not meet, either quantitatively or qualitatively, the broadcasting coverage needs of this part of its territory. Having regard to the principle adopted by the Conference that all countries, large and small, have equal rights, it therefore considers that these requirements may be supplemented by the Islamic Republic of Mauritania at a later stage in conformity with the provisions laid down for dealing with the frequency requirements of non-Member countries not represented at this Conference.

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\* *Note by the General Secretariat:* The texts of the Final Protocol are shown in the chronological order of their deposit. In the table of contents these texts are grouped in the alphabetical order of country names.

The Delegation of the Islamic Republic of Mauritania, aware of the purely geographical nature of frequency assignments, declares that its participation in the preparation of the present Plan for Regions 1 and 3 and its acceptance of the frequency assignments for the stations of El Aiun and Villa Cisneros in no way signify a renunciation of the claims formulated by the Government of the Islamic Republic of Mauritania to the parts of its territory in which these stations are situated.

## No. 4

*For the Republic of Afghanistan:*

The Delegation of the Republic of Afghanistan reserves its Government's right to take any measures it may deem necessary to protect its interests if other countries fail to observe the provisions adopted by the Conference.

## No. 5

*For Algeria (Algerian Democratic and Popular Republic):*

The Algerian Delegation, having noted the frequency assignment requirements for El-Ayoun and Villa Cisneros submitted by the Delegation of Spain, and having regard to the decolonization process now in progress under the auspices of the United Nations, declares that, by virtue of the principle of the right of peoples to self-determination, any arrangements adopted by the Conference concerning the Western Sahara cannot, when the time comes, either affect or limit the Sahraoui people in the exercise of their sovereign rights in respect of such arrangements.

## No. 6

*For France:*

With regard to the station Sud-Radio 819 kHz, the French authorities, in conjunction with the competent administrations for the Valleys of Andorra, will seek practical means of installing a directional antenna at the Sud-Radio station in order to reduce the radiation from that station in the directions of Warsaw (sector between azimuths 45° and 55°) and Rabat (sector between azimuths 210° and 225°).

The Administrations concerned will carry out a bilateral study on these arrangements with a view to the desired coordination.

## No. 7

*For the Syrian Arab Republic:*

## A

The Administration of Syria cannot agree to the assignment of frequency 666 kHz to radio broadcasting transmitter in Greece with power 250 kW at night because it decreases the usable distance to the Syrian existing transmitter to 19 km.

The Administration of Syria reserves the right to take all requisite action with respect to the transmitter to avoid prejudice to radio broadcasting and to the economic interests connected therewith.

## B

The Administration of Syria cannot agree to the assignment of frequency 954 kHz to Turkish station Trabzon which decreases the coverage area of the Syrian transmitter to 14 km with interference more than 100 dB.

## C

The Administration of Syria cannot agree with the harmful interference from Bulgarian high power transmitter working on frequency 747 kHz.

The Administration of Syria requests the Administration of Bulgaria to make every effort to reduce the interference level.

No. 8

*For the Federal Republic of Nigeria:*

The Delegation of the Federal Republic of Nigeria notes that as a result of a proposed increase in power to 1 000 kW by the Administration of Greece of their assignment on 729 kHz contained in the Copenhagen Plan for 150 kW Nigeria's assignment in the same frequency in the African Plan (Geneva) 1966 will suffer harmful interference at a level of 88 dB.

It is recalled that this interference has been brought to the attention of the Greek delegation and that of the I.F.R.B. and appeals made to Greece to take measures to reduce it.

Since the level of interference to the assignment of Nigeria on this frequency has remained the same, the Federal Republic of Nigeria wishes to reserve its right to increase power and direct the beam of its transmission on this frequency anywhere in order to overcome this interference without any further consultation with Greece.

No. 9

*For Ethiopia:*

The Delegation of Ethiopia reserves for its Government the right to take any measures it sees fit to safeguard its national broadcasting coverage if other countries fail to observe the technical provisions adopted by the Conference as the means of minimizing interference.

No. 10

*For New Zealand:*

A

New Zealand reserves the right to take such action as it may consider necessary to safeguard its interests should any Member fail to observe the provisions of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1, or its Annexes or the Protocols attached thereto, or should reservations by other countries jeopardize its broadcasting services.

B

The Kingdom of Tonga reserves the right to take such action as it may consider necessary to safeguard its interests should any Member fail to observe the provisions of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1, or its Annexes or the Protocols attached thereto, or should reservations by other countries jeopardize its broadcasting services.

No. 11

*For the United Kingdom of Great Britain and Northern Ireland:*

A

To facilitate the success of the Conference the United Kingdom restricted its stated requirements to the minimum necessary to maintain the coverage of its existing services. In support of this position the United Kingdom also stated in an attachment to its submission, that in the event of increasing interference to its services it might be necessary to raise power to a level higher than set out in its submission.

B

Interference to United Kingdom services will be greatly increased by proposed new stations on 648 kHz, principally in Albania, and by a substantial increase in power by the same country on 1 089 kHz. In the face of a refusal to negotiate by Albania the United Kingdom reserves the right to make the power increases it deems necessary to maintain its present coverage on 648 and 1 089 kHz.

## No. 12

*For France:*

With regard to the assignment to France for Sarrelouis station (Europe I) 182 kHz, 2 000 kW, the French delegation wishes to state that the problem of substantial interference in the Sarrelouis station service area caused by the Oranienburg station in the German Democratic Republic has not been satisfactorily settled during the Conference. The countries interested in the use of this channel have agreed to continue to seek a solution after the Conference.

## No. 13

*For Fiji:*

The Delegation of Fiji reserves the right of its Government to take such action as it may consider necessary to protect its interests should any Member fail to observe the provisions as laid down in the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3, or its Annexes or the Protocols attached thereto, or should reservations by other countries jeopardize Fiji's Broadcasting Services.

## No. 14

*For the United Republic of Cameroon:*

The Delegation of the United Republic of Cameroon, declares that its Administration reserves the right to take any action required to safeguard its interests should the reservations entered by other delegations on behalf of their administrations or failure to respect the Agreement and its Annexes and the Protocols attached to it prove prejudicial to the proper functioning of its broadcasting service.

## No. 15

*For France and Greece:*

The French and Greek Administrations have agreed to carry out a coordinated study at a later date with a view to reducing mutual interference between their stations operating on frequencies 792, 945, 1 350, 1 404 and 1 494 kHz.

## No. 16

*For the Republic of the Ivory Coast:*

The Delegation of the Republic of the Ivory Coast declares that it reserves the right of its Government to accept or refuse any reservations or declarations formulated in the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, which might involve modification of or interference with its broadcasting services.

## No. 17

*For Greece:*

The Delegation of Greece notes that a very large number of frequency requirements, some of them in channels used by Greece in conformity with the Copenhagen Convention Plan, are liable to create particularly difficult problems for the Greek Administration.

Since it has not been possible at the Broadcasting Conference either to elaborate a Plan based on technical principles or to coordinate frequency requirements satisfactorily, the Greek Administration finds that the service areas of its transmitters are being very substantially reduced. It is therefore under a duty to take all measures required to protect its transmitters. Particularly as regards frequency 729 kHz, the Greek Administration reserves the right *inter alia* to increase the power of the Athens transmitter in case an agreement with the Administration of the United Arab Emirates should prove impossible or fail to result in a change of the frequency claimed by that Administration.

The Greek Administration also reserves the right to use bandwidths of more than 9 kHz in case Greek transmitters should suffer interference from emissions on adjacent channels having a bandwidth of more than 9 kHz.



No. 18

*For the German Democratic Republic:*

The Delegation of the German Democratic Republic has the honour to state—in connection with the signature of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 and referring to the indication of frequencies of stations operated in Berlin (West) – that it will take note of these provisions only to the extent as they are in accordance with the Quadripartite Agreement of 3 September 1971.

No. 19

*For the Union of Soviet Socialist Republics:*

The Delegation of the Union of Soviet Socialist Republics has the honour to state—in connection with the signature of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 and referring to the indication of frequencies of stations operated in Berlin (West) – that it will take note of these provisions only to the extent as they are in accordance with the Quadripartite Agreement of 3 September 1971.

No. 20

*For Mauritius:*

The Delegation of Mauritius reserves its Government's right to take any measures deemed necessary to protect its interests if Members should in any way fail to observe the provisions of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3); Geneva, 1975, or if reservations formulated by other countries endanger the smooth operation of its broadcasting services.

No. 21

*For Algeria (Algerian Democratic and Popular Republic):*

The Delegation of the Algerian Democratic and Popular Republic reserves its Government's right to take all necessary measures to protect its interests in relation to its broadcasting service.

No. 22

*For Australia:*

The Delegation of Australia reserves its Government's right to use the three channels designated as Low Power Channels for MF Broadcasting Services with an e.m.r.p. of greater than 1 kW (i.e. c.m.f. of greater than 300 V) while at the same time observing the interference limitations for the Low Power Channels as defined in paragraph 4.8 of Annex 2 of the Agreement.

No. 23

*For Pakistan:*

*Considering*

that it has not been possible to achieve, in general, the standards of quality set up by the First Session of the Conference, due to excessive projected requirements, which will deteriorate the interference situation on the assignments of Pakistan already in use and which enjoy a relatively better position at the present moment;

that a very large number of projected transmitters have been demanded by certain countries for the so-called exclusive daytime operations;

that the only safe manner to operate these transmitters is strictly on the basis of non-interference to other countries;

that the World Administrative Radio Conference, 1979 is likely to review the Table of Frequency Allocations in the Radio Regulations;

that the said Conference may allocate the use of the low frequency band for broadcasting in Region 3;

*Pakistan*

does not accept any obligations of the Agreement in *only so far*, as these relate to those assignments in the Plan, which indicate exclusive daytime operation and do not carry a commitment in the remarks column that those will be operated on the basis of non-interference to other countries;

does not recognize that the low frequency assignments existing in the Plan, have any priority over the requirements of Region 3 countries that may arise at the time of the review of this low frequency Plan in the future conference;

reserves its right to take any measure it may deem necessary to protect its interests under conditions created by the failure of the other countries to observe the provisions of the Agreement and the Plan.

## No. 24

*For Belgium:*

The Belgian Administration points out that it had requested an LF assignment. To contribute to the success of the planning activities, it agreed to combine its requirement with that of the Netherlands. Hence the frequency of 173 kHz allocated to the Netherlands will also be used for the transmission of Belgian programmes.

This solution (173 kHz), however, is far from satisfactory, because:

- at night, the usable field strength is more than 100 dB, which drastically reduces the service area;
- by day, it will in all likelihood not always be possible to ensure adequate protection against the French stations using adjacent channels.

The Belgian Administration hopes nevertheless that it will be possible to provide an acceptable service on this channel; but it reserves the right, should experience prove it to be necessary and in keeping with the provisions of the present Agreement, to use the frequency 281 kHz, if the shared band 255-285 kHz is made available to the broadcasting service.

## No. 25

*For the Kingdom of Saudi Arabia and the Socialist Federal Republic of Yugoslavia:*

The two Administrations have agreed on the following:

1. The corresponding diagram to be found in the Final Acts of the Conference has been taken as a basis for time schedule of the transmitter of the Kingdom of Saudi Arabia operating during daytime on frequency 612 kHz. Consequently, the above mentioned transmitter will be assigned in the Plan with the following operating hours:
  - a) 1 April to 31 October from 0300 – 1600 GMT
  - b) 1 November to 31 March from 0500 – 1400 GMT.
2. The two Administrations are willing to cooperate in investigating further improvements on the shown solution to the satisfaction and needs of both parties.

## No. 26

*For Lebanon:*

Since the usable field strength resulting from the interference which may be caused to all the frequencies assigned to Lebanon in the Plan is very high, the Lebanese Administration reserves the right to take all useful and indispensable measures to improve the protection of its broadcasts.

## No. 27

*For the Republic of Korea:*

1. The Delegation of the Republic of Korea, on behalf of its Government, reserves the right of its Government to take such action as it may deem necessary to safeguard its broadcasting services:
  - a) should any frequency incorporated in the Plan without prior consultations with the Delegation cause harmful interference to its channels in the Plan,

- b) should any Contracting Member to the Agreement fail to comply with the Agreement, its Plan or the Protocols attached thereto, thus causing adverse effect to its broadcasting services, or
- c) should any reservations by other countries jeopardize its broadcasting services.

2. The Delegation further reserves the right to transfer the frequencies of certain existing transmitters to the nearest new channels with the existing power within the interference limit of the Agreement, should the Conference fail to accept them into the Plan.

