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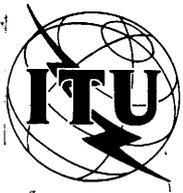
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FINAL ACTS

of the

AFRICAN LF/MF BROADCASTING CONFERENCE

GENEVA

1966

Published by the

INTERNATIONAL TELECOMMUNICATION UNION

GENEVA

REGIONAL AGREEMENT

FOR THE

AFRICAN BROADCASTING AREA

PROTOCOL

FINAL PROTOCOL

RESOLUTIONS



Published by the

INTERNATIONAL TELECOMMUNICATION UNION

GENEVA



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**REGIONAL AGREEMENT CONCERNING THE USE BY THE
BROADCASTING SERVICE OF FREQUENCIES IN THE MEDIUM
FREQUENCY BAND IN THE AFRICAN BROADCASTING AREA**

PREAMBLE

The undersigned Delegates of the Administrations of the following Members of the International Telecommunication Union, meeting in Geneva for a Special Regional Conference convened under the terms of Article 7 of the International Telecommunication Convention, Geneva, 1959, have adopted, subject to the approval of their Administrations, the following provisions relating to the broadcasting service in the African Broadcasting Area for the band between 525 and 1605 kc/s allocated on a primary basis to the broadcasting service under Article 5 of the Radio Regulations, Geneva, 1959:

Algeria (Algerian Democratic and Popular Republic), Burundi (Kingdom of), Cameroon (Federal Republic of), Central African Republic, Chad (Republic of the), Congo (Democratic Republic of the), Congo (Republic of the) (Brazzaville), Dahomey (Republic of), Ethiopia, France, Gabon Republic, Ghana, Group of Territories represented by the French Overseas Post and Telecommunication Agency, Guinea (Republic of), Ivory Coast (Republic of the), Kenya, Liberia (Republic of), Malagasy Republic, Malawi, Mali (Republic of), Mauritania (Islamic Republic of), Morocco (Kingdom of), Niger (Republic of the), Nigeria (Federal Republic of), Overseas Territories for the international relations of which the Government of the United Kingdom of Great Britain and Northern Ireland are responsible, Portuguese Overseas Provinces, Rwanda (Republic of), Senegal (Republic of the), Spain, Spanish Provinces in Africa, Tanzania (United Republic of), Togolese Republic, Uganda, United Arab Republic, Upper Volta (Republic of), Zambia (Republic of).

ARTICLE 1

Definitions

- 1 For the purposes of the present Agreement, the following terms shall have the meanings defined below:
- 2 *Union*: The International Telecommunication Union;
- 3 *Secretary-General*: The Secretary-General of the Union;
- 4 *I.F.R.B.*: The International Frequency Registration Board;
- 5 *C.C.I.R.*: The International Radio Consultative Committee;
- 6 *Convention*: The International Telecommunication Convention, Geneva, 1959;
- 7 *Radio Regulations*: The Radio Regulations, Geneva, 1959;

- 8 *African Broadcasting Area:* The term African Broadcasting Area designates:
- a) African countries, parts of countries, territories and groups of territories situated between the parallels 40° South and 30° North,
 - b) islands in the Indian Ocean West of meridian 60° East, situated between the parallel 40° South and the great circle arc joining the points 45° East 11° 30' North and 60° East 15° North,
 - c) islands in the Atlantic Ocean East of Line B defined in No. 131 of the Radio Regulations, situated between the parallels 40° South and 30° North;
- 9 *Agreement:* The whole of the present Agreement and its 2 Annexes;
- 10 *Plan:* The Plan forming Annex 1 to the Agreement;
- 11 *Contracting Administration:* Any Administration which has approved or acceded to the Agreement.

ARTICLE 2

Execution of the Agreement

- 12 1. The Contracting Administrations shall adopt for their broadcasting stations operating in the African Broadcasting Area in the frequency band referred to in the Agreement, the characteristics specified in the Plan.
- 13 2. The Contracting Administrations shall not put assignments complying with the Plan into use, change the technical characteristics of stations specified in the Plan, or put into use new stations, except under the conditions provided for in Articles 3 and 4 of the present Agreement.
- 14 3. The Contracting Administrations shall endeavour to agree on the action required to reduce any harmful interference caused by the application of the Agreement.
- 15 4. Should agreement, as envisaged in paragraph 3 above, prove impossible, the dissenting Administrations may resort to the procedure laid down in Article 15 of the Radio Regulations *) and, if necessary, to that laid down in Article 27 of the Convention **).

ARTICLE 3

Proposed changes in the characteristics of stations covered by the Agreement and proposed operation of new stations

1. Procedure for modifications to the Plan

- 16 1.1 When a Contracting Administration proposes to make a modification to the Plan, i.e. either:
- to change the technical characteristics of a broadcasting station shown in the Plan or put into use in accordance with the provisions of the Agreement, or
 - to put into use a broadcasting station not appearing in the Plan,
- the following procedure shall be applied before any notification is made under the provisions of Article 9 of the Radio Regulations *) (see Article 4 below):

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

**) or the corresponding article of the International Telecommunication Convention currently in force.

- 17 1.1.1 The Administration proposing a modification shall inform the I.F.R.B., furnishing all the information specified in Appendix 1, Section A, to the Radio Regulations, together with the additional following information concerning the transmitting antenna:
- for a simple antenna system, the electric height, expressed in fractions of wavelength (e.g. 0.625λ),
 - for a complex antenna system, the directional characteristics in both the horizontal and the vertical planes.
- 18 1.1.2 The I.F.R.B. shall publish the information received pursuant to No. 17 in a special section of its weekly circular.
- 19 1.1.3 Any Contracting Administration, or the I.F.R.B., may request from the Administration proposing the modification to the Plan any other information they may need to assess the probability of harmful interference to services which may be concerned or affected.
- 20 1.1.4 The Administration proposing to change the technical characteristics of stations appearing in the Plan or put into use in accordance with the provisions of the Agreement may proceed with its project, subject to the provisions of Article 9 of the Radio Regulations *) (see Article 4 below), if the proposed changes relate either:
- to a reduction in power, or
 - to other changes of technical characteristics which would not increase the probability of harmful interference to services of other countries.
- In such cases, the Administration concerned shall specify, in the information supplied under No. 17, whether the proposed changes are temporary or permanent.
- 21 1.1.5 Comments from Contracting Administrations on information published pursuant to No. 18, where the provisions of No. 20 are not applicable, should be sent to the Administration proposing the modification, with a copy to the I.F.R.B.
- 22 1.1.6 Such comments must be received by the Administration proposing the modification either directly or through the I.F.R.B. within twelve weeks following the date of the weekly circular referred to in No. 18. Administrations which have not furnished such comments within this period shall be deemed to have agreed to the proposed modification.
- 23 1.1.7 If no comments have been received on expiry of the period of twelve weeks referred to in No. 22, or if agreement has been reached with the Contracting Administrations making these comments, the Administration proposing the modification may proceed with its project, subject to the provisions of Article 9 of the Radio Regulations *) (see Article 4 below).
- 24 1.2 The Administration proposing the modification shall then inform the I.F.R.B. of the results of the consultation carried out under the provisions of Nos. 19 and 21 to 23 and shall state the names of the Administrations with which co-ordination has been achieved; at the same time, this Administration shall indicate to the I.F.R.B. any change which may have been made, as a result of the consultation, to the technical characteristics previously furnished under No. 17.
- 25 1.2.1 The I.F.R.B. shall publish in a special section of its weekly circular the information received under No. 24, together with an appropriate symbol indicating that the Administration proposing the modification has stated that the provisions of the present Article have been successfully applied with respect to the assignment in question. Insofar as the relations between Contracting Administrations are concerned, such an assignment, as well as any assignment to which the provisions of No. 20 apply, shall be considered as having the same status as those appearing in the Plan, subject to the provisions of No. 27.

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

- 26 1.3 If no agreement is reached between the Administrations concerned under the provisions of Nos. 19 and 21 to 23, the I.F.R.B. shall make any technical examination or study that may be requested by the Administration proposing the modification, or by Administrations whose services may be affected by the proposed modification; the Board shall inform them of the result of such examination or study and shall give them an opinion on the technical questions involved, together with such recommendations it can make for the solution of the problem.
- 27 1.4 If a modification, although made in accordance with the provisions of the present Article, results in harmful interference to services of other Contracting Administrations, the Administration which has made the modification shall take the requisite action to eliminate such interference.
- 28 1.5 If, after application of the procedure specified in Nos. 19, 21 to 23 and 26, no agreement has been reached between the Administrations concerned, recourse may be had to the procedure defined in Article 15 of the Radio Regulations *) and, if necessary, to that laid down in Article 27 of the Convention **).
2. *Cancellation of assignments*
- 29 When an assignment appearing in the Plan (whether or not it has been put into use) or an assignment not appearing in the Plan, but for which the provisions of the present Article have been successfully applied, 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 4

Notification of frequency assignments

- 30 1. Whenever an assignment in conformity with the Plan or for which the procedure prescribed in Article 3 of the present Agreement has been successfully applied, is put into use, the Administration concerned 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 International Frequency 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.
- 31 2. Insofar as the relations between Contracting Administrations are concerned, all frequency assignments put into use in conformity with the Plan and recorded in the Master International Frequency Register, shall be considered as having the same status, irrespective of the dates entered in Column 2a or Column 2b for such assignments. Similarly, insofar as the relations between Contracting Administrations are concerned, the provisions of No. 27 shall apply irrespective of the dates entered in Column 2a or Column 2b for those assignments involved which are recorded in the Master International Frequency Register.

ARTICLE 5

Accession to the Agreement

- 32 1. The Administration of any Member or Associate Member of the Union in the African Broadcasting Area which has not signed this Agreement may accede thereto at any time. Such accession shall be

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

***) or the corresponding article of the International Telecommunication Convention currently in force.

made without reservation. The Secretary-General shall be notified thereof, and he shall inform the other Members and Associate Members of the Union.

- 33 2. Accession to the Agreement shall take effect on the date on which the notification of accession is received by the Secretary-General.

ARTICLE 6

Termination of participation in the Agreement

- 34 1. Any Contracting Administration shall have the right at any time to terminate its participation in the Agreement by a communication sent to the Secretary-General, who shall inform the other Members and Associate Members of the Union.
- 35 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 communication.

ARTICLE 7

Revision of the Agreement

- 36 No revision of the Agreement will be undertaken except by an Administrative Conference of the Members and Associate Members of the Union in the African Broadcasting Area convened in accordance with the procedure laid down in the Convention in force.

ARTICLE 8

Effective date of the Agreement

- 37 The Agreement shall enter into force on 1 January 1968 at 0000 hours G.M.T.

ARTICLE 9

Scope of application of the Agreement

- 38 1. The present Agreement shall bind Contracting Administrations in their relations with one another but does not bind those Administrations with non-Contracting Administrations.
- 39 2. If an Administration makes reservations with regard to any provision of the present Agreement, other Administrations shall be free to disregard the said provision in their relations with the Administration which has made such reservations.

ARTICLE 10

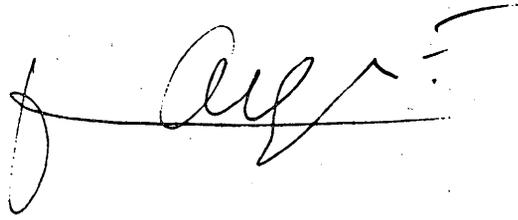
Approval of the Agreement

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

In witness whereof, the undersigned Delegates of the Administrations of the Members of the Union mentioned above have, on behalf of their respective Administrations, signed the present Agreement in a single copy in the French, English and Spanish languages, in which, in case of dispute, the French text shall be authentic. This copy shall remain in the archives of the Union. The Secretary-General shall forward one certified true copy to each signatory Administration.

Done at Geneva, 8 October 1966.

Pour la République Algérienne Démocratique et Populaire:



A. LAGHOUATI

M. HARBI

A. MAHIEDDINE

Pour le Royaume du Burundi:



L. KAHUNGU

V. JEAN-LOUIS

Pour la République Fédérale du Cameroun:




J. FOALEM-FOTSO

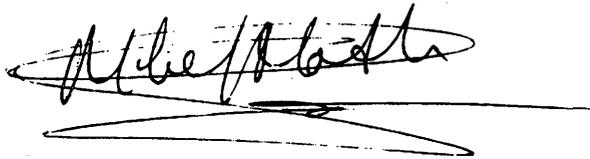
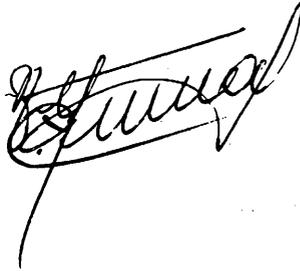
J. JIPGUEP

Pour la République Centrafricaine:



J. M'BILO

Pour la République Démocratique du Congo:



A.P. KUMBA

V. NIKUNA

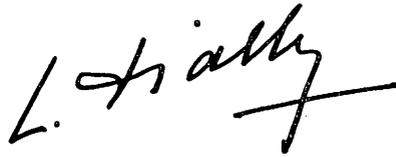
M.G. M'BELA

Pour la République du Congo (Brazzaville):



D. Koubatika

Pour la République de Côte d'Ivoire:



C. NOGBOU

L. DIALLO

P. KOPOIN

Pour la République du Dahomey:



T. BOURAÏMA

V. COMLAN

Pour l'Ensemble des Territoires représentés par
l'Office français des postes et télécommunications d'Outre-Mer:

~~Superviseur~~
Jean Aubertot

G. AUNEVEUX

J. AUBERTOT

Pour l'Espagne:

F. Benito



F. BENITO MESTRES

I. MIRO FORTEZA

Pour l'Ethiopie:

Bekele Girma
Bekele Girma

~~*Bekele Girma*~~
1749/87 n. n. d. k.