No. 28

*For the Republic of Uganda:*

The Administration of the Republic of Uganda cannot agree to a proposed increase of power to 500 kW, instead of the operating power of 100 kW, of a radio broadcasting station situated in Cyprus and operated by the United Kingdom on a frequency assignment of 639 kHz because it increases the usable field strength of a Ugandan operating station, as in the African Plan, Geneva, 1966, to 97 dB, thus reducing the usable distance to an unacceptable distance.

In the circumstances, therefore, the Administration of the Republic of Uganda reserves the right to increase the power of its station on 639 kHz frequency assignment and/or to make directional antenna, as a result of the increased interference in order to provide a broadcasting service within Uganda and to which service the people of Uganda are entitled.

No. 29

*For the Kingdom of Saudi Arabia and the United Republic of Tanzania:*

The Kingdom of Saudi Arabia and the United Republic of Tanzania

*recognizing*

the need for further discussions on frequency assignments 531 kHz and 648 kHz in which the latter suffers a high level of co-channel interference from the former;

will endeavour to do everything possible through bilateral discussions after the Conference to reach a satisfactory solution.

Should these discussions fail, the United Republic of Tanzania reserves the right to increase its power in order to ensure satisfactory coverage in its territory.

No. 30

*For Greece:*

The Greek Delegation wishes the following comments to be entered in the “Remarks” column of the Plan:

- a) It is desirable that the Administrations of Greece and the United Arab Emirates should conduct a coordinated study of the problems which will arise from the possible operation of the Sadiyat station on the frequency 729 kHz, which has been the frequency of the Athens station since the Copenhagen Plan.
- b) With regard to the frequency 1 260 kHz, the Greek Administration wishes to consider, in conjunction with the Polish Administration, the means of reducing the total field strength of the synchronized Polish network in the direction of Greece in order to obtain 85 dB at Rhodes.
- c) It is likewise desirable that a coordinated study should be undertaken by the Greek and Italian Administrations with a view to reducing the mutual interference between their stations on the frequencies 1 008 and 1 116 kHz.

No. 31

*For the Republic of the Senegal*

The Delegation of the Republic of the Senegal reserves the right of its Government to take all the measures it sees fit to protect the coverage of its national broadcasting service if other countries fail to observe the provisions adopted by the present Conference.

## No. 32

*For the Vatican City State:*

The Delegation of the Vatican City State, at the conclusion of this Conference, notes with regret that the Plan annexed to the Agreement does not meet the criteria established at the First Session, and that in particular, the basic consideration of “the retention and, possibly, improvement of the coverage of the existing broadcasting stations to the maximum extent possible, having regard to the commitments of many countries” (Report of the First Session, page 24) has not been observed.

Hitherto, in fact, the Vatican City State, in agreement with a number of countries, has operated a sky-wave service, which is indispensable to it, on a frequency of 1 529 (1 530) kHz assigned to it under the Copenhagen Plan. The situation arising from the new Plan creates far less favourable conditions for the continuance of this service.

In relation to some of the more difficult outstanding problems, the Administration of the Vatican City State intends to continue negotiations with the administrations concerned with a view to reaching a less unfavourable solution.

## No. 33

*For the Socialist Federal Republic of Yugoslavia:*

In view of the fact that the Conference has failed to put into practice the planning principles adopted at the First Session and reaffirmed at the Second Session, the Plan does not fully meet in accordance with the spirit and the letter of Chapter 9 of the Report of the First Session, the justified acknowledged requirements of certain administrations, in particular, those of the developing countries and of countries where special conditions prevail.

Being a federal, multinational State, with a number of different languages, Yugoslavia has organized its broadcasting services on the basis of its administrative subdivisions and the number of languages to be taken into account.

Furthermore, Yugoslavia is in a special geopolitical situation, lying as it does in the centre of a European broadcasting subregion and having a large number of neighbouring countries, a particularly unfavourable relief and a long and highly indented coastline, with numerous islands.

Yugoslavia is accordingly exposed to the effects of the broadcasting transmitters of more than 45 countries which, in view of the planning methods adopted at the Conference, makes any coordination extremely difficult.

In addition, no account has been taken of the fact that Yugoslavia submitted no frequency requirements in the LF band, which inevitably increases its requirements in the MF band.

The final result, which is clearly revealed in the solutions adopted, shows that the justified requirements of Yugoslavia in general and, more particularly, those of some parts of its territory, have not been met.

While commending the efforts of the participants in the Conference to remedy the difficult situation in the frequency spectrum, Yugoslavia will continue its own efforts to solve outstanding problems through bilateral and multilateral negotiations.

At the same time, and in the spirit of the principles adopted at the Conference, Yugoslavia reserves the right to protect its interests in broadcasting matters and, if necessary, to take any action it may deem useful and appropriate.

## No. 34

*For the Socialist Federal Republic of Yugoslavia:*

The Delegation of the Socialist Federal Republic of Yugoslavia, in signing the Frequency Assignment Plan, regrets that it has not been possible to reach a compromise with the Spanish delegation concerning the protection of:

- the frequency 684 (683) kHz assigned to the Belgrade station as an exclusive frequency under the Copenhagen Plan and used since that time;
- the frequency 1 134 (1 133) kHz assigned to the Zagreb station as an exclusive frequency under the Copenhagen Plan and used since that time;
- the frequency 918 (917) kHz assigned to the Ljubljana station as an exclusive frequency under the Copenhagen Plan and used since that time.

The Yugoslav Delegation further notes with regret, that when the Spanish Administration put into use its Seville station on the frequency 684 (683) kHz, its synchronized station network on the frequency 1 134 (1 133) kHz, and its Oviedo station on the frequency 918 (917) kHz, it failed to coordinate with the Yugoslav Administration and that no such coordination has been effected up to the time of the Conference.

The fact that the power of the Seville station has been successively increased has compelled the Yugoslav Administration to raise the power of its Belgrade station to protect itself from the harmful interference caused by the Seville station, mainly owing to the proximity of the two stations.

In view of the above, the Socialist Federal Republic of Yugoslavia reserves the right to re-examine this question with the Spanish Administration after the Conference in the hope of being able to reach an agreement.

No. 35

*For the Czechoslovak Socialist Republic:*

In signing the Agreement and the Plan thereto annexed, the Czechoslovak Delegation states that it cannot agree to the assignment:

- a) of the frequency 702 kHz to the stations of Andorra, 600 kW, and Umraniye (Turkey), 150 kW, for night operation, since these transmitters, which operate without regard to the international provisions relating to the coordination, registration and use of frequencies, seriously reduce the area covered by the synchronized Czechoslovak network which has already been operating on this frequency for some decades;
- b) of the frequency 954 kHz, for night operation, to the station of Trabzon (Turkey), 300 kW, which is not yet in use, since the operation of this station would halve the area at present covered by another Czechoslovak synchronized network.

The Czechoslovak Delegation reserves for its country the right to take any technical measure required to ensure a satisfactory broadcasting service in the areas of Czechoslovakia concerned.

At the same time, it hopes that it will be possible, through further discussions with the countries in question, to find acceptable solutions to these problems.

No. 36

*For the Islamic Republic of Mauritania:*

The Delegation of the Islamic Republic of Mauritania reserves its Government's right to take any action it may deem necessary to protect its interests if other countries fail to observe the provisions adopted by the Conference.

No. 37

*For the Republic of the Niger:*

The Delegation of the Republic of the Niger reserves its Government's right to take any action it may deem necessary to protect its interests if other countries fail to observe the provisions adopted by the Conference.

No. 38

*For Turkey:*

A

The Delegation of Turkey regrets that the Conference did not respond positively to the appeal for the reduction of excessive requirements and that the criteria adopted at the First and Second Sessions of the Conference were not given due consideration in the negotiations.

Notwithstanding its low power density, the Delegation of Turkey, in a spirit of goodwill and international cooperation and in the hope of arriving at a workable Plan, has made many concessions, such as deletion of some of its requirements, reduction in power, use of synchronized networks and directional antennae to the maximum extent

possible. Despite these concessions, it has not been possible to arrive at a Plan to the satisfaction of Turkey, most of whose stations have a usable field strength well above the nominal value between 90 and 100 dB, and an appreciable number above 100 dB. The Plan in its present form is neither equitable nor workable. Satisfactory reception conditions for Turkey are not at all provided.

In these circumstances, the Delegation of Turkey formally reserves for its Government the right to take any action it may consider necessary to safeguard its national interests relating to broadcasting in LF/MF bands and to bring about satisfactory reception conditions for its people.

#### B

In particular, the Delegation of Turkey cannot agree to the following cases, since they give rise to high usable field strengths and considerably restrict the service areas of the transmitters:

- a) The insufficient protection provided by the assignment to Egypt of 200 kHz.
- b) The power increase of the Roumanian station, Timisoara, operating at 630 kHz to 400 kW.
- c) The power increase of the Czechoslovak synchronized network operating at 702 kHz, to an aggregate power of 1 000 kW.
- d) The assignment of 702 kHz to Syria.
- e) The power increase of the Egyptian station Abu Zabal from 1 062 kHz to 150 kW.
- f) The assignments of 1 215 kHz and 1 557 kHz to Malta.

The Delegation of Turkey requests the above Administrations to take the necessary steps to reduce their interference. Should they, however, fail to do so, the Delegation of Turkey reserves for its Government the right to take such action as may be necessary to ensure the satisfactory coverage of its stations affected.

#### No. 39

##### *For Tunisia:*

1. With regard to the frequency 585 kHz shared by Austria, Spain and Tunisia, the Tunisian Administration, not satisfied with the high level of harmful interference, is prepared to consider any technical solution calculated to improve the situation in the three countries on the basis of the principle of equal rights between all countries.
2. With regard to the frequency 630 kHz, the Tunisian Administration is glad to note that the Turkish Administration is prepared to improve the situation in keeping with the traditional friendship between the two countries.
3. With regard to the frequency 963 kHz shared by Bulgaria, Cyprus and Tunisia, the Tunisian Administration does not accept the level of harmful interference, but has no doubt that the situation will be improved by the protection promised by the Delegations of Bulgaria and Cyprus.

In any case, the Tunisian Administration reserves the right to safeguard its interests with regard to broadcasting.

#### No. 40

##### *For Japan:*

In signing the Final Acts of the present Conference, the Delegation of Japan wishes to make the following statement:

1. The present conference has adopted a Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1.

In applying the decisions of the Conference on the subject, many difficulties can be foreseen, particularly owing to harmful interference from high power broadcasting stations in the neighbouring countries of Japan for which coordination has not successfully been made during the Conference.

Japan will make every effort to operate its broadcasting service in accordance with the provisions of the Agreement and the Plan annexed to it in cooperation with all other Member countries concerned, but the Delegation of Japan reserves the right of its Administration to take any action it considers necessary, with regard to the matters which have not been solved in the course of the Conference, to protect its broadcasting service in the medium frequency band.

2. The interferences caused by certain broadcasting stations in Region 1 operating in the low frequency band (150-285 kHz) are endangering the operation of the aeronautical radiobeacon stations in Japan. These interferences will remain when the Plan for Low Frequency Broadcasting Bands in Region 1 as drawn up by the Conference is implemented.

The Delegation of Japan therefore reserves the right of its Government to take necessary measures, in accordance with the provisions of the Convention and the Radio Regulations, to protect its radiobeacon stations from the interference caused by the low frequency broadcasting stations in Region 1.

No. 41

*For the Socialist Republic of Roumania:*

The Delegation of the Socialist Republic of Roumania, appreciating the efforts of the delegations participating in the Conference to establish a frequency assignment Plan in line with the technical criteria and with unanimous decisions which were made at the First and Second Sessions and which can meet the development needs of the broadcasting services of the participating countries, notes that, in the 558 kHz, 603 kHz, 855 kHz, 1 053 kHz and 1 458 kHz channels in use for decades by the Socialist Republic of Roumania, the Plan includes assignments which result in a considerable reduction of the service areas of Roumanian transmitters operating in the said channels in conformity with the Radio Regulations.

The Delegation of the Socialist Republic of Roumania expresses its regret that the negotiations conducted during the work of the Conference with the delegations of the countries whose above-mentioned assignments have led to this situation failed to produce favourable results; it is convinced that the problems in question can be solved by further negotiations after the Conference. The Delegation of the Socialist Republic of Roumania is ready to continue its collaboration with those countries with a view to reaching negotiated solutions for the reduction of the harmful interference.

At the same time, the Roumanian Delegation declares that it reserves the right of the Roumanian Government, in the event such negotiations fail to produce favourable results before the entry into force of the present Agreement, to take all necessary action to ensure that its broadcasting transmitters operating in the above-mentioned channels can ensure coverage of the national territory with broadcast programmes in proper conditions.

No. 42

*For the Republic of Dahomey:*

The Delegation of the Republic of Dahomey has the honour to declare that its Government reserves the right to make all provisions and take any action it may deem fit to protect its interests should any reservations expressed by other delegations on behalf of their governments or administrations, or failure by other administrations or governments to observe the provisions of the Agreement and the Annexes, Appendices, or Protocols attached thereto, or other commitments with respect to Dahomey, be such as to jeopardize the proper operation of its broadcasting service.

No. 43

*For Luxembourg:*

Luxembourg reserves the right to take any measures which it may deem necessary to protect its interests if another Member country fails to comply with the provisions of the Regional Agreement on the Use of Frequencies in the LF/MF Bands by the Broadcasting Service in Regions 1 and 3 and in the LF Band in Region 1, or the provisions of the Annexes or Protocols to this Agreement, or if the reservations entered by other countries are prejudicial to the broadcasting services of Luxembourg.

No. 44

*For the People's Republic of Poland:*

The Polish Delegation enters a reservation concerning the unwanted emissions and interference caused on the territory of the People's Republic of Poland by the Holzkirchen (D) station on the frequency 720 kHz (at present using the frequency 719 kHz) and reserves the right of its Government to take appropriate action to protect the sovereign interests of the People's Republic of Poland.

No. 45

*For Portugal:*

The Portuguese Delegation,

*recalling*

that its Administration had stated, with regard to the transmitter power entered on the Portuguese requirement notices, that this power had been based on the area to be covered and that it wished to maintain this minimum power while, however, reserving the right to increase this value if other countries should request excessive powers entailing a reduction of this service area;

that it stated in Plenary Meeting that, as Portugal was awaiting the results of the Conference, its LF/MF broadcasting services had not been sufficiently developed;

the decisions of the Second Session of the Conference, in Plenary Meeting? to allow in its planning activities for the special case of countries with insufficiently developed broadcasting services;

*considering*

that the Portuguese requirements were confined to the minimum necessary to ensure satisfactory coverage of its territory;

that the foregoing decisions, adopted by the Plenary Meeting, were not successfully applied in the planning activities of the Conference;

the very high values, compared with the nominal values adopted at the First Session of the Conference, of the usable field strengths of the Portuguese frequency assignments contained in the Plan and the unduly reduced service areas resulting therefrom for its assignments;

*reserves for its country*

the right to take any action which may prove necessary to ensure satisfactory quality of its LF/MF broadcasting services, with the sole undertaking that, when a new assignment is made or when an assignment contained in the Plan is modified, it will not afford the assignments of other countries operating in the same channel or in adjacent channels protection ratios lower than the minimum value of the protection ratio of the nominal service areas of the assignments contained in the Plan.

No. 46

*For Spain:*

The Delegation of Spain:

*considering*

1. that the usable field strengths obtained for nearly all its transmitters are much higher than the nominal field strengths fixed in paragraph 4.6 of Annex 2 to the Agreement;
2. that the service areas calculated when submitting requirements have, as a result, been substantially reduced, to such a point that satisfactory reception is no longer ensured for a large part of the population of the country;
3. that, when submitting its requirements, it stated that it reserved the right to increase, during the Conference, the values of the powers it requested if other countries requested powers in the channels in question liable to cause a reduction in the service areas of the Spanish transmitters (Note No. A020 of Annex 3 to I.F.R.B. Circular-letter No. 324 of 23 May 1975), which has in fact occurred without the Delegation of Spain being able to make this specific reservation effective;



4. that the principle of equity, approved by the Conference itself, to the effect that all countries, large and small, have equal rights, has not been applied in drawing up the Plan owing to the absence of effective standards and rules ensuring equitable planning, with the result that, in the view of the Spanish Delegation, Spain has suffered prejudice;

the Spanish Delegation consequently enters a general reservation to the Plan in respect of the frequency assignments to its country;

it similarly reserves its Government's right to take the action necessary to restore the requested service areas which ensure satisfactory reception for the people of its country.

No. 47

*For the Arab Republic of Egypt:*

The Administration of the Arab Republic of Egypt declares that it will get in touch with the French Administration when its LF transmitter (frequency – 164 kHz) is installed with a view to reducing, so far as possible, interference in the service area of the French station of Allouis.

No. 48

*For the Kingdom of Morocco:*

The Delegation of the Kingdom of Morocco reserves its Government's right to take any action it may deem necessary to protect its interests if other countries fail to observe the provisions approved by the Conference.

Furthermore, the Moroccan Delegation reserves its Government's right to take any measures required to improve the service areas of its transmitters operating on the following frequencies:

594 kHz, 648 kHz, 657 kHz, 702 kHz, 765 kHz, 774 kHz, 918 kHz, 1017 kHz, 1080 kHz, 1116 kHz, 1188 kHz, 1206 kHz, 1233 kHz, 1377 kHz.

The Moroccan Delegation does not, however, rule out the possibility of conducting direct bilateral or multilateral negotiations concerning the above-mentioned frequencies with a view to arriving at a satisfactory result.

No. 49

*For the Republic of Kenya:*

The operation by Egypt on the assignment 558 kHz is subject to the condition that no harmful interference will be caused to Kenya operating assignment recorded both in the African Plan and in the Master Register.

No. 50

*For Malaysia:*

Malaysia has projected its requirements for a period considerably less than the Plan validity period agreed by the Conference. Also the existing and projected service requirements of Malaysia in the Plan have not achieved in many cases the desired service range because of incompatibilities introduced by the existing and projected services of other administrations in the region.

Malaysia, therefore, reserves the right to take such measures as it may consider necessary to safeguard its broadcasting services should other countries fail to observe the technical provisions adopted by the Conference, or agreement reached between the Delegation of Malaysia and other countries at the Second Session of the Conference.

No. 51

*For the State of Israel:*

A

Due to a number of aggravating factors and special conditions Israel is up to this date far from being adequately covered by its broadcasting services.

It is apparent that a further severe and unacceptable degradation of broadcast coverage in Israel must unfortunately be expected from the Plan.

Due to a shortage of time and other reasons, it was impossible to exploit in full the negotiating procedure, in order to eliminate or alleviate incompatibilities even of the most severe nature.

Notwithstanding the procedure adopted for modifications of the requirements submitted, further increases of interference have been introduced up to the final stages of the Conference.

In many cases no reduction of interference could be achieved even from planned or unregistered frequency and power requirements-even to existing and registered frequency assignments.

The Administration of Israel regretfully cannot agree to the requirements identified by frequency and, in brackets, country symbol and number of requirement: 576 (BUL-2858, SDN-1645); 657 (ARS-7151, TUR-7231); 711 (EGY-2645, UKR-5842); 738 (OMA-0090, ALG-6887); 846 (IRQ-0547, I-3672, TUR-3075); 882 (YUG-214905, EGY-7509, ARS-4319); 1 026 (IRN-2725); 1 170 (ARS-8754, URS-583403, BLR-583401, UAE-0140); 1 359 (IRQ-0551); 1 368 (IRN-2749). These represent Israel's reservations only to the severest interference contributions, and only as regards the most vital of existing services.

Thus, it is obvious that further negotiations are indispensable and that corresponding modifications will have to be effected. Such modifications regarding the above list and other requirements of Israel will have to be introduced in order to make the Plan acceptable to its Administration. It therefore welcomes the "Recommendation concerning improvements to the Plan" (Recommendation No. 1) and will follow the procedure laid down therein.

The signature of the Delegation of Israel must therefore be considered *ad referendum* and it fully reserves the position of its Administration as to the final approval of the Agreement.

Pending such approval, Israel will endeavour to follow the principles laid down in the Agreement and will do its utmost to safeguard the recognized rights of other administrations concerned. However, in view of the facts outlined above, it reserves the right to take any measures it considers necessary to secure adequate coverage of its broadcasting services.

## B

The Delegation of Israel declares that its signature to this Agreement and its eventual approval by its Administration shall only be valid and binding in relation to Contracting Members who apply the provisions of the Convention in their relations with Israel.

Furthermore, it wishes formally to record that, in accordance with the established practice of the Union, the country symbols employed in the Plan have a geographical significance only and that nothing in the matter of presentation of information or in the arrangement of data in the Plan can be deemed to imply endorsement or acceptances by the Union or by Contracting Members, of any matter affecting the status and boundaries of States and territories.

## No. 52

*For Thailand:*

The Delegation of Thailand fully supports the principle that all countries, large and small, have equal rights.

It also bears in mind that the present Agreement shall bind Contracting Members in their relations with one another, but does not bind the Non-Contracting Countries.

As no guarantees have been given that the transmitters of Non-Contracting Countries, or unidentified stations operating without international recognition will not cause harmful interference to the broadcasting stations operating in conformity with the present Agreement, the Delegation of Thailand, in signing the Final Acts of the present Conference, reserves the right of its Government to take all necessary measures, while making every effort to avoid causing harmful interference to the broadcasting services of other Contracting Members, to safeguard the interests of Thailand and ensure its normal broadcasting services if the above-mentioned transmitters or stations cause harmful interference to broadcasting services in Thailand.

The Delegation of Thailand also reserves its Government's right to take any measure it may deem necessary to protect the interests of Thailand should any Contracting Member fail to observe the provisions of the Agreement, its Annexes and the Final Protocol annexed thereto, or should reservations by other countries jeopardize the broadcasting services in Thailand.

No. 53

*For the People's Republic of China:*

1. The Plan contains frequency assignments to the MF broadcasting stations at the following sites: Along (94E50, 28N10), Anini (95E52, 28N40), Bomdila (92E30, 27N20), Hapoli (93E40, 27N30), Koloriang (93E27, 27N52), Pasighat (95E20, 28N06), Tawang (91E54, 27N36), and Ziro (93E50, 27N34); these requirements were submitted by the Indian telecommunication Administration. The above sites have always been on Chinese territory. The installation of broadcasting stations in Chinese territory by the Indian authorities constitutes a violation of Chinese sovereignty and is absolutely illegal.
2. The People's Democratic Republic of Korea is the authentic representative of the Korean people. The Chinese Government does not recognize the frequency assignments made in the Plan to the broadcasting stations of the South Korean authorities.
3. Since the part relating to LF broadcasting in the Plan annexed to the present Agreement applies only to Region 1, the telecommunication Administration of the People's Republic of China reserves its position concerning this part of the Plan and will continue to reserve the right, according to the requirements of the Chinese broadcasting service, to assign frequencies to Chinese LF broadcasting stations. The telecommunication Administration of the People's Republic of China is prepared to settle, so far as possible, the problem of harmful interference which the Chinese LF broadcasting service might cause to other radiocommunication services by adopting the necessary technical measures and by friendly negotiations, on the basis of the principle of equality and mutual advantage.
4. China reserves the right to take the necessary action if, in the implementation of the Frequency Assignment Plan, any infringement of the Agreement causes interference to Chinese broadcasting stations.

No. 54

*For Algeria (Algerian Democratic and Popular Republic), the Kingdom of Saudi Arabia, the Arab Republic of Egypt, the United Arab Emirates, the Hashemite Kingdom of Jordan, the State of Kuwait, Lebanon, the Libyan Arab Republic, the Kingdom of Morocco, the Islamic Republic of Mauritania, the State of Qatar, the Democratic Republic of the Sudan, Tunisia, the Yemen Arab Republic, the People's Democratic Republic of Yemen:*

The above-mentioned Delegations declare that the signature, and possible subsequent ratification by their respective Governments of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 (Geneva, 1975), are not valid with respect to the Member appearing in the Agreement, Annexes and Final Protocol under the name of Israel, and in no way imply its recognition.

No. 55

*For the Kingdom of Saudi Arabia, the Arab Republic of Egypt, the Hashemite Kingdom of Jordan, the State of Kuwait, the Kingdom of Morocco and Tunisia:*

The Delegations of the countries cited above declare that their Administrations reserve their rights to take any necessary action to safeguard their interests in case of failure on the part of any country to respect the Agreement of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, its Annexes and the Protocols attached to it, or in case the reservations entered by other delegations on behalf of their administrations prove prejudicial to the proper functioning of the broadcasting service of the countries signatory of this reservation.

No. 56

*For the Arab Republic of Egypt:*

Upon signing this Agreement the Delegation of the Arab Republic of Egypt declares that nothing in the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 (Geneva, 1975), and its Annexes or in their implementation could in any way prejudice the sovereignty and the territorial integrity of the Arab Republic of Egypt.

No. 57

*For the Kingdom of Saudi-Arabia:*

The Delegation of the Kingdom of Saudi Arabia wishes to state that the Administration of the Kingdom of Saudi Arabia does not recognize that the low frequency assignments existing in the Plan have any priority over the requirements of other countries that may arise at the time of the review of this LF plan in any future conference.

No. 58

*For the Republic of India:*

1. Upon signing the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1, Geneva, 1975, the Delegation of the Republic of India reserves the right of its Government to take appropriate steps, if necessary, to ensure proper implementation of the Agreement including the Plan, should any country reserve and/or not accept the provisions of the Agreement including the Plan.