B. DESTA

T. SEBHATU

Pour la France:

Bekele Girma

M. Huet

B. de CHALVRON

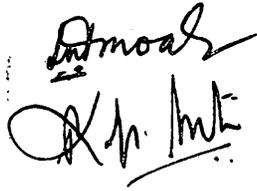
M. HUET

Pour la République Gabonaise:

P
P. Essone

P. ESSONE

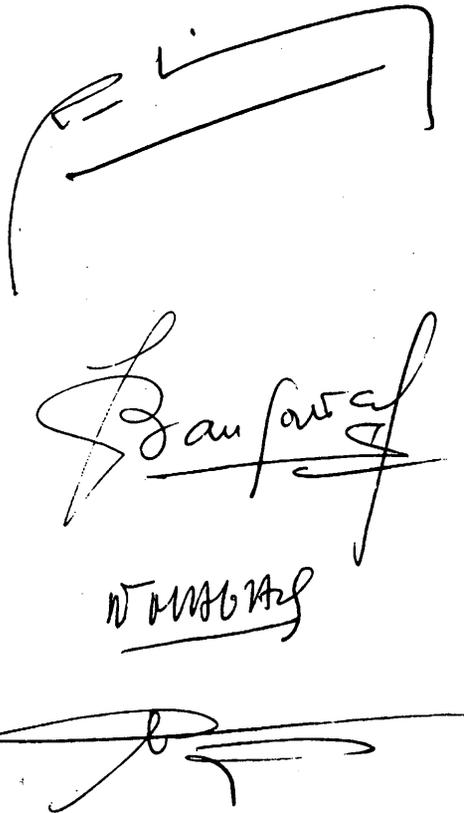
Pour le Ghana:



S.N. AMOAH

P.K. ANTI

Pour la République de Guinée:



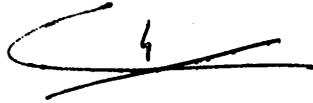
A. DIALLO

L. BANGOURA

N. MAGASSOUBA

M. B. CAMARA

Pour la République de Haute-Volta:

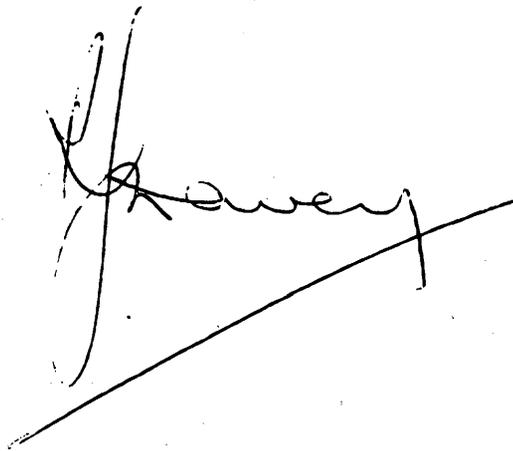


R. ZONGO

J. CHABANEL

J. M. OUEDRAOGO

Pour le Kenya:



R.J. DAVEY

Pour la République du Libéria:



S.H. BUTLER

Pour le Malawi:

B.B. Nhlane

B.B. NHLANE

Pour la République Malgache:

Rakotoarivelo

M. Leruste

B. RAKOTOARIVELO

R. LERUSTE

Pour la République du Mali:

M. Kéita

M. KÉITA

Pour le Royaume du Maroc:

L. Boutami

L. BOUTAMI

Pour la République Islamique de Mauritanie:



M. BABA FALL

Pour la République du Niger:



B. LUCAS

M. NAÏNO

Pour la République Fédérale de Nigeria:



M.B. BRIMAH

G.P.J. WHITE

Pour l'Ouganda:



H.F. HUMPHREYS

Pour les Provinces espagnoles d'Afrique:

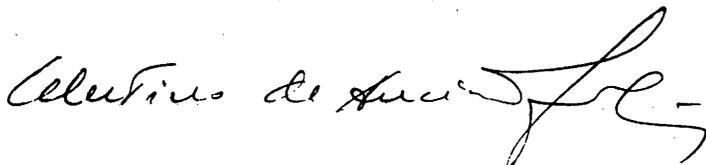
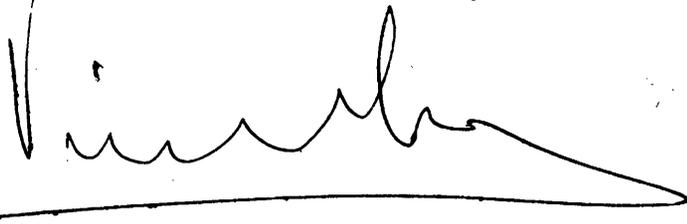


L.J.M.S. MAHO-SICACHA

Pour les Provinces portugaises d'Outre-Mer:

F. de Alcambar Pereira

F. de Alcambar Pereira



F. de ALCAMBAR PEREIRA

F.J.E. DUARTE CATULO

V. RODRIGUES

C. de ANCIÃES FELICIO

Pour la République Arabe Unie:

عن أبو قنيل
A. Kandil

A. ABOU-KANDIL

Pour la République Rwandaise:

Gustav-Georg Thiele

G.G. THIELE

Pour la République du Sénégal:

I. N'DIAYE

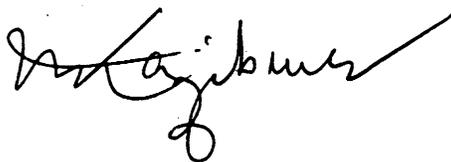
M. M'BAYE

I. N'DIAYE

M. M'BAYE

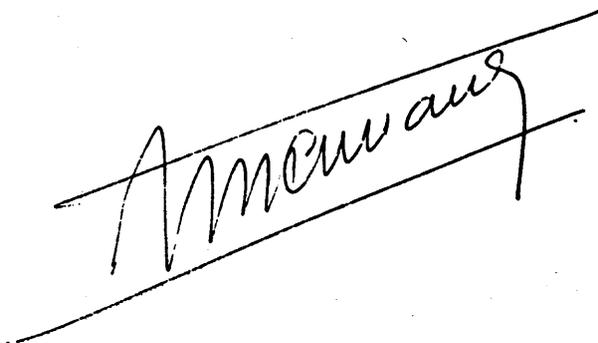
L. DIA

Pour la République Unie de Tanzanie:



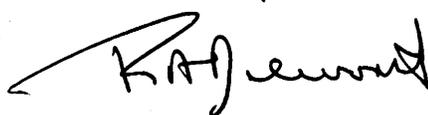
Y. KAZIBURE

Pour la République du Tchad:



I.M. AMANE

Pour les Territoires d'Outre-Mer dont les relations internationales
sont assurées par le Gouvernement du Royaume-Uni
de la Grande-Bretagne et de l'Irlande du Nord:



T. KILVINGTON

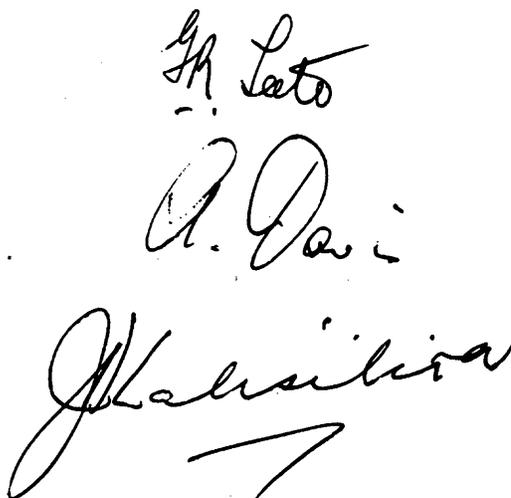
R.A. DILWORTH

Pour la République Togolaise:

A handwritten signature in black ink, appearing to be 'G. Ekue', written over a horizontal line that extends across the page.

G. EKUE

Pour la République de Zambie:

Three handwritten signatures in black ink, stacked vertically. The top signature is 'G.R. Tate', the middle is 'A. Davis', and the bottom is 'J.D. Kalisilira' with a large flourish underneath.

G.R. TATE

A. DAVIS

J.D. KALISILIRA

ANNEX 1
to the
REGIONAL AGREEMENT
CONCERNING THE USE BY THE BROADCASTING SERVICE
OF FREQUENCIES IN THE MF BAND IN
THE AFRICAN BROADCASTING AREA

CHAPTER

PLAN FOR THE ASSIGNMENT OF FREQUENCIES TO BROADCASTING STATIONS
IN THE AFRICAN BROADCASTING AREA
(Band 525 - 1605 kc/s)

**PLAN FOR THE ASSIGNMENT OF FREQUENCIES TO BROADCASTING STATIONS
IN THE AFRICAN BROADCASTING AREA
(Band 525-1605 kc/s)**

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
1	529	BUKAVU AJENA	CGO GHA	28E52 00E10	02S20 06N20	250 50	DR ND	6
2	539	BRAZZAVILLE ANDILAMENA SIKASSO MAGUDE FORT JOHNSTON	COG MDG MLI MOZ MWI	15E18 48E32 05W40 32E39 35E16	04S16 17S02 11N19 25S02 14S29	100 1 100 5 1	ND ND ND ND ND	
3	548	ASSAB OYEM MONROVIA TULEAR KITWE	ETH GAB LBR MDG ZMB	42E46 11E36 10W40 43E46 28E12	13N01 01N40 06N20 23S28 12S46	50 30 50 4 25	DR ND ND ND ND	7
4	557	WAJIR INHAMBANE IBADAN	KEN MOZ NIG	40E05 35E23 03E57	01N46 23S53 07N24	20 10 50	ND ND ND	5
5	566	LULUABOURG 2 KANKAN MAJUNGA	CGO GUI MDG	22E25 09W17 46E20	05S54 10N20 15S42	250 100 10	ND ND ND	5 5
6	575	FORT FLATTERS ENUGU SOKONE KAMPALA	ALG NIG SEN UGA	06E41 07E27 16W22 32E36	28N04 06N27 13N53 00N20	4 50 1 100	ND ND ND ND	8
7	584	KOM OMBO LIBREVILLE ROBERTSPORT MAROLAMBO CHUMBUNI	EGY GAB LBR MDG ZAN	32E52 09E28 11W22 48E08 39E12	24N25 00N25 06N45 20S03 06S09	20 100 10 1 2	ND ND ND ND ND	9
8	593	BAHAR DAR DIEGO SUAREZ LILONGWE JAJI	ETH MDG MWI NIG	37E27 49E08 33E57 07E23	11N20 12S36 13S59 10N50	100 4 1 250	ND ND ND ND	10 11
9	602	GEMENA GOMA TSHIKAPA BENI SUEF ABAFON SAINT DENIS	CGO CGO CGO EGY NIG REU	19E46 29E14 20E48 31E09 03E31 55E39	03N17 01S41 06S28 29N03 06N41 20S55	50 50 50 5 50 100	ND ND ND ND ND ND	3 3 12