2. The Republic of India will contribute to the maximum possible extent for the success of the Plan. It sincerely hopes that other Members of the Union from Regions 1 and 3 will also do the same.

3. The Plan contains frequency assignments to Pakistan for Mirpur, Muzaffarabad, Gilgit and Skardu situated in the State of gamma and Kashmir, which is an integral part of India. The Republic of India does not recognize these frequency assignments to Pakistan and operation of these stations by Pakistan Administration. The Indian Delegation did not wish to overburden the work of this Conference by discussing this issue on the floor as the situation arising out of Pakistan's occupation of a part of the State of Jammu and Kashmir can, in India's view, be best settled in another forum peacefully and bilaterally as envisaged in the Simla Agreement.

4. The Plan for the LF band indicates a number of frequency assignments, not in operation now, that could cause harmful interference to other radiocommunication services in India, specially to maritime and aeronautical services. This affects the safety of life at sea and in the air. Therefore, India reserves the right of its Government not to accept any such assignment that is likely to cause harmful interference to other radiocommunication services in India.

5. The frequency assignments to Sri Lanka on frequencies 675 kHz, 684 kHz, 738 kHz, 972 kHz and 1 125 kHz corresponding to I.F.R.B. Nos. 6930, 6931, 6936, 6950 and 6956 respectively, would cause harmful interference to the existing Indian assignments on these channels. These could not be removed by mutual negotiation. The Indian Delegation, therefore, reserves the right of its Government for not accepting the above assignments in the Plan.

No. 59

*For Denmark:*

The Delegation of Denmark is unable to accept the interference from the station Dresden of the German Democratic Republic on the frequency of 1 431 kHz with a power of 150 kW.

In view of the result of the Conference it is necessary to optimize the use of the frequency 1 431 kHz. The Administration of Denmark is prepared to accept the station if the Administration of the German Democratic Republic will reduce the radiated power in the direction of Denmark by 10 dB.

## No. 60

*For Italy:*

The Italian Delegation notes that:

- a) the First Session of the Regional Broadcasting Conference failed to establish clear and unequivocal technical standards. This has resulted in the submission of a very large number of assignment requirements, some of which have been entered in the channel which Italy uses in conformity with the 1948 Copenhagen Convention and Plan;
- b) The Second Session of the said Conference has not applied the technical planning principle for the adoption of which the Italian Delegation made every possible effort, inter alia, by submitting numerous documents;
- c) the arrangements at the Second Session of the said Conference rendered possible only a limited and unsatisfactory coordination of the assignment requirements.

These facts have resulted in an appreciable reduction in the service areas of Italian transmitters for the protection of which Italy will have to take any action which may prove necessary.

In particular, Italy will coordinate:

- *with the Kingdom of Saudi Arabia:* the use of the frequencies 657 kHz and 900 kHz (corresponding to the frequencies of 656 kHz and 899 kHz assigned to Italy under the Copenhagen Plan). Italy and Saudi Arabia have undertaken to continue negotiations after the Conference with a view to reaching a solution satisfactory to both countries.

In particular, with regard to the frequency of 900 kHz, assigned exclusively to Italy under the Copenhagen Plan in the European Broadcasting Area, these negotiations should take account of the following, in accordance with paragraph 9.2.1 of the Report of the First Session of the Conference:

- 1) the existing service of the Milan transmitter covering Italian territory by sky wave should suffer no reduction;
- 2) within the limits of the compatibility referred to in paragraph 1) above, Saudi Arabia's requirement for this same frequency will be met in such a way as to ensure a satisfactory signal-to-interference ratio in its service area:
  - *with Greece:* the use of the frequency 1 116 kHz (corresponding to the frequency of 1 115 kHz assigned to Italy under the Copenhagen Plan) and the frequencies 999 kHz and 1 008 kHz;
  - *with the Republic of Malta:* the use of the frequencies 756 kHz (Capo Vaticano) and 999 kHz.

Moreover, Italy will use a necessary bandwidth of more than 9 kHz in cases where Italian transmitters are subject to interference from broadcasts in adjacent channels having a necessary bandwidth greater than 9 kHz.

## No. 61

*For Malawi:*

The Delegation of Malawi declares that its Administration reserves the right to take such action it considers necessary to safeguard its interests should any Member, by failure to respect the provisions of the Agreement, its Annexes and Protocols attached to it, or the reservations catered by other delegations on behalf of their administrations prove to jeopardize Malawi's broadcasting service in the MF band.

## No. 62

*For Nepal:*

Due to the mountainous nature of the country and the difficulties experienced in the development of MF broadcasting, Nepal also submitted to this Conference a requirement in the LF band for broadcasting use, namely, 191 kHz with a power of 100 kW.

As the present LF Broadcasting Plan only applies to Region 1, the Administration of Nepal reserves the right to the use of the above-mentioned frequency in the LF band for broadcasting in Nepal, when the next World Administrative Radio Conference decides to allocate LF for such purpose in Region 3.

## No. 63

*For the People's Republic of Bangladesh:*

1. The Delegation of Bangladesh reserves for the Government of the People's Republic of Bangladesh the right to take such action as it may deem fit, to protect its interest against any right of priority that may be desired of by any administration operating an LF broadcasting service at present, should the World Administrative Radio Conference, 1979 permit the use of LF for broadcasting in Region 3 in the future.
2. The Delegation of Bangladesh reserves also for its Government the right to take any measures it sees fit to safeguard its national broadcasting coverage if other administrations desist to observe the technical provisions and coordinations adopted in the Conference.

## No. 64

*For the Republic of Burundi:*

The Republic of Burundi reserves the right to take any action it may deem necessary to protect its interests if any other Member country fails to observe the provisions of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the MF Bands in Regions 1 and 3, or fails to observe the provisions of the Annexes or Protocols annexed to the Agreement, or if the reservations entered by other countries cause prejudice to the broadcasting services of the Republic of Burundi.

## No. 65

*For Ghana:*

The Delegation of Ghana reserves for its Government the right to take any measures it sees fit to safeguard its national broadcasting coverage, if other countries fail to observe the technical provisions adopted by the Conference as the means of minimizing harmful interference.

## No. 66

*For the Kingdom of Saudi Arabia:*

The Administrations of Italy and Saudi Arabia shall continue negotiations after the Conference in order to reach a solution, satisfactory to both Administrations, concerning the utilization of the frequency 900 kHz, assigned by the Copenhagen Plan as an exclusive channel within the European Broadcasting Area to Italy. These negotiations shall take into account, in accordance with paragraph 9.2.1 of the Report of the First Session of the Conference the following:

- a) that the existing sky-wave service on Italian territory as provided by the Milano transmitter shall not be degraded;
- b) that within the limits of compatibility with a) above the stated requirements of Saudi Arabia regarding this frequency are met in such a manner as to provide satisfactory signal/interference levels in its service area.

## No. 67

*For the Republic of Togo:*

The Delegation of the Republic of Togo declares that its Administration reserves the right to take any action it may deem fit to safeguard its interests if the reservations entered by other delegations on behalf of their Administrations or any failure to observe the Agreement and the Annexes thereto tend to jeopardize the proper functioning of its broadcasting service.

*For Austria:*

1. Austria went into this Conference with the firm intention of contributing as much as possible to the work of improving the poor situation existing in the MF-band on 1 May 1975. It was in the spirit of mutual cooperation and of sound technical reasoning that the Austrian Delegation sent a letter to the Convenors of the Planning Groups concerned and to the Liaison Group of the European Broadcasting Area, the most essential parts of which read as follows:

“The Austrian requirements have been prepared by taking into account the existing situation in Europe and the powers of the high-power transmitters have been adjusted to the values of usable field strength to be expected. In order to contribute to a better overall situation, which will be given for Austria provided that the usable field strength will not exceed:

83 dB $\mu$  on 585 kHz

78 dB $\mu$  on 1 026 kHz and

78 dB $\mu$  on 1 476 kHz,

the Austrian Delegation offers the following reduction of total channel power (disregarding low power transmitters) *during night-time:*

Frequency (kHz)	Total channel power according to requirements (kW)	Reduced in night-time (kW)
585	1 430	730
630	160	90
729	20	0
774	130	60
891	210	60
1 026	710	460

“It is understood that the offered reductions of requirements are subject to achieving the indicated values of usable field strength. If this condition will not be fulfilled, the Austrian Administration would be forced to insist on the original requirements.”

For frequencies 1 026 kHz and 1 476 kHz coordination with other delegations has either been carried out successfully or is agreed to be continued after the Conference. Consequently reduced powers for Austrian transmitters on 630 kHz, 774 kHz, 891 kHz and 1 026 kHz have been entered in the Plan and the frequency 729 kHz will no longer be used by Austria. Regretfully coordination for frequency 585 kHz could not be finalized.

2. Frequency 585 kHz (formerly 584 kHz) was assigned to Austria by the Copenhagen Convention (1948) on an exclusive basis and has been operated by Austria since 1950. Later on the Spanish station, Madrid, came into the channel, thereby greatly reducing the service area in Austria. Finally, among the requirements of Tunisia, put forward at this Conference, the station Gafsa appeared with a power of 350 kW. The interference at the Austrian main station, Wien, which forms part of a synchronized network of four stations, would be greatly increased by this Tunisian station which would become the predominant source of that interference.

In the course of lengthy and complicated negotiations, carried out with the aim of reducing interference by mutual power reductions the Austrian Delegation put forward several proposals, which led to an interim technical solution, which could, however, not be confirmed finally. At the latest stage, the Austrian Delegation formally proposed power reduction to 200 kW for Spain, to 100 kW for Tunisia and to 430 kW in total for Austria (thereby going far beyond the official offer according to the letter). In addition Austria proposed to start negotiations between the three Administrations in the first half of 1976 with the aim of improving the situation, taking fully into account the requirements of Tunisia, the special situation of Spain and the protection to the maximum possible extent of the existing service as well. Agreement on this should have been laid down in a common statement of the three Administrations.

Regretfully there has been no positive response to this proposal in its entirety. Finally, Tunisia decided to take unilateral action.

3. Thus the Delegation of Austria is forced to make the following reservation:

“Austria reserves the right, as regards operation of the station Gafsa with a power of more than 100 kW and/or of the station Madrid with a power of more than 200 kW on frequency 585 kHz before coming into force of the Agreement, to take all necessary measures in order to retain the service area in Austria as of 1 May 1975.

“Moreover, Austria reserves the right, as from the date of coming into force of the Agreement, to operate on the carrier frequency 585 kHz a synchronized network with the total power of 1 430 kW in order to overcome increased interference in this channel, unless by negotiations between the Administrations of Spain, Tunisia and Austria, as proposed by the Austrian Delegation, reasonable power reductions have been agreed.”

No. 69

*For the People’s Republic of Bulgaria:*

The Delegation of the People’s Republic of Bulgaria, states that it cannot agree to the high level of interference caused by the high power stations of the following countries:

Federal Republic of Germany	– frequencies 576 and 594 kHz,
Israel	– frequency 576 kHz,
Cyprus	– frequencies 963 and 981 kHz,
Libya	– frequencies 828 and 1 125 kHz,
Syria	– frequencies 747 and 828 kHz,
France	– frequency 864 kHz.

The Administration of the People’s Republic of Bulgaria requests the countries listed above to take the necessary action to reduce the level of interference. In view of the difficulties caused to Bulgarian broadcasting by this interference, the Administration of the People’s Republic of Bulgaria reserves the right to take all the steps necessary to ensure the normal operation of its transmitters using these frequencies.

No. 70

*For the Byelorussian Soviet Socialist Republic, the People’s Republic of Bulgaria, the Hungarian People’s Republic, the Mongolian People’s Republic, the People’s Republic of Poland, the German Democratic Republic, the Ukrainian Soviet Socialist Republic, the Czechoslovak Socialist Republic and the Union of Soviet Socialist Republics:*

In signing the Agreement and Plan, the above-mentioned Delegations reserve, for their Governments, the right to take all the technical measures necessary to ensure the normal operation of their broadcasting media, in the event of a violation, by the broadcasting services of other countries, of the frequency usage established by the Agreement and Plan.

No. 71

*For the Republic of Nauru:*

The Republic of Nauru reserves the right to take such action as it may consider necessary to safeguard its interests should any Member fail to observe the provisions of the Regional Agreement Concerning the Use of the Broadcasting Frequencies in the Medium Frequency Bands in Regions 1 and 3 or its Annexes or the Protocols attached thereto, or should reservations by other countries jeopardize Nauru’s broadcasting services.

No. 72

*For the Federal Republic of Germany:*

The Delegation of the Federal Republic of Germany, noting the statement No. 44 of the Delegation of the People’s Republic of Poland concerning the station in Holzkirchen assigned on frequency 720 kHz, wishes to state that, since the new Frequency Plan does not contain any assignments to Poland on co- or adjacent channels, this station cannot cause any interference to stations operating in Poland. The reservation is therefore considered unfounded.



No. 73

*For the United Arab Emirates:*

The Delegation of the United Arab Emirates, has noted that Greece made a reservation (No. 30) concerning the use of the frequency 729 kHz by the United Arab Emirates reserving the right to increase the power of the Athens transmitter. The Delegation of U.A.E. wishes to state that it has done its best to reach an acceptable solution including its readiness to consider changing the frequency which is actually in operation to another suitable frequency, if such a frequency could be found, which does not have mutual interference with another administration. Such a solution was unfortunately not possible because of the severe congestion of the band.

However, since the Athens transmitter is also causing harmful interference in the service area of the U.A.E. transmitter, the Delegation of U.A.E. also reserves the right that, should future negotiations with the Administration of Greece fail to reach agreement to reduce interference on a mutual basis, and should the Greek Administration take any steps causing more interference to the U.A.E. broadcasting service on 729 kHz, the Administration of U.A.E. shall then take any action it deems necessary, including raising the power of its transmitter to safeguard its national broadcasting coverage.

No. 74

*For the Kingdom of Lesotho:*

With reference to the reservation No. 28 of the Republic of Uganda, the Delegation of the Kingdom of Lesotho wishes to point out that the frequency 639 kHz has been assigned to its Administration at the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975. This frequency has also been assigned to Uganda, and to the United Kingdom for a transmitter operating in Cyprus.

In the event of harmful interference to Lesotho, resulting from increase in power or modification of the Plan by any of these and other administrations, the Kingdom of Lesotho reserves the right to take such measures as it might consider necessary to protect its broadcasting interests.

No. 75

*For the Republic of India:*

The Delegation of the Republic of India is surprised to see the statement No. 53 (paragraph 1) made by the delegation of the People's Republic of China regarding the frequency assignments in the Plan to India for the stations Along, Anini, Bondila, Hapoli, Koloriang, Pasig Hat, Tawang and Ziro. The above-mentioned places have been and are part of India and it is the right of the Republic of India to set up broadcasting stations in Indian territory. Broadcasting stations are already functioning at some of the above locations. India rejects the unwarranted interference in its internal affairs and attempt to question India's territorial integrity and sovereignty.

No. 76

*For Iceland:*

With regard to the statement No. 12 made by the Delegation of France with respect to the frequency 182 kHz, assigned to the French station of Sarrelouis and the station Oranienburg of the German Democratic Republic among others, concerning the suggested settlement of the incompatibilities between the above two stations outside the Conference, the Icelandic Delegation on behalf of its Administration reserves its right to take such action as it may consider necessary to protect its interests depending on the nature of the possible settlement between the Administrations of France and the German Democratic Republic.

No. 77

*For France:*

Having taken cognizance of the statement No. 48 of the Delegation of the Kingdom of Morocco relating in particular to the frequencies 1 206 kHz and 1 377 kHz, the French Delegation enters full reservations with regard to the action its Administration might find necessary to take if the service areas of its Bordeaux and Lille transmitters should be reduced as a result of unilateral decisions by the Kingdom of Morocco.

## No. 78

*For France:*

Having taken cognizance of the statement No. 69 by the People's Republic of Bulgaria relating to several frequencies, including that of the Paris station on 864 kHz, the French Delegation observes that the Bulgarian station included in the present Plan makes the largest contribution to interference with the Paris station, to which the frequency of 863 kHz was exclusively assigned under the Copenhagen Plan.

The French Delegation accordingly reserves its Administration's right to take all appropriate action to counteract the consequences of any unilateral decisions by the People's Republic of Bulgaria.

## No. 79

*For Japan:*

The Delegation of Japan should like to state that its Administration cannot accept the reservation No. 53 (paragraph 3) made by the Administration of the People's Republic of China relating to LF broadcasting.

The LF band is not allocated to the broadcasting service in Region 3 according to Article 5 of the Radio Regulations. Moreover, the operation of broadcasting stations in Region 3 causes harmful interference to the stations of other radiocommunication services in Region 3, in particular, the aeronautical radiobeacon stations to which interference from broadcasting stations could be so serious as to endanger the safety of human life.

The Delegation of Japan therefore states that its Administration reserves all the rights to safeguard its interest from any consequences of the reservations made by the Administration of the People's Republic of China concerning the LF broadcasting.

## No. 80

*For Pakistan:*

In its statement No. 58 (paragraph 3), the Delegation of the Republic of India has considered it fit to make a surprising claim which is not only removed from facts but also sets an unfortunate precedent of a State trying to utilize a purely technical forum for political propaganda.

The Delegation of Pakistan would like to place on record the correct position regarding the status of the State of Jammu and Kashmir as recognized by the United Nations. The State of Jammu and Kashmir is a disputed territory, the permanent status of which has yet to be decided by the people of that State in accordance with the relevant resolutions of the United Nations. All decisions regarding broadcasting stations lying within the territory of Jammu and Kashmir State, including the part at present under the occupation of India, are without prejudice to the interim status of that State as recognized in the resolutions of the United Nations. Those stations in the Plan which fall within the area of the State of Jammu and Kashmir under Indian occupation are *not* recognized by Pakistan as being on Indian territory.

In setting the record straight, the Pakistan Delegation cannot but express its regret at this attempt by the Indian Delegation to use this forum for making political propaganda.

## No. 81

*For the Socialist Federal Republic of Yugoslavia:*

With reference to statement No. 51, the Yugoslav Delegation cannot accept the interference caused by the Israeli transmitter Bet Hitel on frequency 882 kHz, which reduces the service area of the Yugoslav station Titograd, used by Yugoslavia in conformity with the Copenhagen Plan.

The Yugoslav Administration invites the Administration of Israel to eliminate that interference, failing which, it reserves the right to take any necessary action to eliminate the interference and to improve the existing situation.

No. 82

*For the Byelorussian Soviet Socialist Republic:*

The Delegation of the Byelorussian S.S.R. strongly objects to the intention expressed by Belgium (statement No. 24) to make use of the frequency 281 kHz which is assigned to a Byelorussian radio station.

The use of this frequency by Belgium was not discussed at the Conference.

No. 83

*For Iran:*

The Delegation of Iran refers to the statement No. 51 by Israel and announces that it cannot agree to Israel's assignment on 1 026 kHz since Iran suffers a 92 dB interference from that assignment. The indicated interference suffered by Israel on 1 368 kHz does not exist in reality since its indication was caused by a material error which has now been corrected.

No. 84

*For Tunisia:*

In its statement No. 24, the Belgian Delegation announces the intention of its Administration to use the frequency 281 kHz, which is assigned to Tunisia under the Plan on a shared basis with other countries.

In accordance with the statement No. 55 the Tunisian Administration wishes to affirm:

- a) that it regards the use of this frequency by Belgium or other countries as a breach of the Agreement:
- b) that if, despite the present statement, such a breach occurs, it will take the necessary steps to safeguard its interests.

No. 85

*For the Republic of Cyprus:*

Noting that certain reservations have been made regarding Cyprus stations, the Administration of Cyprus wishes to state that it has been guided by the principles laid down in the Report of the First Session of the Conference in general. and the principle of equal rights in particular.

In view of the above, the Cyprus Administration reserves its right to take all measures necessary to protect its interests in relation to its broadcasting services.

With respect to statement No. 39, paragraph 3, the Administration of Cyprus would however continue discussions with the Administration of Tunisia regarding the possibility of mutual reduction in the interference level on frequency 963 kHz in the spirit of friendship and cooperation that prevails in the relations of the two countries.

No. 86

*For the Socialist Republic of Roumania:*

With reference to reservation No. 38 entered by Turkey, the Delegation of the Socialist Republic of Roumania wishes to state that it cannot take account of the Turkish objection, since this assignment was not coordinated with the Roumanian Administration in time and the Roumanian station operates in accordance with the provisions of the Radio Regulations.

No. 87

*For the Republic of Korea:*

The Delegation of the Republic of Korea declares that reservation No. 53, paragraph 2, made by the Delegation of the People's Republic of China in connection with the representation of the Korean Delegation is without foundation and without legal effect, and infringes upon the sovereign right of the Republic of Korea to operate and regulate its telecommunications.

The Delegation of the Republic of Korea further declares that it does not recognize such frequencies of the authorities of the People's Republic of China in the Plan which interfere or will interfere harmfully with the normal operation of broadcasting services of the Republic of Korea.

## No. 88

*For the Federal Republic of Germany:*

The Delegation of the Federal Republic of Germany, noting statement No. 69 of the Delegation of the People's Republic of Bulgaria concerning stations assigned to frequencies 576 and 594 kHz, wishes to state the following:

In reference to the frequencies in question the Federal Republic of Germany is providing 4 dB protection on 576 kHz and 15 dB on 594 kHz (Frankfurt). The power of the station Hoher Meissner working equally on 594 kHz has remained unchanged for many years and no raise of power has been requested at this Conference.

The Bulgarian reservation is therefore considered unfounded.

## No. 89

*For the Republic of Sri Lanka (Ceylon):*

Reference paragraph five of statement No. 58 of India, the Sri Lanka Delegation wishes to point out the following:

- a) The Ceylon Delegation reserves the right on behalf of its Government to consider on the same terms, similar interference to Sri Lanka's existing assignments;
- b) It has been decided at this Conference recently that negotiations should be continued after the Conference, where necessary, with a view to settlement.

## No. 90

*For Turkey:*

The Turkish Delegation reserves its Government's right to take any action it may deem necessary to protect its interests should the reservations entered by the delegations of other countries on behalf of their Administrations cause prejudice to the proper functioning of the Turkish broadcasting services.

## No. 91

*For the State of Israel:*

The declarations No. 54 made by Algeria (Algerian Democratic and Popular Republic), the Kingdom of Saudi Arabia, the Arab Republic of Egypt, the United Arab Emirates, the Hashemite Kingdom of Jordan, the State of Kuwait, Lebanon, the Libyan Arab Republic, the Kingdom of Morocco, the Islamic Republic of Mauritania, the State of Qatar, the Democratic Republic of the Sudan, Tunisia, the Yemen Arab Republic, the People's Democratic Republic of Yemen being in flagrant contradiction to the principles and purposes of the Convention and, therefore, void of any legal validity, the Delegation of Israel, on behalf of the Government of Israel wishes to put on record that it rejects these declarations outright and will proceed on the assumption that they can have no validity as to the rights and duties of any Contracting Member.

In any case, Israel will avail itself of its rights to safeguard its interests should the Administrations of Algeria (Algerian Democratic and Popular Republic), the Kingdom of Saudi Arabia, the Arab Republic of Egypt, the United Arab Emirates, the Hashemite Kingdom of Jordan, the State of Kuwait, Lebanon, the Libyan Arab Republic, the Kingdom of Morocco, the Islamic Republic of Mauritania, the State of Qatar, the Democratic Republic of the Sudan, Tunisia, the Yemen Arab Republic and the People's Democratic Republic of Yemen in any way violate any of the provisions of the Agreement or of the Annexes and Protocols attached thereto.

No. 92

*For the State of Israel:*

Referring to statement No. 69 forwarded by the People's Republic of Bulgaria regarding the assignment 576 kHz (presently 575 kHz), the Delegation of the State of Israel states the following:

An unregistered high-power station of the People's Republic of Bulgaria has been put into operation lately-in contradiction to the provisions of the Radio Regulations-causing harmful interference to one of Israel's main stations, which has been in operation for many years.

There was an exchange of correspondence on this subject and the assistance of the I.F.R.B. was asked to eliminate this interference.

Discussions with the Bulgarian Delegation in the course of the Conference did not result, regretfully, in a solution of this problem. Therefore the Administration of Israel requests the Administration of Bulgaria to take the necessary steps to eliminate this interference.

If satisfactory steps are not taken, the Israel Administration reserves its right to augment the power of its station operating on this frequency, in order to secure its adequate coverage.

No. 93

*For the Republic of Mali:*

The Delegation of the Republic of Mali, having taken cognizance of the numerous reservations entered by certain delegations on behalf of their administrations or governments, is deeply disturbed concerning the correct application of the provisions adopted at the present Conference.

Some of these reservations appear to imply an intention to avoid the obligations imposed by the Conference.

The Delegation of the Republic of Mali accordingly reserves its Administration's right to take any action necessary to safeguard its interests should the failure of an administration to observe the provisions adopted by the Conference jeopardize the proper functioning of its broadcasting service.

No. 94

*For France:*

The French Delegation, having noted statement No. 19 of the U.S.S.R. declares, after consultation with the Governments of the United Kingdom and the United States of America, that nothing in the work or the Final Acts of this Broadcasting Conference is incompatible with any of the provisions of the Quadripartite Agreement of 3 September 1971.