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
10	611	LUANDA NAIROBI MANJA BAKEL BONGOR	AGL	13E49	08S48	5	ND	5
			KEN	36E41	01S22	100	ND	
			MDG	44E20	21S26	1	ND	
			SEN	12W28	14N55	1	ND	
			TCD	15E22	10N17	30	ND	
11	620	SANTA CRUZ TENERIFE ENUGU MBEYA	CNR	16W16	28N28	100	ND	13, 14
			NIG	07E28	06N27	500	DR	
			TGK	33E30	09S00	20	ND	
12	629	ARBA MOUILA MONROVIA AMBANJA LUSAKA	ETH	40E10	09N00	50	ND	5
			GAB	11E00	02S00	30	ND	
			LBR	10W40	06N20	50	ND	
			MDG	48E27	13S41	10	ND	
			ZMB	28E15	15S30	10	ND	
13	638	ENTRE RIOS KADUNA MBALE	MOZ	37E25	14S57	3	ND	5
			NIG	07E33	10N50	100	ND	
			UGA	34E10	01N05	20	ND	
14	647	FRANCISTOWN BAMBARI SELIBABY	BCH	27E36	21S12	250	ND	5
			CAF	20E40	05N45	30	ND	
			MTN	12W08	15N14	30	ND	
15	656	NOVO REDONDO EL AAIUN IBADAN DAR ES SALAAM	AGL	13E50	11S10	5	ND	5, 15
			AOE	13W12	27N10	20	ND	
			NIG	03E57	07N24	50	ND	
			TGK	39E15	06S50	200	DR	
16	665	LODJA POLI MINIA MACENTA SAINT GILLES 2 BURAN	CGO	23E31	03S32	50	ND	1
			CME	13E15	08N24	1	ND	
			EGY	30E44	28N05	2	ND	
			GUI	09W28	08N13	100	ND	
			REU	55E15	21S02	4	ND	
			SOM	48E46	10N14	5	ND	
17	674	PRAIA BATA NAIROBI FIANARANTSOA MZIMBA	CPV	23W30	14N55	25	ND	
			GNE	09E46	01N48	100	ND	
			KEN	36E41	01S22	20	ND	
			MDG	47E05	21S18	10	ND	
			MWI	33E40	11S54	1	ND	
18	683	COTONOU GORE CUREPIPE	DAH	02E28	06N22	100	ND	5
			ETH	35E32	08N09	200	ND	
			MAU	57E31	20S19	10	ND	
19	692	ADRAR KINSHASA 1 IVOHIBE ZIGUINCHOR	ALG	00W18	27N48	20	DR	16 17
			CGO	15E15	04S20	250	DR	
			MDG	46E58	22S30	1	ND	
			SEN	16W15	12N35	4	ND	
20	701	LUANDA BOENDE PARAKOU GEMSA LIRA	AGL	13E49	08S48	5	ND	3 18 19
			CGO	20E57	00S19	50	ND	
			DAH	02E38	09N20	30	ND	
			EGY	33E32	27N41	20	DR	
			UGA	32E54	02N15	20	DR	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
21	710	TINDOUF MBANDAKA MONROVIA AKURE	ALG	08W07	27N38	4	ND	20
			CGO	18E18	00N01	250	DR	
			LBR	10W42	06N14	20	DR	
			NIG	05E15	07N15	10	ND	
22	719	GAGNOA BOOUE FARAFANGANA ATI MWANZA	CTI	05W56	06N07	30	ND	5
			GAB	11E56	00S01	10	ND	
			MDG	47E50	22S49	50	ND	
			TCD	18E20	13N13	10	ND	
23	728	MATADI LAS PALMAS BENIN SAINT DENIS KAMPALA	CGO	13E26	05S48	50	ND	
			CNR	15W27	28N07	100	ND	
			NIG	05E37	06N19	100	ND	
			REU	55E27	20S52	4	ND	
24	737	MUYINGA KINKALA EL CARRE OUAGADOUGOU LOURENCO MARQUES MOUNDOU	UGA	32E36	00N20	100	ND	
			BDI	30E20	02S50	1	ND	
			COG	14E49	04S18	30	ND	
			ETH	42E10	05N50	10	ND	
25	746	SIDI IFNI KIKWIT GAROUA LUXOR NAIROBI BUCHANAN	HVO	01W31	12N22	100	ND	
			MOZ	32E28	25S57	50	ND	
			TCD	16E13	08N35	30	ND	
			AOE	10W10	29N30	20	DR	
26	755	ISIRO BAWITI BLANTYRE ENUGU	CGO	18E45	05S05	50	ND	24
			EGY	13E25	09N18	100	ND	
			MWI	32E28	25N42	20	ND	
			NIG	07E28	06N27	50	ND	
27	764	BUNIA LISALA MBUJIMAYI TAMATAVE OKITIPUPA KHARTOUM DAKAR	CGO	10W03	05N53	10	ND	23
			CGO	30E11	01N32	50	ND	
			CGO	21E30	02N09	50	ND	
			CGO	23E10	06S13	50	ND	
28	773	LUANDA IN SALAH BUJUMBURA LOURENCO MARQUES IKORODU	MDG	49E25	18S09	100	ND	5
			NIG	04E45	06N33	10	ND	
			SDN	32E32	15N37	50	DR	
			SEN	17W16	14N45	200	DR	
29	782	BOCARANGA TSHIKAPA TOUBA SAVE HOUNDE VILA CABRAL LEGATT ZARIA	AGL	13E20	08S50	10	ND	
			ALG	02E30	27N10	2	ND	
			BDI	29E30	03S25	30	ND	
			MOZ	32E28	25S57	10	ND	
29	782	BOCARANGA TSHIKAPA TOUBA SAVE HOUNDE VILA CABRAL LEGATT ZARIA	NIG	03E31	06N38	50	ND	
			CAF	15E39	07N05	10	ND	
			CGO	20E48	06S28	10	ND	
			CTI	07W41	08N17	1	ND	
29	782	BOCARANGA TSHIKAPA TOUBA SAVE HOUNDE VILA CABRAL LEGATT ZARIA	DAH	01E58	08N04	1	ND	
			HVO	03W31	11N34	1	ND	
			MOZ	35E08	13S18	10	ND	
			MTN	14W50	16N46	1	ND	
29	782	BOCARANGA TSHIKAPA TOUBA SAVE HOUNDE VILA CABRAL LEGATT ZARIA	NIG	07E40	11N02	1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
30	791	BANGASSOU	CAF	22E50	04N48	10	ND	3
		KINDU	CGO	25E55	02S57	50	ND	
		POINTE NOIRE	COG	12E01	04S51	30	ND	
		MOMBASA	KEN	39E42	04S02	20	DR	
		KAEDI	MTN	13W30	16N09	10	ND	
		OGBOMOSHO	NIG	04E13	08N07	10	ND	
		SAINT GILLES	REU	55E15	21S02	4	ND	
31	800	LUBUMBASHI	CGO	27E28	11S39	250	DR	5
		ZAGNANADO	DAH	02E18	07N19	1	ND	
		ASYUT	EGY	31E06	27N11	5	ND	
		LABE	GUI	12W17	11N19	10	ND	
		N GUIGMI	NGR	13E00	14N10	5	ND	
32	809	SALAZAR	AGL	14E55	09S18	5	ND	
		ABEOKUTA	NIG	03E18	07N10	5	ND	
		KANO	NIG	08E30	12N00	10	ND	
		PODOR	SEN	14W59	16N40	10	ND	
		MBARARA	UGA	30E37	00S36	100	ND	
33	818	FORT CRAMPEL	CAF	19E11	06N59	10	ND	
		KRIBI	CME	09E54	02N54	1	ND	
		LOLODORF	CME	10E42	03N12	1	ND	
		DIMBOKRO	CTI	04W46	06N40	10	ND	
		BENI SUEF	EGY	31E09	29N03	5	ND	
		CUREPIPE	MAU	57E31	20S19	10	ND	
		DAKORO	NGR	07E00	15N00	10	ND	
		LUSAKA	ZMB	28E15	15S30	250	ND	
34	827	KOMONO	COG	13E14	03S16	1	ND	5
		ARBA MINCHE	ETH	37E06	06N03	200	ND	
		SEBHA	LBY	14E25	27N05	100	DR	
		MILANGE	MOZ	35E46	16S05	5	ND	
		IDOMINASI	NIG	04E42	07N41	10	ND	
35	836	DJANET	ALG	09E24	24N32	4	ND	28
		KINSHASA	CGO	15E15	04S20	250	DR	
		GRAN CANARIA	CNR	15W35	27N59	10	ND	
		BOUNA	CTI	03W00	09N16	1	ND	
		KAKATA	LBR	10W00	06N32	1	ND	
		AMPANIHY	MDG	44E55	24S41	1	ND	
		VILA FONTES	MOZ	35E20	17S49	5	ND	
		AKJOUJT	MTN	14W22	19N45	1	ND	
36	845	KAMINA	CGO	25E09	08S43	50	ND	5
		TABOU	CTI	07W21	04N25	1	ND	
		NOUNA	HVO	03W52	12N44	1	ND	
		PORT BERGE	MDG	47E35	15S35	10	ND	
		OUSSOUYE	SEN	16W33	12N29	1	ND	
		SAO TOME	STP	06E45	00N21	5	ND	
37	854	NOVA LISBOA	AGL	15E42	12S45	5	ND	
		NDELE	CAF	20E49	08N25	1	ND	
		BANDUNDU	CGO	17E26	03S25	1	ND	
		BOUAFLE	CTI	05W45	06N58	200	ND	
		HARRAR	ETH	42E08	09N18	150	ND	
		FANDRIANA	MDG	47E22	20S14	1	ND	
		FORT JAMESON	ZMB	32E43	13S35	1	ND	
38	863	LUANDA	AGL	13E49	08S48	1	ND	
		BUNIA	CGO	30E11	01N32	1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks			
38 (cont.)	863	MAKARI	CME	14E24	04N36	1	ND				
		EWO	COG	14E49	00S53	1	ND				
		COTONOU	DAH	02E28	06N22	10	DR				
		ASSWAN	EGY	32E55	24N03	50	ND				
		ANTSALOVA	MDG	44E38	18S40	1	ND				
		TAN-TAN	MRC	11W06	28N26	5	ND				
		CHUMBUNI	ZAN	39E12	06S09	10	ND				
39	872	ADDIS ABABA	ETH	38E43	09N17	150	ND	5			
		SANTA ISABEL	GNE	08E45	03N35	50	ND				
		BEIRA	MOZ	34E52	19S55	5	ND				
		ALEG	MTN	13W31	17N03	1	ND				
		KARONGA	MWI	33E57	09S55	1	ND				
40	881	SANTA CRUZ TENERIFE	CNR	16W16	28N28	20	DR	29 2 2 5			
		DABAKALA	CTI	04W07	08N08	1	ND				
		TOULEPLEU	CTI	08W24	06N32	1	ND				
		MOANDA	GAB	13E14	01S34	10	ND				
		NAIROBI	KEN	36E41	01S22	100	ND				
		GAYA	NGR	03E30	11N50	1	ND				
		GOURE	NGR	10E10	14N00	1	ND				
		BADAGRY	NIG	02E57	06N25	1	ND				
		CALABAR	NIG	08E03	05N00	1	ND				
		MELFI	TCD	17E56	11N03	1	ND				
		41	890	SALAZAR	AGL	14E55	09S55		1	ND	
				NOLA	CAF	16E03	03N31		1	ND	
DESSIE	ETH			39E37	11N00	150	ND				
ANTSOHIHY	MDG			48E00	14S53	1	ND				
AHA	NIG			03E30	08N34	10	ND				
MASSENYA	TCD			16E10	11N24	1	ND				
42	899	MASERU	BAS	27E30	29S19	10	ND	3 15			
		MBUJIMAYI	CGO	23E40	06S08	1	ND				
		BAFIA	CME	11E12	04N42	10	ND				
		NDIKINIMEKI	CME	10E48	04N48	1	ND				
		SASSANDRA	CTI	06W04	04N57	1	ND				
		BISSAU	GNP	15W35	11N51	5	ND				
		FILINGUE	NGR	03E20	14N20	1	ND				
		DAR ES SALAAM	TGK	39E15	06S50	200	DR				
		43	908	CARMONA	AGL	15E08	07S40		5	ND	
				TAMANRASSET	ALG	05E30	22N50		4	ND	
DSCHANG	CME			09E54	05N31	1	ND				
BATHURST	GMB			16W40	13N25	1	ND				
DIEBOUGOU	HVO			03W09	11N10	1	ND				
TSARATANANA	MDG			47E40	16S48	1	ND				
NKHOTAKOTA	MWI			34E17	12S56	1	ND				
JOS	NIG			08E08	09N09	1	ND				
HARAZE MANGUEG	TCD			21E19	10N31	1	ND				
LIRA	UGA			32E54	02N15	10	ND				
44	917			ABALA	COG	15E35	01S03	1	ND		
		DUEKOUÉ	CTI	07W21	06N43	1	ND				
		SEGAG	ETH	42E50	07N40	5	ND				
		LOURENCO MARQUES	MOZ	32E28	25S57	100	DR				
		BOGHE	MTN	14W16	16N36	1	ND				
		KATSINA	NIG	08E00	12N30	1	ND				
		MASSAKORY	TCD	15E44	13N00	1	ND				
MARHUBI	ZAN	39E12	06S08	0,2	ND						
45	926	FRANCISTOWN	BCH	27E36	21S12	250	ND				
		LOUM	CME	09E47	04N42	1	ND				

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks				
45 (cont.)	926	MBANGA NKONGSAMBA BISSAU AGADES ARUA	CME	09E36	04N27	1	ND					
			CME	09E54	04N57	30	ND					
			GNP	15W35	11N51	0,5	ND					
			NGR	08E00	17N00	10	ND					
			UGA	30E56	03N01	10	ND					
46	935	KISANGANI PARAKOU	CGO DAH	25E11 02E38	00N03 09N20	250 10	ND ND					
47	944	LUANDA PRAIA ADI UGRI GOUNDAM VILA PERY SAO TOME KOU MRA	AGL	13E49	08S48	1	ND					
			CPV	23W30	14N55	5	ND					
			ETH	38E49	14N54	100	ND					
			MLI	03W40	16N25	10	ND					
			MOZ	33E25	19S00	10	ND					
			STP	06E45	00N21	5	ND					
			TCD	17E33	08N55	5	ND					
48	953	PORT FRANQUI LAS PALMAS KISUMU SANNAQUELLA MAEVATANANA FADA	CGO	20E45	04S12	10	ND					
			CNR	15W25	28N07	10	ND					
			KEN	34E45	00S07	20	ND					
			LBR	08W43	07N22	10	ND					
			MDG	46E49	16S58	10	ND					
			TCD	21E35	17N11	10	ND					
49	962	RAFAI KOLWEZI LAMBARENE ALTO MOLOQUE MARADI MAIDUGURI MATAM MOGADISCIO	CAF	23E56	04N58	10	ND					
			CGO	25E27	10S47	30	ND					
			GAB	10E13	00S12	10	ND					
			MOZ	37E41	15S58	5	ND					
			NGR	07E00	13N30	10	ND					
			NIG	13E03	11N08	1	ND					
			SEN	13W15	15N40	10	ND					
			SOM	45E20	02N02	50	ND					
			50	971	GABERONES BATOURI BERTOUA GINIR TULEAR KOUTIALA	BCH	25E57		24S41	2	ND	
						CME	14E21		04N27	1	ND	
CME	13E42	04N34				100	ND					
ETH	40E15	06N30				100	ND					
MDG	43E46	23S28				10	DR					
MLI	05W28	12N23				1	ND					
51	980	GEMENA ASYUT PORT HARCOURT SAINT PIERRE KEDOUGOU	CGO	19E46	03N17	10	ND	30				
			EGY	31E06	27N11	20	DR					
			NIG	07E00	04N05	1	ND					
			REU	55E30	21S19	4	ND					
			SEN	12W11	12N32	10	ND					
52	989	SILVA PORTO ADDIS ABABA FRANCEVILLE GREENVILLE LARGEAU FAYA DODOMA	AGL	16E57	12S25	5	ND	31 32				
			ETH	38E43	08N58	5	ND					
			GAB	13E33	01S36	30	ND					
			LBR	09W02	05N01	10	ND					
			TCD	19E05	17N58	10	ND					
			TGK	35E30	06S10	20	ND					
			53	998	VILLA CISNEROS YAOUNDE SEQUELA ANDAPA MBARARA	AOE	16W00		23N40	100	ND	33 34
CME	11E32	03N51				100	ND					
CTI	06W55	07N56				1	ND					
MDG	49E41	14S42				10	ND					
UGA	30E37	00S36				100	DR					