This declaration applies also to the declarations in the Final Protocols of States which are not Parties to the Quadripartite Agreement of 3 September 1971.

No. 95

*For the United Kingdom of Great Britain and Northern Ireland:*

The Delegation of the United Kingdom, after consultation with the Governments of France and the United States of America, noting statement No. 19 of the U.S.S.R. states that nothing in the work or the results of the Broadcasting Conference is inconsistent with any of the provisions of the Quadripartite Agreement of 3 September, 1971.

This statement applies also to similar statements by states which are not party to the Quadripartite Agreement of 3 September, 1971.

## No. 96

*For Spain:*

With reference to statements Nos. 39 and 68 made by Tunisia and Austria respectively in relation to the frequency 585 kHz, the Spanish Delegation wishes to state the following:

- a) the Spanish Administration is willing to continue to seek a technical solution of this difficult coordination;
- b) with regard to the above point, account must be taken of the fact that, owing to the comparatively short distance between Madrid and Gafsa (1 300 km), the interference caused by the Tunis station results in an unacceptable reduction of the service area of the Madrid transmitter. There are two possible solutions: to reduce the power of the Gafsa station to below 20 kW, or to change the channel;
- c) with regard to technical coordination between the assignments to Austria and to the Madrid station, since the distance between the stations is of the order of 1 800 km, we believe it possible to arrive at acceptable conditions of coordination by achieving a better balance between the powers of the Austrian and Spanish stations, preferably through a reduction of the power of the assignments to Austria;
- d) independently of what has been stated above, the Spanish Delegation feels compelled to add that the unfavourable situation for Spain on this frequency is common to practically all our assignments and that this, as already explained in the reservation we entered in statement No. 46 is due to the imperfect procedure applied and lack of equity shown in the preparation of the Plan.

## No. 97

*For Spain:*

With reference to statement No. 34 made by the Socialist Federal Republic of Yugoslavia, with respect to the frequencies 684 kHz, 918 kHz and 1 134 kHz, the Spanish Delegation wishes to state the following:

1. *Frequency 684 kHz*

Bearing in mind that the Yugoslav requirement for Belgrade is for a power of 2 000 kW and that the assignment to the Spanish Seville station is for 500 kW, the Spanish Delegation has proposed, in all the negotiations that have taken place, that, in view of the fact that the distance between the two stations is 2 300 km, it should be possible to effect coordination, on technical conditions acceptable to both Administrations by achieving a better balance of the power of the Belgrade and Seville stations, preferably through a reduction of the power of the Belgrade station. The disparity of the powers included in the Plan means that the service area of the Seville station is reduced to an unacceptable degree.

2. *Frequency 918 kHz*

The power of the Yugoslav station on this frequency is 600 kW; that of the Spanish station of Oviedo is 20 kW.

Technical coordination would be possible on condition that the power of the Yugoslav station be appreciably reduced.

3. *Frequency 1 134 kHz*

The ratio of the powers assigned to Yugoslavia (1 650 kW) and to Spain (75 kW) justifies the assertion that, as in 2 above, a reduction of power by the Yugoslav Administration is the only solution for obtaining good technical coordination.

4. *Conclusion*

Independently of what has been stated above, the Spanish Delegation feels compelled to add that the unfavourable situation for Spain on the above frequencies is common to practically all the assignments of that country and that this, as already explained in reservation No. 46 is due to the imperfect and inequitable procedure followed in the preparation of the Plan.

*The delegations which have signed the Agreement,  
with the exception of the  
Delegation of the Republic of Indonesia,  
have also signed the Final Protocol*

## ADDITIONAL PROTOCOL I

### Relating to the Abrogation of the European Broadcasting Convention (Copenhagen, 1948) and the annexed Copenhagen Plan

The delegates of the following Members of the International Telecommunication Union:

*Belgium, Byelorussian Soviet Socialist Republic, People's Republic of Bulgaria, Republic of Burundi, Vatican City State, Denmark, Finland, France, Greece, Hungarian People's Republic, Ireland, Italy, Kingdom of Morocco, Monaco, Norway, Kingdom of the Netherlands, People's Republic of Poland, Ukrainian Soviet Socialist Republic, Socialist Republic of Roumania, United Kingdom of Great Britain and Northern Ireland, Confederation of Switzerland, Czechoslovak Socialist Republic, Tunisia, Union of Soviet Socialist Republics, Socialist Federal Republic of Yugoslavia*

parties to the European Broadcasting Convention (Copenhagen, 1948) and meeting in Geneva for the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, convened in accordance with the provisions of the International Telecommunication Convention (Malaga-Torremolinos, 1973),

*agree that*

1. the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 and the annexed Plan shall replace the European Broadcasting Convention and annexed Copenhagen Plan which shall be abrogated\* save that the rights and obligations in respect of the coast stations listed in Chapter II of the Copenhagen Plan shall continue until modified by the agreement of the parties concerned or by a competent conference;
2. the abrogation of the European Broadcasting Convention and Copenhagen Plan in accordance with 1 above shall take effect on the coming into force of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 and of the annexed Plan provided that each of the contracting governments to the European Broadcasting Convention shall have deposited with the Government of the Kingdom of Denmark (the depository of the aforesaid Convention) a declaration of acceptance of the abrogation of the European Broadcasting Convention and the annexed Copenhagen Plan;
3. the aforesaid members shall take action to inform the Government of the Kingdom of Denmark that they formally agree to the abrogation of the European Broadcasting Convention and the Copenhagen Plan annexed thereto;
4. the aforesaid notification procedure shall be taken as soon as practicable before entry into force of the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 and of the annexed Plan;
5. the Government of the Kingdom of Denmark should be asked to inform the governments who are parties to the European Broadcasting Convention and the Secretary-General of the International Telecommunication Union of the notifications received in accordance with 3 above.

*(The delegations of the above-mentioned countries have signed the Additional Protocol I)*

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\* Explanatory information about the abrogation of the European Broadcasting Convention and annexed Copenhagen Plan is recorded in Document No. 125 of this Conference.

## ADDITIONAL PROTOCOL II

### **Abrogating the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Band in the African Broadcasting Area (Geneva, 1966), and the Plan annexed thereto**

The delegates of the following countries Members of the International Telecommunication Union:

*Algeria (Algerian Democratic and Popular Republic), United Republic of Cameroon, Central African Republic, People's Republic of the Congo, Republic of the Ivory Coast, Republic of Dahomey, Arab Republic of Egypt, Spain, Ethiopia, France, Gabon Republic, Ghana, Republic of Guinea, Republic of Upper Volta, Republic of Kenya, Republic of Liberia, Malawi, Malagasy Republic, Republic of Mali, Kingdom of Morocco, Mauritius, Islamic Republic of Mauritania, Republic of the Niger, Federal Republic of Nigeria, Republic of Uganda, United Kingdom of Great Britain and Northern Ireland, Republic of the Senegal, United Republic of Tanzania, Republic of the Chad, Togolese Republic, Republic of Zaire, Republic of Zambia*

parties to the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Band in the African Broadcasting Area (Geneva, 1966), and meeting in Geneva for the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), convened in accordance with the provisions of the International Telecommunication Convention (Malaga-Torremolinos, 1973),

*agree*

that the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Band in the African Broadcasting Area (Geneva, 1966) and the Plan annexed thereto shall be abrogated and replaced by the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1 on the date of entry into force of this Agreement.

*(The delegations of the above-mentioned countries have signed the Additional Protocol II)*

## ADDITIONAL PROTOCOL III

### **Relating to the Use of the Frequency 522 kHz by the Broadcasting Service in Austria**

The delegates of the following Members of the International Telecommunication Union:

*Republic of Afghanistan, Algeria (Algerian Democratic and Popular Republic), Federal Republic of Germany, Austria, People's Republic of Bangladesh, Belgium, Byelorussian Soviet Socialist Republic, People's Republic of Bulgaria, Republic of Burundi, Republic of Cyprus, Vatican City State, Denmark, Finland, France, Republic of Upper Volta, Hungarian People's Republic, Iran, Ireland, Iceland, Italy, Hashemite Kingdom of Jordan, State of Kuwait, Kingdom of Lesotho, Lebanon, Republic of Liberia, Principality of Liechtenstein, Luxembourg, Malawi, Monaco, Federal Republic of Nigeria, Norway, Kingdom of the Netherlands, People's Republic of Poland, Portugal, German Democratic Republic, Ukrainian Soviet Socialist Republic, Socialist Republic of Roumania, United Kingdom of Great Britain and Northern Ireland, Sweden, Confederation of Switzerland, Czechoslovak Socialist Republic, Togolese Republic, Tunisia, Turkey, Union of Soviet Socialist Republics, People's Democratic Republic of Yemen*

meeting in Geneva for the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, convened in accordance with the provisions of the International Telecommunication Convention (Malaga-Torremolinos, 1973),



*take note of the following:*

1. by virtue of No. 185 of the Radio Regulations, Austria may keep the broadcasting station Innsbruck in the band 515-525 kHz provided that it does not cause harmful interference to the maritime mobile service;
2. for many years a synchronized network of three transmitters each of 10 kW carrier power and four transmitters of very low power have been recorded in the Master International Frequency Register on behalf of Austria on the express condition, as specified in No. 115 of the Radio Regulations, that no harmful interference is caused to services carried out by stations operating in accordance with the provisions of the Convention; the use of these transmitters on the frequency 520 kHz with a bandwidth greater than 9 kHz has not given rise to complaint;
3. Austria proposes to change the carrier frequency of the assignment in this band to the nearest multiple of 9 kHz (522 kHz) for the sake of compatibility with the channelling plan adopted by this Conference, to reduce the radiation bandwidth to 9 kHz and to increase the power of the Innsbruck station from 10 to 30 kW. It is proposed that such changes should come into force on 23 November 1978 at 0001 hours (GMT);
4. for the proposed stations on frequency 522 kHz coordination in relation only to other stations of the broadcasting service has been carried out by applying all the technical criteria adopted by this Conference (with the exception of the value of the carrier frequency). The resulting characteristics of the proposed stations on frequency 522 kHz are shown in the Annex;
5. the provisions of this Additional Protocol in no way affect the status of the stations concerned with respect to stations of the other radiocommunication services to which the frequency-band 515-525 kHz is allocated and the provisions of Nos. 185 and 115 of the Radio Regulations still apply;
6. the provisions of this Additional Protocol in no way prejudice any decisions which the World Administrative Radio Conference scheduled for 1979 may make concerning No. 185 of the Radio Regulations.

*Annex: 1*

*(The delegations of the above-mentioned countries have signed the Additional Protocol III)*

## ANNEX

Assigned frequency (kHz) (Channel number)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station	Necessary bandwidth (kHz)	Carrier power (kW)	Authorized maximum radiation (dB)	Antenna		Ground conductivity (mS/m)	Hours of operation (GMT)
							Type	Height (m)		
1	2	3	4	5	6	7	8	9	10	11
522	MUEHLBACH HKG	AUT	13E07 47N22	D9	0.1	-10	A	15	0.3 (6)	0000-2400
522	MURAU	AUT	14E11 47N07	D9	0.1	-10	A	15	0.3 (6)	0000-2400
522	NEUKIRCHEN GRV	AUT	12E17 47N15	D9	0.1	-10	A	15	0.3 (6)	0000-2400
522	INNSBRUCK ALDR	AUT	11E27 47N15	D9	30	15	A	151	0.3 (6)	0000-2400
522	LIENZ OSTTIROL	AUT	12E47 46N49	D9	10	10	A	104	0.1(7)	0000-2400
522	LIEZEN	AUT	14E14 47N34	D9	10	10	A	150	0.3(6)	0000-2400

**RESOLUTIONS  
AND  
RECOMMENDATIONS**



RESOLUTION No. 1

**Relating to the Updating of the Master International Frequency Register  
on the Date of Entry into Force of the Agreement**

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

*noting*

- a) that in accordance with Article 5 of the Agreement, administrations shall notify to the I.F.R.B., in conformity with Article 9 of the Radio Regulations, frequency assignments which will be in use at the date of entry into force of the Agreement;
- b) that according to the provisions of Article 9 of the Radio Regulations, Contracting Members may possess, for their frequency assignments, certain rights attaching to the dates entered in Column 2a or 2b of the Master International Frequency Register opposite the assignments concerned with respect to other frequency assignments:
- to the broadcasting stations of non-Contracting Members, or
  - stations of other radiocommunication services;