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks	
54	1007	ALBERTVILLE	CGO	29E11	05S54	50	DR	3	
		BANDUNDU	CGO	17E20	03S17	50	ND		
		BUTA	CGO	24E47	02N47	50	ND	3	
		BOBO DIOULASSO	HVO	04W17	11N10	100	ND	35	
		LOURENCO MARQUES	MOZ	32E28	25S57	250	ND		
55	1016	BAUDOINVILLE	CGO	29E52	07S14	20	ND		
		OUESSO	COG	16E20	01N40	10	ND		
		GABULE	ETH	41E08	13N00	10	ND		
		ANOSIBE	MDG	48E12	19S26	1	ND		
		SEDHIOU	SEN	15W33	12N42	10	ND		
		ATAKPAME	TGO	01E10	07N32	20	ND	36	
56	1025	LULUABOURG	CGO	22E25	05S54	100	DR	37	
		ASUANSI	GHA	01W15	05N25	5	ND		
		ROSSO	MTN	16W00	17N00	10	DR	38	
		DAR ES SALAAM	TGK	39E15	06S50	20	ND		
57	1034	MBAIKI	CAF	17E50	03N53	10	ND		
		JADOTVILLE	CGO	26E44	10S50	10	ND		
		LUXOR	EGY	32E28	25N42	20	DR	39	
		BISSAU	GNP	15W35	11N51	5	ND		
		MAJUNGA	MDG	46E18	15S42	5	ND		
		SOKODE	TGO	01E08	08N59	30	ND		
58	1043	SERPA PINTO	AGL	17E40	14S30	1	ND		
		THYSVILLE	CGO	14E53	05S12	5	ND		
		KUMBA	CME	09E14	04N46	1	ND		
		MAMFE	CME	09E14	05N56	1	ND		
		ABENGOUROU	CTI	03W29	06N43	10	ND		
		GIMMA	ETH	36E50	07N40	30	ND		
		INHAMINGA	MOZ	34E59	18S24	5	ND		
		MAO	TCD	15E18	14N08	1	ND		
59	1052	LOBATSI	BCH	25E35	25S15	10	ND		
		MURAMVYA	BDI	29E38	03S28	10	DR	40	
		MOSSENDJO	COG	12E50	03S00	30	ND		
		MUEDA	MOZ	39E33	11S43	5	ND		
		NEMA	MTN	07W14	16N36	1	ND		
		DOGONDOUTCHI	NGR	04E00	13N40	2	ND		
		BOUSSO	TCD	16E43	10N30	10	ND		
60	1061	BOSSANGO	CAF	17E27	06N30	30	DR	41	
		MAKOUA	COG	15E35	00S01	10	DR	42	
		NEGHELLI	ETH	39E45	05N21	100	ND		
		FIANARANTSOA	MDG	47E05	21S27	30	ND		
		SEGOU	MLI	06W15	13N26	30	ND		
61	1070	FORT POLIGNAC	ALG	08E26	26N01	2	ND		
		INONGO	CGO	18E16	01S56	10	ND		
		PORT FRANCOU	CGO	20E45	04S12	10	ND		
		YAGOUA	CME	15E00	10N12	1	ND		
		PRAIA	CPV	23W30	14N55	10	ND		
		MAN	CTI	07W38	07N29	10	ND		
		SUEZ	EGY	32E31	30N00	20	DR	43	
		DIEGO SUAREZ	MDG	49E17	12S17	5	ND		
		KITWE	ZMB	28E12	12S46	20	ND		
62	1079	MADINGOU	COG	13E33	04S10	30	ND		
		BENI SUEF	EGY	31E44	29N03	20	DR	44	
		FADA N'GOURMA	HVO	00E21	12N03	30	ND		

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
62 (cont.)	1079	LAMU ALF CHAMUSCA MONGO	KEN	41E00	02S00	10	ND	
			MOZ	33E01	24S30	10	ND	
			TCD	18E41	12N11	30	ND	
63	1088	LUANDA REGGANE BOUAR MANONO COMORES NAKFA SOGUNLE DIOURBEL	AGL	13E49	08S48	100	DR	45
			ALG	00E20	26N50	4	ND	46
			CAF	15E35	05N58	100	DR	
			CGO	27E26	07S16	10	ND	47
			COM	43E18	11S57	50	ND	
			ETH	38E30	16N36	10	ND	
			NIG	03E21	06N33	20	ND	
SEN	16W15	14N40	10	DR				
64	1097	MAROUA LAS PALMAS MIDONGY DU SUD MOPTI MECULA HOIMA	CME	14E18	10N50	30	ND	48
			CNR	15W25	28N08	10	ND	
			MDG	47E01	23S35	1	ND	
			MLI	04W11	14N29	30	DR	
			MOZ	37E39	12S05	1	ND	
UGA	31E21	01N28	10	ND				
65	1106	DOUALA BARIS VOI TIDJIKJA ZOMBA MONGU	CME	09E47	04N04	100	DR	49
			EGY	30E37	24N40	50	DR	50
			KEN	38E33	03S22	1	ND	51
			MTN	11W26	18N33	1	ND	
			MWI	35E18	15S23	1	ND	
			ZMB	23E20	15S20	2	ND	
66	1115	BUJUMBURA KORHOGO KOULAMOUTOU IRIBA	BDI	29E21	03S23	300	ND	51
			CTI	05W39	09N27	100	DR	52
			GAB	12E26	01S14	10	ND	53
			TCD	22E14	15N08	1	ND	
67	1124	SIDI IFNI PONTIERVILLE NIAMEY BERBERA BROKEN HILL	AOE	10W10	29N30	3	ND	53 54 1, 55
			CGO	25E40	00S27	2	ND	
			NGR	02E00	13N30	100	ND	
			SOM	45E01	10N27	10	ND	
			ZMB	28E30	14S22	1	ND	
68	1133	CACONDA FOUMBAN LA LAGUNA LODWAR SAN NAMPULA	AGL	15E00	13S45	5	ND	56
			CME	11E00	05N48	10	ND	
			CNR	16W17	28N29	20	ND	
			KEN	35E37	03N06	10	ND	
			MLI	04W54	13N18	10	ND	
			MOZ	39E16	15S06	10	ND	
69	1142	KASONGO BOUNDJI QUENA KOUDOUGOU NOSY VARIKA LIVINGSTONE	CGO	26E55	04S17	2	ND	57 58
			COG	15E29	01S20	10	ND	
			EGY	32E43	26N10	100	DR	
			HVO	02W30	12N22	10	ND	
			MDG	48E24	20S40	10	ND	
			ZMB	25E50	17S50	1	ND	
70	1151	KABINDA BAMENDA WUM HARPER MANDRITSARA NARA BENDER BEILA	CGO	24E26	06S08	2	ND	1
			CME	10E09	06N00	10	ND	
			CME	10E05	06N23	1	ND	
			LBR	07W42	04N22	10	ND	
			MDG	48E47	15S57	10	ND	
			MLI	07W17	15N10	1	ND	
			SOM	50E45	09N30	1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
71	1160	NOVA LISBOA	AGL	15E42	12S45	5	ND	
		KEMBE	CAF	21E55	04N36	10	ND	
		SONGOLOLO	CGO	14E05	05S08	1	ND	
		DASSA ZOÛME	DAH	01E58	07N44	10	ND	
		MINIA	EGY	30E44	28N05	2	ND	
		TETE	MOZ	33E35	16S11	10	ND	
		VELINGARA	SEN	14W06	13N09	10	ND	
		MOROTO	UGA	34E41	02N37	10	ND	
72	1169	MALANGE	AGL	16E20	09S30	5	ND	
		NGOZI	BDI	29E50	02S54	1	ND	
		NSUTA	GHA	02W00	05N15	1	ND	
		ANKAZOABO	MDG	44E30	22S10	10	ND	
		DOUMENTZA	MLI	02W57	15N00	1	ND	
		ATAR	MTN	13W06	20N30	1	ND	
		DJIBOUTI	SMF	43E09	11N35	8	ND	
		FORT LAMY	TCD	15E03	12N08	20	ND	
73	1178	KAPANGA	CGO	22E45	08S25	2	ND	59
		BUEA	CME	09E14	04N09	100	ND	
		ASYUT	EGY	31E06	27N11	2	ND	
		ASSELA	ETH	39E07	07N58	3	ND	
		GARISSA	KEN	39E38	00S28	1	DR	
		NIORO	MLI	09W35	15N13	1	ND	
		QUELIMANE	MOZ	36E53	17S52	5	ND	
74	1187	ALBERTVILLE	CGO	29E13	05S53	3	ND	60
		MOSSAKA	COG	16E48	01S13	10	ND	
		BONDOUKOU	CTI	02W47	08N08	10	ND	
		SUEZ	EGY	32E31	30N00	5	ND	
		ADDIS ABABA	ETH	38E38	08N47	10	DR	
		MARRUPA	MOZ	37E30	13S11	2	ND	
		TIMBEDRA	MTN	08W12	16N16	1	ND	
		PALA	TCD	14E56	09N22	10	ND	
75	1196	MOCAMEDES	AGL	12E10	15S10	5	ND	61
		MOHALES HOEK	BAS	27E29	30S09	1	ND	
		DEKOA	CAF	19E05	06N19	1	ND	
		WALIKALE	CGO	27E47	01S07	2	ND	
		MBOUDA	CME	10E00	05N30	1	ND	
		BOKO	COG	14E36	04S51	1	ND	
		ATHIEME	DAH	01E41	06N31	1	ND	
		ASSWAN	EGY	32E55	24N03	20	DR	
		BAFATA	GNP	14W39	12N09	5	ND	
		BEALANANA	MDG	48E45	14S33	1	ND	
		FORT DAUPHIN	MDG	46E58	25S00	4	ND	
		ISCIA BAIDOA	SOM	43E50	03N00	1	ND	
		76	1205	DONGOU	COG	18E00	02N30	
NATITINGOU	DAH			01E23	10N18	10	ND	
MITZIC	GAB			11E33	00N47	1	ND	
KOLOKANI	MLI			08W04	13N31	1	ND	
VILANCULOS	MOZ			35E19	21S59	1	ND	
GODERICH	SRL			13W16	08N26	5	ND	
BOKORO	TCD			17E04	12N23	1	ND	
FORT PORTAL	UGA			30E16	00N39	10	ND	
NDOLA	ZMB			28E40	13S00	1	ND	
77	1214	LUSO	AGL	19E55	11S50	1	ND	
		GABERONES	BCH	25E57	24S41	2	ND	
		CARNOT	CAF	15E52	04N59	1	ND	
		KONGOLO	CGO	26E59	05S23	1	ND	
		LAS PALMAS	CNR	15W25	28N08	5	ND	
		KIBANGOU	COG	12E21	03S28	1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks		
77 (cont.)	1214	ZUENOULA	CTI	06W03	07N26	1	ND			
		MASSAWA	ETH	39E28	15N30	1	ND			
		MORONDOVA	MDG	44E17	20S17	4	ND			
		TESSAOUA	NGR	08E00	13N50	1	ND			
		BAKEL	SEN	12W28	14N55	2	ND			
		MOSHI	TGK	37E00	03S00	20	ND			
		DAPANGO	TGO	00E12	10N51	1	ND			
		TAHOUA	NGR	05E10	15N00	1	ND			
78	1223	SA DA BANDEIRA	AGL	13E30	14S55	5	ND			
		YOKO	CME	12E50	05N23	1	ND			
		DJIBO	HVO	01W38	14N04	1	ND			
		KE MACINA	MLI	05W22	13N58	1	ND			
		LOURENCO MARQUES	MOZ	32E28	25S57	1	ND			
		NAMPULA	MOZ	39E16	15S06	1	ND			
		SAINT PIERRE	REU	55E30	21S19	4	ND			
		ZIGUINCHOR	SEN	16W15	12N35	4	ND			
		GUEREDA	TCD	22E06	14N31	1	ND			
		ARUA	UGA	30E56	03N01	10	ND			
		79	1232	LUANDA	AGL	13E20	08S50	5	ND	
GANDAJIKA	CGO			23E22	06S02	2	ND			
FORT FOUREAU	CME			14E57	12N02	1	ND			
EPENA	COG			17E29	01N22	1	ND			
WELLE	CTI			04W01	07N17	1	ND			
TESSENAI	ETH			36E14	15N07	1	ND			
PORT GENTIL	GAB			08E42	00S42	5	ND			
BAFATA	GNP			14W39	12N09	5	ND			
MOMBASA	KEN			39E40	04S03	1	ND			
BEZAHA	MDG			44E30	23S30	4	ND			
MARRUPA	MOZ			37E30	13S11	1	ND			
80	1241			VILA HENRIQUE CARVALHO	AGL	20E24	09S40	5	DR	62
				KITEGA	BDI	29E30	03S28	1	ND	
		OBO	CAF	26E29	05N24	1	ND			
		MWENE DITU	CGO	23E10	06S13	1	ND			
		SAO FILIPE	CPV	24W32	14N52	1	ND			
		ABIDJAN	CTI	04W01	05N26	4	ND			
		SAN CARLOS	GNE	08E31	03N29	1	ND			
		BOROMO	HVO	02W56	11N46	1	ND			
		BESALAMPY	MDG	44E29	16S45	1	ND			
		BIR MOGHREIN	MTN	11W33	25N41	1	ND			
		BAUCHI	NIG	09E58	10N20	1	ND			
		FUNTUA	NIG	07E10	11N30	1	ND			
		GOZ BEIDA	TCD	21E26	12N14	1	ND			
		FORT JAMESON	ZMB	32E43	13S22	2	ND			
		81	1250	SANDOA	CGO	22E43	09S13	2	ND	
SONGOLOLO	CGO			14E05	05S08	2	ND			
BOUNDIALI	CTI			06W28	09N32	1	ND			
MANKONO	CTI			06W11	08N03	1	ND			
APLAHOUE	DAH			01E40	06N57	1	ND			
SOHAG	EGY			31E42	26N30	5	ND			
LEKEMPTI	ETH			36E33	09N06	1	ND			
FRANCEVILLE	GAB			13E33	01S36	2	ND			
ATOFINANDRAHAN	MDG			46E47	20S31	1	ND			
AIOUN ATROUSS	MTN			09W35	16N40	1	ND			
TERA	NGR			00E50	14N00	1	ND			
KELO	TCD			15E48	09N18	1	ND			
MWANZA	TGK			32E52	02S28	10	DR			
82	1259			SHABUNDA	CGO	27E00	02S00	2	ND	2 2
		BANYO	CME	11E48	06N51	1	ND			
		MEIGANGA	CME	14E21	06N30	1	ND			

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
82 (cont.)	1259	NGAOUNDERE	CME	13E29	07N24	30	ND	2 2
		TIBATI	CME	12E37	06N25	1	ND	
		TINGUERE	CME	12E36	07N24	1	ND	
		PRAIA	CPV	23W30	14N55	30	ND	
		DJOUGOU	DAH	01E40	09N44	10	DR	
		ASSWAN	EGY	32E55	24N03	10	ND	
		TCHIEN	LBR	08W08	06N04	10	DR	
83	1268	LAS PALMAS	CNR	15W25	28N05	20	DR	64 65
		IMPFONDO	COG	18E03	01N39	30	DR	
		NAIROBI	KEN	36E41	01S22	20	ND	
		IHOSY	MDG	46E07	22S24	1	ND	
		MOPTI	MLI	04W11	14N29	4	ND	
		MAGARIA	NGR	09E00	13N00	1	ND	
		PALIME	TGO	00E46	06N52	1	ND	
84	1277	DJOUR	CME	12E42	02N45	1	ND	2 2
		LOMIE	CME	13E39	03N10	1	ND	
		SANGMELIMA	CME	11E55	02N54	10	ND	
		ODIENNE	CTI	07W35	09N20	10	ND	
		GEMSA	EGY	33E32	27N41	5	ND	
		NSANJE	MWI	35E16	16S57	1	ND	
		HOIMA	UGA	31E21	01N28	10	ND	
85	1286	RUTANA	BDI	29E59	03S55	1	ND	
		BUTEMBO	CGO	29E10	00N10	2	ND	
		MBANDAKA	CGO	18E16	00N02	10	ND	
		BETROKA	MDG	46E06	23S16	5	ND	
		ZINDER	NGR	09E00	13N40	25	ND	
		KAFFRINE	SEN	15W33	14N05	10	ND	
86	1295	SERPA PINTO	AGL	17E40	14S30	5	ND	2 2 66
		MOULOUNDOU	CME	15E18	02N06	1	ND	
		YOKADOUMA	CME	15E00	03N27	10	ND	
		TAMALE	GHA	00W52	09N27	10	ND	
		KIPE	GUI	13W39	09N36	10	DR	
		BEIRA	MOZ	34E52	19S50	10	ND	
		KHARTOUM	SDN	32E37	15N28	100	DR	
87	1304	POPOKABAKA	CGO	15E59	05S14	2	ND	3 67 68
		ZANAGA	COG	13E50	02S49	10	ND	
		LUXOR	EGY	32E28	25N42	10	DR	
		BEKILY	MDG	45E19	24S16	10	ND	
		DAKAR	SEN	17W16	14N45	50	DR	
		AM TIMAN	TCD	20E14	11N05	10	DR	
		TOGBLEKOPE	TGO	01E12	06N16	5	ND	
		MOROTO	UGA	34E41	02N37	10	ND	
88	1313	SA DA BANDEIRA	AGL	13E30	14S55	1	ND	
		LA LAGUNA	CNR	16W18	28N29	2	ND	
		LIBREVILLE	GAB	09E28	00N25	5	ND	
		DABOLA	GUI	11W09	10N46	20	ND	
		ENUGU	NIG	07E27	06N27	10	ND	
		KASAMA	ZMB	31E15	10S15	2	ND	
89	1322	SEROWE	BCH	26E45	22S24	2	ND	
		FORT SIBUT	CAF	19E06	05N46	10	ND	
		BEMBEREKE	DAH	02E39	10N14	10	ND	
		TANANARIVE	MDG	47E31	18S54	5	ND	
		LINGUERE	SEN	15W46	15N28	1	ND	
		FORT PORTAL	UGA	30E16	00N39	10	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
90	1331	MOCAMEDES	AGL	12E10	15S35	1	ND	69
		MINDELO	CPV	24W59	16N53	10	ND	
		DALOA	CTI	06W29	06N30	10	ND	
		MENDI	ETH	35E05	09N47	30	ND	
		MAKOKOU	GAB	12E50	00N34	20	ND	
		MAINE SOROA	NGR	12E00	13N10	1	DR	
		VICTORIA	SEY	55E27	04S37	10	ND	
		KIGOMA	TGK	29E40	05S00	10	DR	
91	1340	KENGE	CGO	16E55	04S50	2	ND	2 2 2 2 2 2 2 1, 70
		LA LAGUNA	CNR	16W18	28N29	2	ND	
		BAWITI	EGY	28E50	28N22	10	ND	
		BOGANDE	HVO	00W08	13N00	1	ND	
		DEDOUGOU	HVO	03W28	12N57	30	ND	
		DORI	HVO	00E01	14N02	10	ND	
		GAOUA	HVO	04W20	10N30	30	ND	
		OUAGADOUGOU	HVO	01W31	12N22	1	ND	
		OUAHIGOYA	HVO	02W25	13N34	30	ND	
		PO	HVO	01W08	11N10	10	ND	
		MORAFENOBE	MDG	44E52	17S52	1	ND	
		HARGEISA	SOM	44E03	09N30	10	DR	
LAI	TCD	16E18	09N24	1	ND			
92	1349	CABINDA	AGL	12E10	05S35	1	ND	2 2 71
		KAYOGORO	BDI	29E30	04S14	1	ND	
		ABONG MBANG	CME	13E09	04N00	10	ND	
		AKONOLINGA	CME	12E36	03N51	1	ND	
		QUSEIR	EGY	34E16	26N07	50	DR	
		WAJIR	KEN	40E10	01N50	1	ND	
		TANANARIVE	MDG	47E31	18S56	100	ND	
		NOUAKCHOTT	MTN	15W56	18N14	100	ND	
93	1358	KANIAMA	CGO	24E12	07S32	2	ND	72
		ABIDJAN	CTI	04W01	05N26	50	ND	
		ABECHE	TCD	20E48	13N47	100	ND	
		MTWARA	TGK	40E20	10S52	20	ND	
94	1367	LUANDA	AGL	13E20	08S50	100	DR	73 2 2
		FARAFRA	EGY	27E53	27N05	20	DR	
		VOI	KEN	38E30	03S15	1	ND	
		IBADAN	NIG	03E57	07N24	10	ND	
		POINT A	SEN	13W50	15N20	10	ND	
		SAINT LOUIS	SEN	16W29	16N00	30	DR	
95	1376	IDIOFA	CGO	19E25	04S50	2	ND	ND ND ND ND ND
		KUMASI	GHA	01W37	06N45	50	ND	
		AMBATONDRAZAKA	MDG	48E31	17S48	10	ND	
		OBZIA	SOM	48E32	05N21	1	ND	
		FORT ARCHAMBAULT	TCD	18E21	09N12	30	ND	
		KALOMO	ZMB	26E20	17S15	2	ND	
96	1385	SILVA PORTO	AGL	16E57	12S25	1	ND	2, 74 2, 74
		BODA	CAF	17E28	04N19	30	ND	
		SANTA CRUZ PALMA	CNR	17W45	28N41	20	ND	
		MUT	EGY	28E55	25N30	5	DR	
		BARSALOGHO	HVO	01W00	13N28	30	ND	
		TENKODOGO	HVO	00W22	11N46	30	ND	
		LAMU	KEN	40E10	02S15	1	ND	
		MORRUMBALA	MOZ	35E23	17S28	3	ND	
		97	1394	AKETI	CGO	23E56	03N25	
ISIRO	CGO			27E38	02N48	20	ND	
TANANARIVE	MDG			47E31	18S54	5	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
97 (cont.)	1394	TOGGLEKOPE MONZE	TGO ZMB	01E12 27E40	06N16 16S15	100 2	ND ND	
98	1403	LOBITO FRANCISTOWN BOSSEMBELE MIZAN TAFARI KIPE	AGL BCH CAF ETH GUI	13E53 27E36 17E39 35E50 13W39	12S22 21S12 05N15 07N00 09N36	1 2 30 1 60	ND ND ND ND DR	
99	1412	SANTA CRUZ TENERIFE SIBITI MERSA ALAM BOLGATANGA MOCUBA LERE TANGA	CNR COG EGY GHA MOZ TCD TGK	16W16 13E30 34E55 00W52 36E59 14E13 39E10	28N27 03S45 25N03 10N50 16S50 09N39 05S00	10 30 50 10 2 1 20	ND ND ND ND ND ND ND	75
100	1421	VILA HENRIQUE CARVALHO BERBERATI ABOISSO SOHAG KISUMU NOUAKCHOTT MBABANE	AGL CAF CTI EGY KEN MTN SWZ	20E24 15E48 03W13 31E42 34E35 15W56 31E06	09S40 04N10 05N32 26N30 00S07 18N14 26S20	1 30 1 30 1 10 10	ND ND ND DR ND ND ND	76
101	1430	MASI MANIMBA DOLISIE BAMAKO BEIRA DJIBOUTI	CGO COG MLI MOZ SMF	17E59 12E41 07W58 34E52 42E45	04S13 04S14 12N38 19S50 11N25	2 30 100 10 150	ND ND ND ND ND	3 77
102	1439	BANGUI GUIMAR NSAWAM	CAF CNR GHA	18E35 16W33 00W20	04N22 28N17 05N47	100 2 50	ND ND ND	
103	1448	KINSHASA 3 SAKANIA BAFOUSSAM ASMARA MARALAL NYERI KAYES MONTEPUEZ	CGO CGO CME ETH KEN KEN MLI MOZ	15E15 27E59 10E25 38E56 36E40 36E54 11W27 39E02	04S20 12S28 05N27 15N21 01N15 00S24 14N27 13S08	2 2 100 1 1 1 30 0,3	ND ND DR ND ND ND ND ND	78
104	1457	SANTA COMBA BASANKUSU MAKALE GAO NDOLA	AGL CGO ETH MLI ZMB	15E00 19E48 39E28 00W03 28E40	11S20 01N43 13N31 16N17 13S00	5 2 100 200 1	ND ND ND DR ND	24 79
105	1466	BUMBA KOM OMBO MEKAMBO TANANARIVE PORT ETIENNE TABORA DAPANGO MANGO	CGO EGY GAB MDG MTN TGK TGO TGO	22E27 32E52 13E56 47E31 17W03 32E40 00E12 00E28	00N11 24N25 01N00 18S54 20N53 05S00 10N51 10N21	2 50 10 5 10 5 10 10	ND DR ND ND ND ND ND ND	80