*considering*

- a) that, under the terms of the Agreement, Contracting Members have adopted for their broadcasting stations in Regions 1 and 3 the characteristics specified in the Plan and that consequently such stations will operate from the date of entry into force of the Agreement in conformity with the characteristics specified in the Plan, except in those cases covered by Resolution No. 7;
- b) that the Conference has adopted uniform channel spacing necessitating modification of the carrier frequency of most of the stations in use and that this modification may affect, in particular, stations of other radiocommunication services;

*resolves*

1. that, on 23 November 1978 at 0001 hours (GMT), administrations shall change the carrier frequency and the other characteristics of their existing broadcasting stations in order to bring them into conformity with the Plan, except in those cases covered by Resolution No. 7;
2. that administrations shall notify to the I.F.R.B. the frequency assignments which are so modified. This notification shall be made as soon as possible within the period specified in Article 9 of the Radio Regulations (that is, ninety days before the date of entry into force of the Agreement);
3. that in addition to the information specified in Appendix 1 to the Radio Regulations, administrations shall indicate the frequency assignments whose entries are as a consequence to be deleted from the Master Register;
4. that in accordance with the provisions of Article 9 of the Radio Regulations the I.F.R.B. shall examine these notifications with respect to existing entries in the Master Register which relate to broadcasting stations of non-Contracting Members and stations of other radiocommunication services;
5. that, according to its finding, the I.F.R.B. shall record these assignments in the Master Register with the appropriate date in Column 2a or 2b. However, when the date to be recorded in Column 2a or 2b is different from that already registered this latter date shall be transferred to Column 13c with an appropriate symbol. At the same time the I.F.R.B. shall enter another symbol in the Remarks Column to indicate that this frequency assignment is in conformity with the Plan and that as a result it shall be considered as having the same status as any other assignments in conformity with the Plan irrespective of the date these later assignments may have in Column 2a or 2b;
6. that, three months after the date of entry into force of the Agreement, the I.F.R.B. shall send to each administration a list of its frequency assignments recorded in the Master Register for which the I.F.R.B. has received no notification and it shall urge such administrations to provide the necessary information for updating the Master Register;
7. that, if in spite of its reminder the I.F.R.B. receives no reply, a symbol shall be inserted in the Remarks Column indicating that the assignment concerned is not in conformity with the Agreement;

*invites the I.F.R.B.*

to assist administrations in implementing the provisions of this Resolution.

## RESOLUTION No. 2

**Relating to Frequency Assignments in Low-Power Channels (LPC)**

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

*noting*

- a) that the planning of LPC frequency assignments is based on the criteria laid down in Annex 2 to the Agreement;
- b) that the provisions of Article 4 (paragraph 3.3) of the Agreement apply to changes in or additions to LPC frequency assignments made after 23 November 1978;

*considering*

- a) that it has not been possible, during the Conference, to examine all LPC requirements;
- b) that the LPC frequency assignments might be coordinated among administrations before the entry into force of the Agreement;

*resolves*

1. that the LPC frequency assignments shall form Appendix 1 to the Plan;
2. that a provisional appendix established by the Conference shall contain:
  - those LPC frequency assignments which do not require the agreement of any other administration, and those for which the agreement of all administrations concerned has been obtained; and
  - those LPC frequency assignments for which it has not been possible to seek or obtain the agreement of all the administrations concerned during the Conference; such assignments shall have a symbol indicating this fact and a list of any countries with which agreement has already been reached;
3. that the provisions of Annex 2 (paragraph 4.8.1) to the Agreement shall be used by administrations until 1 January 1978 to coordinate the LPC frequency assignments;

*instructs the I.F.R.B.*

1. to prepare Appendix 1 to the Plan for publication by the Secretary-General within the time limit specified for this purpose; to this end the I.F.R.B. shall amend the provisional appendix by including therein those frequency assignments which it has been possible to coordinate and by excluding those frequency assignments which it has not been possible to coordinate;
2. to provide every assistance to administrations which so request in order to facilitate coordination:

*instructs the Secretary-General*

to publish by 1 May 1978 the Appendix thus prepared by the I.F.R.B.

## RESOLUTION No. 3

**Relating to the continued Coordination of Frequency Requirements  
of Countries not represented at the Conference**

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

*recalling*

- a) that it invited countries not represented at the Conference to submit their requirements and to attend the Conference in time for the necessary bilateral and multilateral negotiations;
- b) that it asked the I.F.R.B., pursuant to No. 479 of the Radio Regulations, to assist countries not represented at the Conference by taking care of the requirements they submitted and which are listed in the Annex to this Resolution;

*noting*

- a) that certain Members of the Union not represented at the Conference submitted their requirements only towards the end of the Conference;
- b) that some of the requirements thus submitted were not accompanied by sufficient data to enable them to be coordinated;
- c) that these requirements substantially affect the requirements of other countries;
- d) that owing to the difficulties of communication experienced by the I.F.R.B. it was not possible to complete the coordination of requirements among the countries mentioned in a) and c) above;

*noting moreover*

that assignments to existing broadcasting stations of countries not represented at the Conference which are recorded in the Master Register or in the African Plan, Geneva, 1966, might be included in the Plan:

*considering*

- a) that the requirements of countries not represented at the Conference for which coordination has not been completed during the Conference may be coordinated after the Conference:
- b) that such coordination could possibly necessitate a change of frequencies or of other characteristics of assignments included in the Plan;
- c) that such changes might affect the assignments of administrations other than those whose requirements are directly affected by the requirements of countries not represented at the Conference;

*resolves*

1. that the assignments to broadcasting stations of countries not represented at the Conference which are recorded in the Master Register or in the African Plan, Geneva, 1966, shall be included in the Plan on the nearest new carrier frequencies of the Plan unless they are so incompatible with the other assignments in the Plan that coordination is necessary. In that case they shall be recorded in the Plan subject to coordination in accordance with the procedure specified in 3 to 5 below;
2. that, if the said procedure is satisfactorily completed, the frequency requirements listed in the Annex to this Resolution, of countries not represented at the Conference and for which coordination was not completed during the Conference shall be transferred to the Plan;
3. that coordination of these requirements among the administrations concerned shall be continued after the Conference through the I.F.R.B. Efforts should be made to complete coordination before the date of entry into force of the Agreement;
4. that, if the above coordination requires consequential changes in assignments of other Contracting Members, the procedure provided for in Article 4 of the Agreement shall be applied. In any case, the results of the coordination shall be published in the special section of the I.F.R.B. weekly circular referred to in Article 4 (paragraph 3.2.14) of the Agreement;
5. that the administrations concerned shall endeavour to make satisfactory provision for the requirements listed in the *Annex to this Resolution* for example, by agreeing to an increase in the usable field strength above the value given in Article 4 (paragraph 3.2.5) of the Agreement;

*instructs the Secretary-General*

1. to invite the countries Members of the Union not represented at the Conference to accede to the Agreement as soon as possible;
2. to bring the provisions of the International Telecommunication Convention to the attention of the other countries non-Members of the Union with a view to inviting them to accede to that instrument and then to this Agreement;
3. to bring this Resolution to the attention of these countries with a view to encouraging them to accede to the Agreement;

*instructs the I.F.R.B.*

1. to assist the administrations concerned in reaching a satisfactory solution;
2. to include in the master copy of the Plan the frequency assignments resulting from the successful application of the procedure mentioned in this Resolution.

*Annex:* 1 (with 1 appendix)

## ANNEXE / ANNEX / ANEXO

(En ce qui concerne les renseignements inclus dans les colonnes, voir page 12B/ As far as information included in the columns is concerned, see page 12B/ En lo que concierne a la información que figura en las columnas, véase la página 12B)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Angola														
1089	LUANDA	AGL	13E49	08S48	A20	100	20.4			A	75	3	0000-2400	
1368	LUANDA	AGL	13E20	08S50	A20	100	20.4			A	60	3	0000-2400	
Etat de Bahrein / State of Bahrain / Estado de Bahrein														
558	BAHRAIN	BHR	50E28	26N09	A 9	50	17.4			A	150	5	0300-2100	
612	BAHRAIN	BHR	50E28	26N09	A 9	20	13.4			A	95	5	0300-2100	
République Socialiste de l'Union de Birmanie / Socialist Republic of the Union of Burma / Republica Socialista de la Unión de Birmania														
954	RANGOON	BRM	96E10	16N52	A20	50	17.6			A	122	3	0000-1600	
Cambodge / Cambodia														
999	PHNOMPENH	CBG	104E55	11N34	A10	120	21.2			A	75	3	0000-2400	



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
République Populaire Démocratique de Corée / Democratic People's Republic of Korea / República Popular Democrática de Corea														
540	MYONGGAN	KRE	129E31	41N16	A16	10	10.4			A	110		2000-1800	
549	JHANGJIN	KRE	127E35	40N23	A16	10	10.4			A	110		2000-1800	
585	PYONGYANG	KRE	125E48	39N21	A16	500	29.1			A	250		2000-1800	
603	YOENGHUNG	KRE	127E14	39N30	A16	100	20.6			A	150		2000-1800	
612	CHONMA	KRE	125E02	40N03	A16	100	20.6			A	150		2000-1800	
621	SARIWON	KRE	125E45	38N25	A16	1000	32.1			A	200		2000-1800	
630	BUKCHONG	KRE	128E20	40N10	A16	100	20.6			A	150		2000-1800	
639	CHONGJIN	KRE	129E43	41N55	A16	500	29.1			A	200		2000-1800	
657	KANGNAM	KRE	125E33	39N05	A16	1500	33.9			A	200		2000-1800	
684	SAMGO	KRE	126E32	38N02	A16	250	24.6			A	150		2000-1800	
702	CHONGJIN	KRE	129E41	41N55	A16	50	17.4			A	70		2000-1800	
720	WIWON	KRE	126E02	40N50	A16	500	27.6			A	150		2000-1800	
738	SINSANG	KRE	127E25	39N39	A16	100	20.6			A	115		2000-1800	
765	HYESAN	KRE	128E12	41N24	A16	50	17.4			A	70		2000-1800	
783	PYONGYANG	KRE	125E40	39N04	A16	1000	32.1			A	200		2000-1800	
801	HWADAE	KRE	129E26	40N51	A16	500	27.6			A	150		2000-1800	
810	KAESONG	KRE	126E34	37N59	A16	50	17.6			A	115		2000-1800	
819	CHONGJIN	KRE	129E43	41N52	A16	500	27.6			A	150		2000-1800	
855	SANGWON	KRE	126E06	38N51	A16	500	30.4			A	200		2000-1800	
864	SHINUIJU	KRE	124E30	40N01	A16	250	24.6			A	120		2000-1800	
882	WONSAN	KRE	127E25	39N04	A16	250	24.6			A	100		2000-1800	
927	HWANGJU	KRE	125E47	38N41	A16	50	19.1			A	150		2000-1800	
999	HAMHEUNG	KRE	127E39	39N56	A16	250	24.6			A	115		2000-1800	
1080	ONGJIN	KRE	125E22	37N56	A16	1500	33.9			A	150		2000-1800	
1116	PUKCHANG	KRE	126E20	39N35	A16	50	17.6			A	105		2000-1800	
1179	JONGJU	KRE	125E12	39N44	A16	100	22.1			A	105		2000-1800	
1224	UNSAN	KRE	125E54	40N06	A16	50	19.1			A	105		2000-1800	
1341	KIMCHAEK	KRE	129E10	40N50	A16	100	22.1			A	105		2000-1800	
1440	NAMPO	KRE	125E22	38N49	A16	100	22.1			A	105		2000-1800	
1512	KILJU	KRE	129E21	40N57	A16	30	15.2			A	50		2000-1800	
1521	PYONGYANG	KRE	125E32	39N05	A16	50	17.6			A	75		2000-1800	
1530	RYONGRIM	KRE	129E39	40N13	A16	50	17.6			A	75		2000-1800	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
République de la Guinée équatoriale / Republic of Equatorial Guinea / República de Guinea Ecuatorial														
675	BATA	GNE	09E46	01N48	A20	100	22.1			A				
République d'Iraq / Republic of Irak / República de Iraq														
558	ANAH	IRQ	41E50	34N30	A18	600	28.2			A	123	4	0200-2300	
603	MOSUL	IRQ	43E05	36N20	A18	600	28.2			A	114	4	0200-2300	
693	BASRAH	IRQ	47E45	30N15	A20	1200				B		5	0200-2300	
846	MISAN	IRQ	47E15	31N50	A18	600	28.2			A	81	3	0200-2300	
909	ABU GHRAIB	IRQ	44E15	33N19	A20	200				B		4	0200-2300	
1035	BABEL	IRQ	44E30	32N30	A20	2000				B		4	0200-2300	
1359	KIRKUK	IRQ	44E25	35N30	A20	250	26.1			A	112	4	0200-2300	
République des Maldives / Republic of Maldives / República de las Maldivas														
1458	MALE	MLD	73E30	04N10	A 7	50	19.1			A	115	3	0100-1700	
Namibie / Namibia														
990	OSHAKATI	NMB	15E42	17S48	A20	100	20.6			A	111	3	0000-2400	
1062	OKAKARARA	NMB	17E27	20S35	A20	100	22.1			A	141	4	0000-2400	
1557	GOBABIS	NMB	18E58	22S27	A20	100	22.1			A	96	3	0000-2400	
Sultanat d'Oman / Sultanate of Oman / Sultanía de Omán														
738	IZKI	OMA	57E46	22N56	A 9	1500	33.9			A		6	0300-2100	
1035	SALALAH	OMA	54E06	17N03	A 9	100				B		4	0300-2100	
1242	SEEB	OMA	58E10	23N40	A 9	100	20.4			A	59	5	0300-2100	
1368	NIZWA	OMA	57E32	22N56	A 9	50	19.1			A		6	0300-2100	
1395	AL WASAIL	OMA	58E14	23N12	A 9	50	19.1			A		6	0300-2100	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sierra Leone / Sierra Leona														
558	SEFADU	SRL	11W45	07N58	A 9	50	17.0			A	40	2	0500-2400	
1278	KABALA	SRL	11W35	09N35	A 9	50	17.4			A	40	2	0500-2400	
République Démocratique Somalie / Somali Democratric Republic / República Democrática Somalí														
702	MERCA	SOM	44E50	01N40	A18	25	14.4			A	100	4	0300-2100	
Royaume du Swaziland / Kingdom of Swaziland / Reino de Suazilandia														
954	SIDVOKODVO	SWZ	31E26	26S38	A20	100	22.1			A	160	7	0400-2200	
République du Sud Viet-Nam / Republic of Viet-Nam (South) / República de Viet-Nam del Sur														
702	DANANG	VTN	108E17	16N04	A10	50				B		4	2100-1600	