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
106	1475	BUJUMBURA 3	BDI	29E30	03S25	1	ND	81 82
		MPIAKA	COG	15E18	04S15	4	ND	
		COTONOU	DAH	02E28	06N22	10	ND	
		MINIA	EGY	30E44	28N05	10	DR	
		ASMARA	ETH	38E56	15N21	5	DR	
		MEGA	ETH	38E19	04N04	1	ND	
		BOKE	GUI	14W18	10N56	30	DR	
		VILA DE JOAO BELO	MOZ	33E38	25S02	10	ND	
107	1484	NOVO REDONDO	AGL	13E50	11S10	0,5	ND	
		ASCENSION	ASC	14W20	08S06	0,5	ND	
		BAKAIA	CAF	23E41	05N25	0,1	ND	
		BIRAO	CAF	22E40	10N10	0,1	ND	
		BOGANGOLO	CAF	18E15	05N00	0,1	ND	
		BOUCA	CAF	18E16	06N30	0,1	ND	
		YALINGA	CAF	23E15	06N30	0,1	ND	
		BENI	CGO	29E28	00N30	1	ND	
		ESEKA	CME	10E48	03N40	1	ND	
		NANGA EBOKO	CME	12E24	04N37	1	ND	
		KIMONGO	COG	12E55	04S27	1	ND	
		MAYAMA	COG	15E15	04S16	1	ND	
		NGABE	COG	16E12	03S12	1	ND	
		SEMBE	COG	14E36	01N39	1	ND	
		SOUANKE	COG	14E00	02N00	1	ND	
		SOUBRE	CTI	06W36	05N46	0,1	ND	
		VAVOUA	CTI	06W45	07N22	0,1	ND	
		NIKKI	DAH	02E36	09N55	1	ND	
		KOULAMOUTOU	GAB	12E26	01S14	0,1	ND	
		ARIBINDA	HVO	00W50	14N20	0,1	ND	
		MANGA	HVO	01W00	11N00	0,1	ND	
		NDORALA	HVO	04W56	11N50	0,1	ND	
		PAMA	HVO	00E42	11N14	0,1	ND	
		SEBBA	HVO	00E30	13N30	0,1	ND	
		TOMA	HVO	02W56	12N44	0,1	ND	
		LODWAR	KEN	34E35	03N10	1	ND	
		MORONDAVA	MDG	44E18	20S17	0,2	ND	
		BAFOULABE	MLI	10W50	13N48	1	ND	
		FINGOE	MOZ	31E56	15S08	0,5	ND	
		CHINGUETTI	MTN	12W22	20N30	0,2	ND	
		BILMA	NGR	13E00	18N40	0,1	ND	
		IFEROUANE	NGR	08E30	19N10	0,1	ND	
		OUALLAM	NGR	02E20	14N20	0,1	ND	
		CALABAR	NIG	08E03	05N00	0,2	ND	
		DEJEMA	NIG	06E15	04N50	1	ND	
		IJEBU ODE	NIG	04E08	06N08	0,2	ND	
		ILORIN	NIG	04E05	08N05	0,2	ND	
		JOS	NIG	08E08	09N09	0,2	ND	
		OFFA	NIG	04E40	08N10	1	ND	
		ONITSHA	NIG	06E07	06N02	0,2	ND	
		PORT HARCOURT	NIG	07E00	04N43	0,2	ND	
SOKOTO	NIG	05E01	13N00	0,2	ND			
AMZOER	TCD	21E23	14N13	0,1	ND			
BITKINE	TCD	18E17	11N59	0,1	ND			
HARAZE DJOMBO	TCD	19E30	13N54	0,1	ND			
MOISSALA	TCD	17E46	08N20	0,1	ND			
MOITO	TCD	16E38	12N35	0,1	ND			
N DOURBALI	TCD	15E51	11N49	0,1	ND			
108	1493	LULUABOURG	CGO	22E25	05S54	10	ND	
		MINDELO	CPV	24W59	16N53	10	ND	
		ABIDJAN	CTI	04W01	05N26	5	ND	
		TENDAHO	ETH	40E57	11N42	10	ND	
		YAVELLO	ETH	38E06	04N54	1	ND	
		BITAM	GAB	11E28	02N05	1	ND	
		PORTO AMELIA	MOZ	40E45	13S02	10	ND	
		KADUNA	NIG	07E33	10N50	1	ND	
ARADA	TCD	20E37	15N01	1	ND			

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
109	1502	BENGUELA	AGL	13E25	12S35	5	ND	1, 83 2 2 2
		BATANGAFO	CAF	18E18	07N18	10	ND	
		GONDAR	ETH	37E58	12N36	1	ND	
		TANANARIVE	MDG	47E31	18S54	10	ND	
		TAMBACOUNDA	SEN	13W41	13N47	10	ND	
		CHISIMAIO	SOM	42E33	00S22	5	ND	
		PRINCIPE	STP	07E25	01N40	1	ND	
		KANDE	TGO	01E10	10N00	1	ND	
		LAMA KARA	TGO	01E11	09N33	10	ND	
		NIAMTOUGOU	TGO	01E18	09N37	1	ND	
MONZE	ZMB	27E40	16S15	2	ND			
110	1511	AMBAM	CME	11E12	02N28	1	ND	2 2 84
		EBOWA	CME	11E00	02N51	30	ND	
		LEO	HVO	02W06	11N05	30	DR	
		KIGALI	RRW	30E04	01S57	100	ND	
		SAINT LOUIS	SEN	16W29	16N00	4	ND	
SAINT HELENA	SHN	05W45	16S06	0,5	ND			
111	1520	NGAMBE	CME	11E39	05N23	1	ND	2 2
		YABASSI	CME	09E52	04N27	1	ND	
		MINDOULI	COG	14E50	04S15	1	ND	
		POINTE NOIRE	COG	12E00	04S51	1	ND	
		ADZOPE	CTI	03W51	06N06	1	ND	
		QUSEIR	EGY	34E16	26N07	10	ND	
		MUSTAHL	ETH	44E37	05N17	10	ND	
		BOULSA	HVO	00W33	12N39	1	ND	
		MEGOMANO	MOZ	38E29	11S25	3	ND	
		NOUAKCHOTT	MTN	15W36	18N14	10	ND	
		BAIBOKOUM	TCD	15E41	08N14	1	ND	
LIVINGSTONE	ZMB	25E50	17S50	2	ND			
112	1529	SA DA BANDEIRA	AGL	13E30	14S55	5	ND	
		PRAIA	CPV	23W30	14N55	10	ND	
		KANDI	DAH	02E56	11N08	30	ND	
		YELIMANE	MLI	10W34	15N07	1	ND	
GITARAMA	RRW	29E44	02S03	50	ND			
113	1538	PWETO	CGO	28E55	08S27	2	ND	
		MAYUMBA	GAB	10E40	03S25	10	ND	
		TOUGAN	HVO	03W09	13N29	1	ND	
		LOURENCO MARQUES	MOZ	32E28	25S57	10	ND	
		DAKAR	SEN	17W16	14N45	5	ND	
		DJIBOUTI	SMF	43E09	11N35	8	ND	
FORT LAMY	TCD	15E03	12N08	20	ND			
114	1546	BAKOUMA	CAF	22E47	05N42	1	ND	3
		WATSA	CGO	29E52	02N17	2	ND	
		DJAMBALA	COG	14E59	02S32	10	ND	
		MINDELO	CPV	24W59	16N53	1	ND	
		ABOMEY	DAH	02E00	07N14	10	ND	
		MAINTIRANO	MDG	44E02	18S03	4	ND	
		KENIEBA	MLI	11W14	12N50	1	ND	
		FUNHALOURO	MOZ	34E25	23S05	1	ND	
		MANIAMB	MOZ	34E59	12S45	1	ND	
		MOUSSORO	TCD	16E31	13N39	1	ND	
115	1554	LUEBO	CGO	21E22	05S20	2	ND	3
		LIBREVILLE	GAB	09E28	00N25	10	ND	
		KOLAHUN	LBR	10W05	08N16	10	ND	
		DIEGO SUAREZ	MDG	49E17	12S17	5	ND	
		MENAKA	MLI	02E26	15N52	1	ND	
		FORT GOURAUD	MTN	12W43	22N41	1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station		Carrier power (kW)	Horizontal directivity of the antenna	Remarks
115 (cont.)	1554	ERIGAVO	SOM	47E22	10N37	10	ND	1
		ADRE	TCD	22E12	13N28	10	ND	
		KALOMO	ZMB	26E20	17S15	2	ND	
116	1562	LOBITO	AGL	13E53	12S22	5	ND	3
		OUANGO	CAF	22E33	04N19	1	ND	
		BOMA	CGO	13E35	05S50	2	ND	
		LUSAMBO	CGO	23E05	04S35	2	ND	
		BAFANG	CME	09E52	05N06	1	ND	
		FORT ROUSSET	COG	15E35	00S24	1	ND	
		APLAHOUE	DAH	01E40	06N57	1	ND	
		DEBRA MARKOS	ETH	37E44	10N20	1	ND	
		TAMATAVE	MDG	49E24	18S08	5	ND	
		BOUGOUNI	MLI	07W29	11N25	1	ND	
		GOURMA RHAROUS	MLI	01W55	16N52	1	ND	
		MABOTE	MOZ	34E08	22S02	3	ND	
		MAUA	MOZ	37E10	13S52	1	ND	
		MOUDJERIA	MTN	12W19	17N52	1	ND	
		AMDAM	TCD	20E28	12N46	1	ND	
		NOKOU	TCD	14E47	14N34	1	ND	
117	1570	CABINDA	AGL	12E10	05S35	5	ND	
		PAOUA	CAF	16E26	07N15	10	ND	
		GBARNGA	LBR	09W28	07N28	10	ND	
		FORT DAUPHIN	MDG	46E59	25S01	5	ND	
		NAMAPA	MOZ	39E49	13S43	3	ND	
		NIAMEY	NGR	02E00	13N30	1	ND	
		MBALE	UGA	34E10	01N04	10	ND	
		BROKEN HILL	ZMB	28E30	14S22	1	ND	
		118	1578	KISAGARA	BDI	30E40	03S12	
TSHELA	CGO			12E50	05S00	2	ND	
BANGANGTE	CME			10E30	05N08	1	ND	
BOUAKE	CTI			05W00	07N40	5	ND	
DIRE DAWA	ETH			41E42	09N36	1	ND	
BIGARA	MAU			57E31	20S18	1	ND	
PORT ETIENNE	MTN			17W03	20N53	50	ND	
MANZINI	SWZ			31E22	26S30	1	ND	
OUM HADJER	TCD			19E42	13N17	10	ND	
MONGU	ZMB			23E20	15S20	2	ND	
119	1586	LUANDA	AGL	13E49	08S48	5	ND	3
		LIBENGE	CGO	18E37	03N38	1	ND	
		PUNIA	CGO	26E15	01S08	2	ND	
		BETARE OYA	CME	14E00	05N59	10	ND	
		TIASSALE	CTI	04W49	06N00	1	ND	
		MERSA ALAM	EGY	34E55	25N03	20	ND	
		AMAR COCCHE	ETH	36E46	05N00	1	ND	
		BOBO DIOULASSO	HVO	04W17	11N10	1	ND	
		DIAPAGA	HVO	01E47	12N04	1	ND	
		ANTSIRABE	MDG	47E01	19S56	4	ND	
		KIDAL	MLI	01E24	18N26	1	ND	
		KITA	MLI	09W29	13N02	1	ND	
		KASAMA	ZMB	31E15	10S15	2	ND	
120	1594	NOVA LISBOA	AGL	15E42	12S45	0,5	ND	
		SAO SALVADOR	AGL	14E00	06S20	0,5	ND	
		BUTAHANA	BDI	29E13	02S47	1	ND	
		ALINDAO	CAF	21E13	05N02	1	ND	
		BANIA	CAF	16E15	03N50	1	ND	
		DAMARA	CAF	18E42	04N57	0,1	ND	
		OUANGO	CAF	22E33	04N19	0,1	ND	
		YALANGA OUADDA	CAF	22E24	08N04	0,1	ND	
		EDEA	CME	10E09	03N51	1	ND	
		INONI	COG	15E39	03S04	0,1	ND	

Channel number	Assigned frequency (kc/s)	Name of transmitting station	Country symbol	Geographical coordinates of transmitting station	Carrier power (kW)	Horizontal directivity of the antenna	Remarks		
120 (cont.)	1594	LOUDIMA	COG	13E05 04S06	0,1	ND			
		M POUYA	COG	16E17 02S40	0,1	ND			
		MINDELO	CPV	24W59 16N53	0,2	ND			
		BONGOUANOU	CTI	04W14 06N38	1	ND			
		DANAME	CTI	08W08 07N22	1	ND			
		YAMOUSSOUKRO	CTI	05W27 06N58	0,1	ND			
		KETOU	DAH	02E33 07N27	1	ND			
		MOUILA	GAB	11E02 01S51	0,1	ND			
		KOUNDARA	GUI	13W15 12N41	0,2	ND			
		NZEREKORE	GUI	08W58 07N54	1	ND			
		COALA	HVO	00W07 13N28	0,1	ND			
		DJIBASSO	HVO	04W15 13N15	0,1	ND			
		KANTCHARI	HVO	01E28 12N39	0,1	ND			
		SINDOU	HVO	05W04 10N35	0,1	ND			
		SOLENZO	HVO	04W00 12N20	0,1	ND			
		TOUGOURI	HVO	00W25 13N15	0,1	ND			
		TSIROANOMANDIDY	MDG	46E03 18S46	0,2	ND			
		FURANCUNGO	MOZ	33E36 14S54	0,5	ND			
		VILA GOUVEIA	MOZ	33E10 18S04	0,5	ND			
		TAMCHAKETT	MTN	10W43 17N16	0,25	ND			
		KOUNGHEUL	SEN	14W47 13N58	0,2	ND			
		PRINCIPE	STP	07E25 01N40	1	ND			
		GORE DU SUD	TCD	16E38 07N56	0,1	ND			
		HARAZE	TCD	19E25 14N13	0,1	ND			
		MARO	TCD	18E47 08N24	0,1	ND			
		N GOURI	TCD	15E22 13N38	0,1	ND			
		ZOUAR	TCD	16E32 20N27	0,1	ND			
		121	1602	ASCENSION	ASC	14W20 08S07	0,5	ND	
				BAFWASENDE	CGO	27E13 01N07	2	ND	
				BARIS	EGY	30E37 24N40	10	DR	
DOLLO	ETH			42E05 04N10	1	ND			
TCHIBANGA	GAB			11E03 02S51	15	DR			
TULEAR	MDG			43E41 23S28	5	ND			
MOCIMBOA	MOZ			40E22 11S20	1	ND			
ROSSO	MTN			16W00 17N00	10	ND			
KANO	NIG			08E30 12N20	1	ND			
BOL	TCD			14E43 13N28	1	ND			

CHAPTER 2

Explanation of symbols used in the Plan

1. *Country symbols (column 4 of the Plan)*

The following symbols have a geographical significance only:

AGL — Angola	LBY — Kingdom of Libya
ALG — Algeria (Algerian Democratic and Popular Republic)	MAU — Mauritius
AOE — Spanish Province in West Africa	MDG — Malagasy Republic
ASC — Ascension	MLI — Republic of Mali
BAS — Lesotho	MOZ — Mozambique
BCH — Botswana	MRC — Kingdom of Morocco
BDI — Kingdom of Burundi	MTN — Islamic Republic of Mauritania
CAF — Central African Republic	MWI — Malawi
CGO — Democratic Republic of the Congo	NGR — Republic of the Niger
CME — Federal Republic of Cameroon	NIG — Federal Republic of Nigeria
CNR — Canaries	REU — French Department of Reunion
COG — Republic of the Congo (Brazzaville)	RRW — Republic of Rwanda
COM — Comoro Islands	SDN — Republic of the Sudan
CPV — Cape Verde Islands	SEN — Republic of the Senegal
CTI — Republic of the Ivory Coast	SEY — Seychelles
DAH — Republic of Dahomey	SHN — St. Helena
EGY — United Arab Republic	SMF — French Somaliland
ETH — Ethiopia	SOM — Somali Republic
GAB — Gabon Republic	SRL — Sierra Leone
GHA — Ghana	STP — S. Thome and Principe
GMB — Gambia (Bathurst)	SWZ — Swaziland
GNE — Equatorial Guinea	TCD — Republic of the Chad
GNP — Portuguese Guinea	TGK — United Republic of Tanzania (Tanganyika)
GUI — Republic of Guinea	TGO — Togolese Republic
HVO — Republic of Upper Volta	UGA — Uganda
KEN — Kenya	ZAN — United Republic of Tanzania (Zanzibar)
LBR — Republic of Liberia	ZMB — Republic of Zambia

2. *Horizontal directivity of the antenna (column 7 of the Plan)*

- The symbol ND indicates that the transmitting antenna is without directive effect in the horizontal plane.
- The symbol DR indicates that the transmitting antenna has a directive effect in the horizontal plane.

3. *Remarks (column 8 of the Plan)*

1. This country has not submitted requirements. The assignment as shown has been included in the Plan by the Conference.
2. Synchronized network.
3. In use during day-time hours only.
4. Power reduced to 10 kW after sunset.
5. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbols designating the countries which were not represented at the African LF/MF Broadcasting Conference (Geneva, 1966).
6. Azimuth of maximum radiation: 270°.
Antenna gain: 3 dB.
The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbols IRN and PAK designating respectively Iran and Pakistan.
7. The effective radiated power shall not exceed 10 kW in the direction of the station of Simferopol, U.S.S.R. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol IND designating India.
8. The effective radiated power shall not exceed 50 kW in the direction of Israel.
9. The effective radiated power shall not exceed 10 kW in the direction of Austria.
The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol PAK designating Pakistan.
10. The effective radiated power shall not exceed 50 kW in the direction of Bulgaria. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol IND designating India.
11. Subject to agreement between the Administrations of Morocco and of Nigeria.
12. The effective radiated power shall not exceed 1 kW in the direction of the station of Nicosia, Cyprus.
13. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the station of Santa Cruz de Tenerife, Canaries.
14. The effective radiated power shall not exceed 55 kW in the direction of the service area of station Batra, United Arab Republic.
15. Azimuth of maximum radiation: 270°.
Antenna gain: 3 dB.
16. The effective radiated power shall not exceed 10 kW in the direction of United Kingdom.
17. Azimuth of maximum radiation: 135°.
Antenna gain: 3 dB.

18. The effective radiated power shall not exceed 10 kW in the direction of Czechoslovakia and of Aden. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbols IRN and URS designating respectively Iran and U.S.S.R.
19. The effective radiated power shall not exceed 2 kW in the direction of Aden and 10 kW in the direction of United Arab Republic.
The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbols CLN and IRN designating respectively Ceylon and Iran.
20. Azimuth of maximum radiation: 90°.
Antenna gain: 3 dB.
The effective radiated power shall not exceed 25 kW in the direction of Nigeria.
21. The effective radiated power shall not exceed 30 kW in the direction of United Arab Republic.
22. The effective radiated power shall not exceed 10 kW in the direction of Bulgaria.
23. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the station of Luxor, United Arab Republic.
24. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol ROU designating Roumania.
25. Azimuth of maximum radiation: 105°.
Antenna gain: 3 dB.
The effective radiated power shall not exceed 80 kW in the direction of Switzerland.
26. Subject to an agreement between the Administrations of Jordan and of the United Arab Republic.
27. The effective radiated power shall not exceed 10 kW in the directions of Bulgaria, Federal Republic of Germany, Morocco, Pakistan and U.S.S.R.
28. Azimuth of maximum radiation: 135°.
Antenna gain: 3 dB.
The effective radiated power shall not exceed 50 kW in the direction of Lebanon.
29. The effective radiated power shall not exceed 10 kW in the direction of United Kingdom.
30. The effective radiated power shall not exceed 10 kW in the direction of Algeria.
31. The effective radiated power shall not exceed 5 kW in the direction of Lebanon.
32. The effective radiated power shall not exceed 5 kW in the direction of Ethiopia.
33. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol D designating the Federal Republic of Germany.
34. The effective radiated power shall not exceed 50 kW in the direction of Cameroon.
35. The effective radiated power shall not exceed 10 kW in the direction of Spain.
36. The operation of this station is subject to the condition that no harmful interference shall be caused in the service area of the station of Sedhiou, Senegal.
37. The effective radiated power shall not exceed 25 kW in the direction of Tanzania.
38. The effective radiated power shall not exceed 3 kW in the azimuth 23° (Morocco).
39. The effective radiated power shall not exceed 5 kW in the direction of Italy.
40. The effective radiated power shall not exceed 3 kW in the direction of Botswana.

41. The effective radiated power shall not exceed 1 kW in the direction of Congo (Brazzaville).
42. The effective radiated power shall not exceed 1 kW in the azimuth 20° (Central African Republic).
43. The effective radiated power shall not exceed 5 kW in the direction of the station of Krasnodar, U.S.S.R.
44. The effective radiated power shall not exceed 10 kW in the directions of Algeria and Poland.
45. The effective radiated power shall not exceed 20 kW in the azimuth 84° (Congo-Kinshasa).
46. The effective radiated power shall not exceed 15 kW in the azimuth 325° (Algeria) and 50 kW in the direction 139° (Congo-Kinshasa).
47. The effective radiated power shall not exceed 2.5 kW in the azimuth 53° (Algeria).
48. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the station of Las Palmas, Canaries.
49. The effective radiated power shall not exceed 50 kW in the direction of the United Arab Republic.
50. The effective radiated power shall not exceed 30 kW in the direction of the Federal Republic of Germany and 10 kW in the direction of U.S.S.R.
51. The effective radiated power shall not exceed 30 kW after sunset.
52. The effective radiated power shall not exceed 30 kW in the direction of Italy and 10 kW in the direction of Morocco.
53. The effective radiated power shall not exceed 1 kW in the direction of Zambia.
54. The bringing into service of this transmitter at its nominal power will give rise to a prior consultation between the Administrations of Niger and Spain so as to avoid any harmful interference to stations in service in Spain or in the Spanish Provinces in Africa entered in the Master International Frequency Register with the date of 21 September, 1966.
55. The effective radiated power shall not exceed 2 kW in the direction of Kuwait.
56. The effective radiated power shall not exceed 5 kW in the direction of Yugoslavia.
57. The effective radiated power shall not exceed 20 kW in the direction of Algeria and 30 kW in the direction of Austria.
58. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations of Oran and Constantine, in Algeria, operating as a synchronized network.
59. The effective radiated power shall not exceed 0.2 kW in the azimuth 355° (Ethiopia).
60. The effective radiated power shall not exceed 5 kW in the azimuth 346° (United Arab Republic).
61. The effective radiated power shall not exceed 5 kW in the directions of Saudi Arabia and of Iran.
62. The effective radiated power shall not exceed 1 kW in the direction of Zambia.
63. The effective radiated power shall not exceed 3 kW in the azimuth 19° (Ethiopia).
64. The effective radiated power shall not exceed 10 kW in the direction of Yugoslavia.
65. The effective radiated power shall not exceed 5 kW in the direction of Congo (Brazzaville).
66. The effective radiated power shall not exceed 10 kW in the directions of Iraq and of U.S.S.R.
67. In bringing into service its transmitter of 50 kW on 1304 kc/s, Senegal undertakes to use a system of directional antennae to avoid disturbing the Algerian synchronized system.

68. The effective radiated power shall not exceed 4 kW in the azimuth 37° (United Arab Republic).
69. The effective radiated power shall not exceed 1 kW in the azimuth 21° (Ethiopia).
70. The effective radiated power shall not exceed 3 kW in the direction of Kuwait.
71. The effective radiated power shall not exceed 20 kW in the direction of U.S.S.R. and 10 kW in the directions of Iran and Kuwait.
72. The operation of this station is subject to the condition that no harmful interference shall be caused in the service area of the stations of Albania and Israel.
73. Within the sector 308° to 350° and within the sector 43° to 65°, the effective radiated power shall not exceed 5 kW.
74. The effective radiated power shall not exceed 10 kW in the direction of Canaries.
75. The effective radiated power shall not exceed 10 kW in the direction of Yugoslavia.
76. The effective radiated power shall not exceed 10 kW in the direction of the station of Tchernigov, U.S.S.R., and in the direction of Malta.
77. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the stations recorded in the Master International Frequency Register at the date of 21 September 1966 under country symbol IRN designating Iran.
78. The effective radiated power shall not exceed 30 kW in the direction of Italy.
79. The effective radiated power shall not exceed 50 kW in the direction of Roumania, after sunset.
80. The effective radiated power shall not exceed 10 kW in the direction of Iran and 5 kW in the direction of Monaco.
81. The effective radiated power shall not exceed 2 kW in the direction of Saudi Arabia and 5 kW in the direction of Asmara, Ethiopia.
82. The effective radiated power shall not exceed 1 kW in the directions of Saudi Arabia and of the United Arab Republic.
83. The effective radiated power shall not exceed 3 kW in the azimuth 340° (Ethiopia).
84. The operation of this station is subject to the condition that no harmful interference shall be caused to the service of the station of Saint Louis, Senegal.

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ANNEX 2
to the
REGIONAL AGREEMENT
CONCERNING THE USE BY THE BROADCASTING SERVICE
OF FREQUENCIES IN THE MF BAND IN
THE AFRICAN BROADCASTING AREA

*TECHNICAL DATA USED FOR THE ESTABLISHMENT OF THE
MEDIUM FREQUENCY BROADCASTING PLAN*

FOREWORD

This Annex provides information on the technical data used by the Conference in drawing up the Medium Frequency Broadcasting Plan which appears in Annex 1.

It is based on texts adopted by the International Radio Consultative Committee at its XIth Plenary Assembly (Oslo, 1966), the Report by the Preparatory Meeting of Experts (Geneva, 1964) and the documents adopted by the Conference.

CHAPTER 1

Propagation

1.1 *Ground-wave propagation*

For prediction of the ground-wave field strength, use was made of the propagation curves in C.C.I.R. Recommendation 368.

1.2 *Ground conductivity in Africa*

The map, Figure 1, prepared by the C.C.I.R. Secretariat, was used to estimate ground conductivity.

1.3 *Sky-wave propagation*

1.3.1 *Propagation for distances up to 3500 km*

The curves in Figure 2 were used as a basis in establishing the frequency plan, where F_o is the annual median field-strength in decibels relative to $1 \mu\text{V/m}$ for a reference transmitting antenna giving at a distance of 1 kilometre, above a ground with perfect conductivity, a field strength of $3 \times 10^5 \mu\text{V/m}$ in every direction above the horizon, with reception on a small loop antenna.

The values of F_o are valid when:

- the magnetic inclination half-way along the path is equal to 61° ;
- the number of sunspots (Wolf number) is $S = 0$;
- the local time at the path's mid-point is 2400 hours.

The antenna correction factor Δ'_A for distances up to 300 km was derived from Figure 3.

The antenna correction factor Δ_A for distances of more than 300 km was derived from Figure 4.

The propagation curves in Figure 2 are based on C.C.I.R. Report 264-1 and on the report annexed to C.C.I.R. Resolution 31; for distances between 250 and 700 km, the deviation from the original curves does not exceed 2 dB. This deviation was necessary to allow a gradual transition from one set of curves to the other.

1.3.2 *Propagation curves for distances of more than 3500 km*

In the absence of an adequate number of measurements, the curves in Figure 2 for distances of more than 3500 km were obtained by extrapolation using formula (1a) in C.C.I.R. Report 264-1. This extrapolation is not founded on measurement results. Because of this, caution had to be exercised when using these curves for interference distances of more than 3500 km, particularly in the case of North-South paths and for transmitters located in the vicinity of coastal areas or on ground with high conductivity since, in these circumstances, it was considered that field strengths might well be higher than foreseen.

CHAPTER 2

Broadcasting standards

2.1 *Channel frequencies*

Since the use in Africa of carrier frequencies different from those used in Europe would lead to spacings between carriers calling for an increase of protection ratio between African and European stations of up to 20 dB to maintain the same grade of service (corresponding to an increase of up to 1500 km in the minimum distance between stations working on neighbouring frequencies), the channel frequencies adopted for the African Broadcasting Area are the same as those in the Copenhagen Plan.