*Appendice / Appendix / Apéndice: 1*



## **APPENDICE**

### **Gain de l'antenne (en dB) pour différents azimuts et angles de site**

(en ce qui concerne les renseignements inclus dans les colonnes, voir page 280A)

## **APPENDIX**

### **Antenna Gain (dB) for different Azimuths and Angles of Elevation**

(as far as information included in the columns is concerned, see page 280A)

## **APÉNDICE**

### **Ganancia de antena (en dB) para diferentes acimutes y ángulos de elevación**

(en lo que concierna a la informacion que figura en las columnas, véase la página 280A)



1 2 3 4 AZIMUT – AZIMUTH – ACIMUT  
 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

Republique d'Iraq / Republic of Iraq / República de Iraq

IRQ 693 BASRAH 0 3 2 0 -1 -3 -4 -6 -7 -8 -9 10 -9 -8 -7 -6 -4 -2 -1 0 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 4 4

IRQ 909 ABU GHRAIB 0 2 1 -1 -3 -5 -6 -6 -6 -5 -3 -1 1 2 2 2 2 2 2 2 1 -1 -3 -5 -6 -6 -6 -5 -3 -1 1 2 2 2 2 2 2 2 2

IRQ 1035 BABEL 0 -14 -18 -20 -22 -22 -22 -22 -22 -22 -22 -22 -22 -22 -22 -20 -18 -14 -12 -10 -6 -1 3 7 -10 -11 -11 -11 -10 7 3 -1 -6 -10 -12

Sultanat d'Oman / Sultanate of Oman / Sultanía de Oman

OMA 1035 SALALAH 0 2 3 4 5 6 7 7 7 7 6 5 3 2 1 1 2 2 2 2 2 2 1 1 2 3 5 6 7 7 7 7 6 5 4 3 3 2  
 1 5 7 2  
 2 5 7 2  
 3 4 6 2  
 4 3 4 3  
 5 2 3 1  
 6 0 0 -1  
 7 -3 -3 -3  
 8 -8 -8 -8  
 9 -10 -10 -10

République du Sud Viet Nam / Republic of Vietnam (South) / República de Vietnam del Sur

VTN 702 DANANG 0 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -5 -3 -1 0 1 2 2 3 3 3 3 3 3 3 3 3 3 2 2 1 0 -1 -4 -5 -6





RESOLUTION No. 4

**Relating to the Determination of the Service Areas  
of the Stations in the Plan**

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

*noting*

that the work of the Conference has been based on calculations made of the usable field strength of each frequency assignment in the direction of the main interfering transmitter;

*considering*

- a) that it may be useful to know the boundaries of the service areas resulting from the Plan;
- b) that time did not permit such boundaries to be determined during the Conference;

*instructs the I.F.R.B.*

to prepare for publication by the Secretary-General a document indicating, in 18 azimuths around each of the stations included in the Plan when its carrier power is equal to or greater than 10 kW or when a directional antenna is used, the following values:

- the usable field strength of the ground wave by day and the corresponding distance,
- the usable field strength of the ground wave by night and the corresponding distance,
- the usable field strength of the sky wave and the corresponding distance.

RESOLUTION No. 5

**Relating to the Accession to the Agreement of Countries  
not represented at the Conference and which  
did not send their Frequency Requirements**

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

*considering*

- a) that the Plan annexed to the Agreement cannot be truly comprehensive unless it takes into account the requirements of all countries in Regions 1 and 3;
- b) that some countries Members of the Union which were invited to the Conference have been unable, for one reason or another, to participate in its work and to inform it of their frequency requirements;
- c) that countries which are not at present Members of the Union should be encouraged to accede to the Agreement after acceding to the International Telecommunication Convention;
- d) that when these countries accede to the Agreement they might have some difficulty in obtaining satisfactory inclusion of their frequency requirements in the Plan;
- e) that these countries should be fully informed of their rights and obligations under the Agreement;

*resolves*

1. that when any of the countries mentioned in considering b) or c) indicates its intention of acceding to the Agreement the Secretary-General shall immediately bring this Resolution to its notice and invite it to inform the I.F.R.B. of its frequency requirements for inclusion in the Plan;
2. that if the assistance of the I.F.R.B. is requested, it shall undertake any necessary studies or examinations and communicate the results to the administration concerned;

3. that the administration concerned shall apply, either directly or through the I.F.R.B., the procedure laid down in Article 4 of the Agreement;
4. that administrations shall endeavour to make satisfactory provision for the requirements thus expressed, for example, by agreeing to an increase in the usable field strength above the value given in Article 4 (paragraph 3.2.5) of the Agreement.

RESOLUTION No. 6

**Relating to the Low Frequencies  
in the African Broadcasting Area**

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

*noting*

- a) that the World Administrative Radio Conference to be held in 1979 may modify the conditions governing the use of the 150-285 kHz band in Region 1;
- b) that in certain parts of Region 1 this frequency band is not allocated to broadcasting;
- c) that, owing to the lack of experimental data, the possibilities of using the LF band in the African Broadcasting Area are not yet known;
- d) that, apart from a few requirements, the countries in the African Broadcasting Area have not expressed any needs in this band;

*considering*

that this should not be interpreted as meaning that these countries are willing to forgo the use of this band for broadcasting;

*resolves*

1. that, if one of the Contracting Members in the African Broadcasting Area proposes to bring a broadcasting station into service in the 150-285 kHz band in conformity with the Radio Regulations, the procedure laid down in Article 4 shall be applied;
2. that administrations shall endeavour to find a solution to meet these needs, for example, by accepting an increase of the usable field strength above the value laid down in Article 4 (paragraph 3.2.5) of the Agreement.

RESOLUTION No. 7

**Relating to the Use of LF Bands shared between  
the Broadcasting Service and the other  
Radiocommunication Services**

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

*noting*

that the use of the LF bands by broadcasting stations could adversely affect the stations of other radiocommunication services to which these bands are allocated in Regions 1 and 3, and particularly stations in the aeronautical radionavigation service and the maritime mobile service involving the safety of human life;

*considering*

- a) the terms of Chapter 8 of the Report of the First Session;
- b) that the Plan includes a number of new broadcasting transmitters in these bands and increases in the power of transmitters already in use, thereby considerably increasing the probability of harmful interference to the safety services;

*taking into account*

the provisions of Nos. 116 and 117 of the Radio Regulations;

*resolves*

1. that from the date of signature of the Final Acts of this Conference, new LF broadcasting transmitters shall not be brought into use nor changes be made to the characteristics of existing LF assignments until after the World Administrative Radio Conference to be held in 1979 has decided about the allocation of LF bands between the radiocommunication services concerned;
2. that if, nevertheless, such changes or additions would not increase the probability of harmful interference to the assignments of the other radiocommunication services, they may be brought into use;
3. that if such changes or additions would increase the probability of harmful interference to the assignments of the other radiocommunication services, they may be brought into use only with the agreement of the administrations whose frequency assignments to such stations, in conformity with the Table of Frequency Allocations, have been recorded in the Master Register;
4. that the administrations of Contracting Members be asked to bring this Resolution to the attention of the competent organizations in their countries responsible for other radiocommunication services and to recommend them to refrain, so far as possible, from bringing into use new stations likely to cause harmful interference to broadcasting stations operating in conformity with the Table of Frequency Allocations, pending the decisions the World Administrative Radio Conference, 1979 may make concerning the use of these shared frequency bands;

*requests the Secretary-General*

to bring this Resolution and Recommendation No. 2 to the notice of all administrations.

#### RESOLUTION No. 8

##### **Relating to the Use of Bandwidth Saving Modulation Systems**

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

*considering*

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

*invites the C.C.I.R.*

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

*resolves*

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

RESOLUTION No. 9

**Relating to Member Countries not represented at the Conference  
and to non-Member Countries**

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

*considering*

- a) the provisions of Resolution No. 31 of the Plenipotentiary Conference (Malaga-Torremolinos, 1973) excluding the Government of the Republic of South Africa from the Plenipotentiary Conference and from all other conferences and meetings of the Union;
- b) the situation of Member and non-Member countries absent from the Conference;
- c) the resolutions and provisions adopted by the Conference in order to provide an appropriate solution to the different problems of those countries in connection with the Agreement and the annexed Plan;

*resolves*

that the provisions and resolutions adopted by the Conference for the benefit of Member and non-Member countries absent from the Conference shall not be applied to the Government of the Republic of South Africa.

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RECOMMENDATION No. 1

**Relating to Improvements to the Plan**

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

*noting*

that the Conference has not produced satisfactory results for all countries because of the excessive number of frequency requirements submitted;

*considering*

that it has as a result not been possible to make provision in line with the criteria adopted at the First and Second Sessions of the Conference, for the justified requirements of certain countries, in particular the developing countries and countries which are faced with special conditions;

*recommends*

1. that administrations should continue with bilateral and multilateral negotiations after the Conference with a view to improving the situation of services in the LF and MF bands, particularly by means of mutual concessions and commonly agreed reductions in the number of assignments recorded in the Plan for regions where the usable field strength remains very high;
2. that, with this aim in view, the I.T.U. should grant the necessary assistance to administrations which so request, in accordance with the provisions of the Convention.

RECOMMENDATION No. 2

**Relating to the Sharing of the LF Band between the  
Broadcasting Service and the other Radiocommunication  
Services (Region 1)**

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

*noting*

- a) that the sharing, on a basis of equality, of the band 255-285 kHz between the broadcasting service in a part of Region 1 and the aeronautical radionavigation service in practice results in harmful interference to aeronautical radio-beacons;
- b) that the aeronautical radionavigation service is a safety service (No. 69 of the Radio Regulations) and its adequate protection against harmful interference is essential to the safeguarding of human life;

*considering*

that it would be desirable to avoid allocations which permit sharing between the broadcasting service and other services, such as the maritime mobile and aeronautical radionavigation services;

*recommends*

that the World Administrative Radio Conference, 1979, examine this question with due regard to the interests of each of the services concerned.

## RECOMMENDATION No. 3

**Relating to Methods of Predicting Sky-Wave Propagation**

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

*considering*

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

*recommends to administrations*

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

## RECOMMENDATION No. 4

**Relating to the Convening of a Conference competent to revise the Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1**

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

*considering*

- a) the rapid development of broadcasting techniques;
- b) the future requirements of the developing countries, which may be substantial both in the LF and in the MF bands, if these countries are to be in a position to meet the needs of their national broadcasting services;
- c) that it has not been possible to accommodate in a satisfactory manner on a long term basis in the low and medium frequency bands allocated to the broadcasting service the requirements that have been submitted;
- d) that consequently the Agreement has been prepared on the basis of requirements for the next fourteen years and therefore it is absolutely essential for the Agreement to be revised as soon as practicable after that period;

*recommends to the Administrative Council*

to arrange for the convening of a conference competent to revise the Agreement in 1989, unless it be necessary to convene such a conference earlier according to the provisions of the Convention.

## RECOMMENDATION No. 5

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

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

*considering*

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

*recommends*

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

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