2.2 *Emission bandwidth*

- a) In the light of available information it was not considered practicable to recommend the use of compatible single-sideband systems.
- b) The necessary bandwidth of the emission was assumed to be not greater than 20 kc/s.

CHAPTER 3

Protection against interference

The protection ratios in the following paragraphs are based upon C.C.I.R. Recommendations 448 and 449.

3.1 *RF protection ratios for stable wanted and unwanted signals* (Ground-wave service interfered with by ground-wave signals)

The RF protection ratios used are given by the curve in Figure 5.

3.2 *RF protection ratios for stable wanted and fluctuating unwanted signals* (Ground-wave service interfered with by sky-wave signals)

The RF protection ratios used are given by the curve in Figure 5.

3.3 *RF protection ratios for fluctuating wanted and unwanted signals* (Sky-wave service interfered with by sky-wave signals)

The RF protection ratios used were obtained by subtracting 5 dB from the values given by the curve in Figure 5.

3.4 *RF protection ratios for wanted to unwanted signals modulated with the same programme* (Ground-wave interferences between the transmitters of a synchronized network or interference between the ground-wave of a transmitter and its own sky-wave or that of another transmitter of the network)

A RF protection ratio of 8 dB was used in these cases.

3.5 *Second channel (image channel) RF protection ratio*

The RF protection ratio depends upon the intermediate frequency used (see paragraph 6.1.4) and upon the second channel rejection of the receiver which was assumed to be not less than 30 dB.

3.6 *Value of the fluctuating signal*

The value of the fluctuating signal used was the annual median of the hourly medians of the signal measured at 2400 hours local time at the mid-point of the path.

CHAPTER 4

Minimum field strength to be protected

The minimum field strengths to be protected were based upon information contained in C.C.I.R. Report 322 which gives the values of atmospheric noise for the four seasons of the year and for six daily time blocks. The values used were the averages of the average yearly values for the time blocks 1600-2000 and 2000-2400 hours.

These average values for the three different zones in Africa defined in Figure 6, converted to dB relative to $1 \mu\text{V/m}$, are as follows:

Zone A (Africa N of approximately 20° N)	2 dB
Zone B (Africa between approximately 20° N and 15° S)	15 dB
Zone C (Africa S of approximately 15° S)	8 dB

These values are for 1 kc/s bandwidth and for the frequency of 1 Mc/s. These average figures were converted to upper decile values by adding a correction factor, also derived from C.C.I.R. Report 322.

The value of minimum field strength to be protected at 1 Mc/s is given by the following formula:

$$E_s = E_n + 10 \log B + D_u + S/N$$

where

E_s = minimum field strength to be protected in dB relative to 1 μ V/m

E_n = noise field strength in dB relative to 1 μ V/m for 1 kc/s bandwidth at 1 Mc/s

B = overall effective noise bandwidth of the receiver. A value of 5 kc/s was used for the reference receiver

D_u = yearly average of the ratio of the upper decile to the median values of noise field strength noise for the time blocks 1600-2400 hours (12 dB)

S/N = desirable ratio of RF carrier signal to the median hourly r.m.s. value of atmospheric noise, taken to be 40 dB.

Consequently the values of E_s , in dB relative to 1 μ V/m, adopted for the three zones were as follows:

Zone A 61 dB

Zone B 74 dB

Zone C 67 dB

The correction factors, also derived from C.C.I.R. Report 322, to be applied to the minimum field to be protected for frequencies other than 1 Mc/s are indicated in Figure 7.

CHAPTER 5

Transmission characteristics

5.1 Maximum transmitter carrier power

Taking into account the minimum field strengths to be protected, the maximum transmitter carrier powers in the African Broadcasting Area have been fixed as follows:

Zone A (Figure 6) 150 kW

Zone B (Figure 6) 500 kW

Zone C (Figure 6) 250 kW.

5.2 Antenna gain

In calculating the interference field strength due to ionospheric propagation, account must be taken of the vertical radiation pattern of the antenna. For simple antennae Figure 4 was applied. For more complex antennae and when calculating the horizontal radiation pattern of directional arrays the gain was related in decibels to the ideal antenna specified in paragraph 1.3.1.

CHAPTER 6

Planning method

6.1 Use of the band 525-1605 kc/s

6.1.1 Reception Area

From the point of view of the reception area to be protected, the ground-wave service area of each station was protected up to the limit where the field strength reaches the minimum to be protected as defined in Chapter 4; but in certain special cases, which were specified by the administrations, the sky-wave service area at the point where the field strength of this wave is at least equal to the minimum field to be protected, was protected.

6.1.2 International common frequencies

International common frequencies are provided for in the Plan and they are the same as those in the Copenhagen Plan (1484 kc/s and 1594 kc/s). The carrier power of stations using these frequencies should not exceed:

0.25 kW for zone A (Fig. 6)

1 kW for zone B (Fig. 6)

0.5 kW for zone C (Fig. 6)

6.1.3 Synchronized networks

In the case of synchronized networks, the probabilities of harmful interference by each network were evaluated by substituting for each network a single station whose power would be the total power of the transmitters constituting the network concerned and whose position would be the centre of gravity of the sites of the various stations, each of the latter being weighted according to the power of the station concerned.

This method is applicable only in cases where the distances between the various transmitters in the synchronized network are short in relation to the distance between the interfered transmitter and the nearest transmitter in the network. In other cases the interference caused by each individual station in the synchronized network was considered.

6.1.4 Intermediate frequency of receivers

The Conference noted, for information, that the intermediate frequencies of broadcast receivers used in the African Broadcasting Area lie in the 450-480 kc/s range.

6.2 Preparation of the Plan

As far as possible, the order of magnitude of the frequencies of the existing stations was retained, although no particular effort was made to keep the frequencies now in use.

When several programmes are intended for reception at the same site, precautions were taken during planning to avoid trouble due to superheterodyne receivers (radiation by the oscillator, image frequencies, etc.).

Allowance was also made for the fact that separation distances can be reduced in any one channel, because of time differences, when the two stations concerned are very distant but on more or less the same degree of latitude.

6.3 Minimum distances between AM sound broadcasting transmitters

6.3.1 The value of the minimum distance between transmitters is the sum of the interference distance and the service distance.

The *interference distance* is defined as the distance between the unwanted transmitter and the point where the field strength of the unwanted transmitter is below the minimum field strength to be protected (see Chapter 4) by the protection ratio (see para. 3.2).

The *service distance* of a transmitter is the distance between this transmitter and the limit of the service area, where the field strength of the transmitter equals the minimum field strength to be protected during the night.

6.3.2 For planning purposes, the minimum distances were calculated according to the technical data given in Chapters 1, 2, 3 and 4 and assuming a short vertical transmitting antenna.

6.4 Average transmitter spacing

6.4.1 The Conference calculated the average transmitter spacings given in the following table and in Fig. 8. The calculations were based on the following:

- a) sky and ground wave service areas to be protected;
- b) co-channel and adjacent channel interference to be considered. The greater of the two spacings calculated has been quoted;
- c) a uniform distribution of transmitters with one transmitter at each site;
- d) the transmitter separation distances are given by the formulae $\frac{D}{\sqrt{C}}$ and $\frac{D' \sqrt{3}}{\sqrt{C}}$, where $C = 121$,

being the total number of channels available, and where D is the co-channel transmitter spacing and D' the adjacent channel transmitter spacing.

6.4.2 The variation due to frequency averaging only about 5%, a single table has been prepared showing average transmitter separation in km for each zone for specific powers.

P (kW)	Average transmitter separation (km)		
	Zone A	Zone B	Zone C
1	220	120	170
10	310	190	250
100	420	280	330
P max. *)	450 (150 kW)	350 (500 kW)	380 (250 kW)

*) P max. stands for the maximum transmitter carrier power, as specified in paragraph 5.1. The values of P max. are given in brackets in the table.

6.4.3 Where more than one frequency is required at each site, the average transmitter spacing must be multiplied by a factor \sqrt{n} , where n is the number of frequencies concerned.

6.4.4 The distances given for zone B were treated with caution, as their values are affected by the proximity of zones A and C. In general, their values are higher and are somewhere between those for zones A and C.

6.4.5 The average transmitter spacings were calculated for the various zones and power levels with respect to a service by both the ground wave and the sky wave signal. In order to allow for either type of service the higher distance value is given in the table. It should, however, be noted that according to the above-mentioned calculations, in cases where no sky wave service is envisaged a reduction in average transmitter spacing will only be possible at transmitter power levels greater than 10 kW and will never exceed 10%.

6.4.6 C.C.I.R. Report 400 contains a theoretical study of the optimum distance between transmitters in the same channel.

6.5 *Method of coordination*

6.5.1 *Coordination with the European Broadcasting Area and the portion of U.S.S.R. territory adjacent thereto*

The Conference agreed that coordination between the African Broadcasting Area, the European Broadcasting Area and the portion of U.S.S.R. territory adjacent thereto should be based on the principle of reciprocity. It therefore applied the RF protection ratios specified in Chapter 3 taking into account the curve in Figure 5. The minimum field to be protected was calculated in accordance with the method set out in Chapter 4, which corresponds at the frequency of 1 Mc/s to an average of 60 dB for Europe and 61 dB for North Africa.

Any adjustments relative to particular coordination between stations of this Area and stations outside this Area were examined by the countries concerned.

6.5.2 *Coordination with Region 3 and with countries of the Middle East which do not belong to the European Broadcasting Area*

The protection provided by stations in the African Broadcasting Area for the stations of countries in Region 3 or of countries in the Middle East which do not belong to the European Broadcasting Area is not less than that resulting from the standards applied between these various countries (see in this connection Resolution No. 4).



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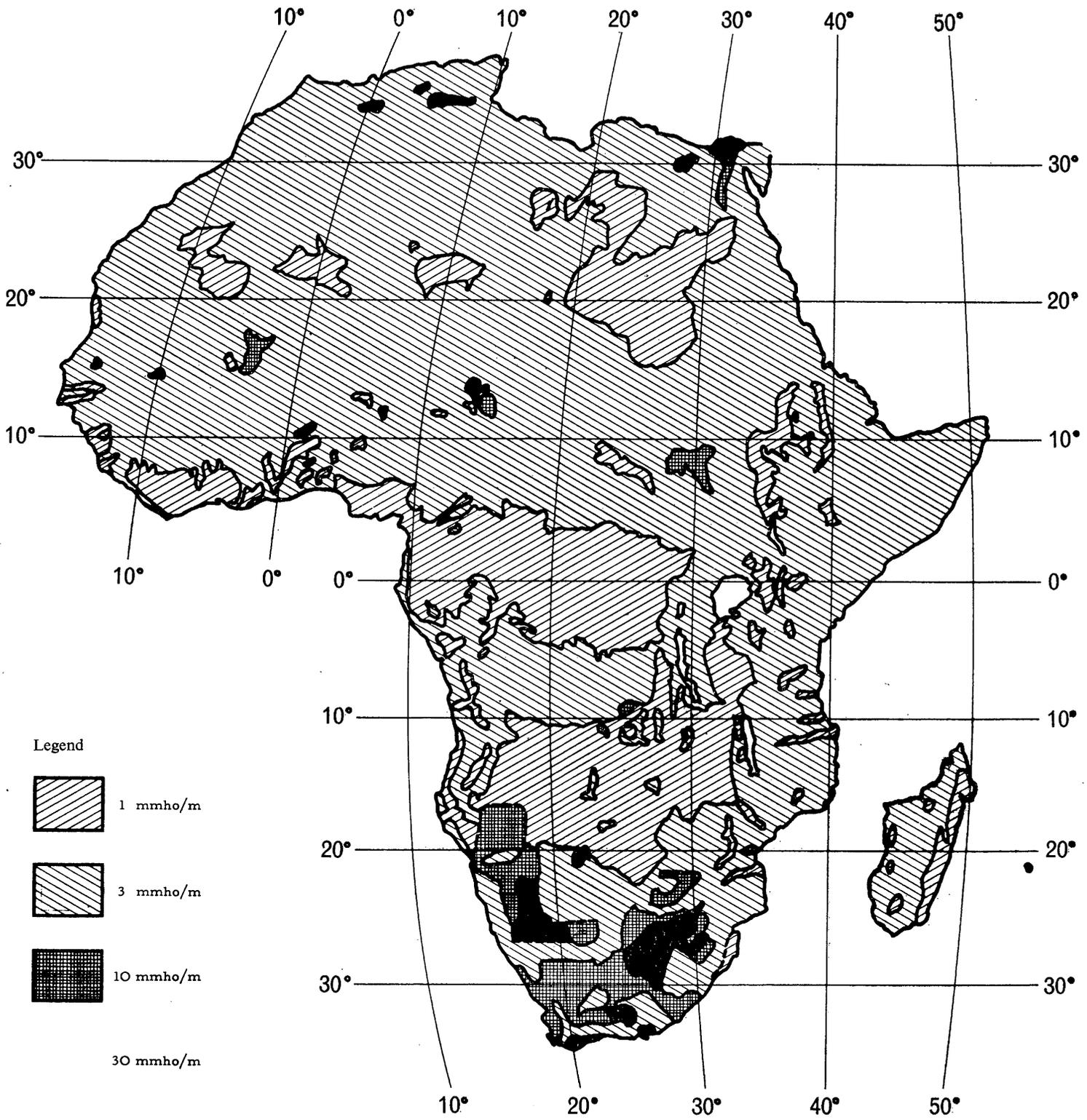


FIGURE 1
Equivalent ground conductivity map for Africa

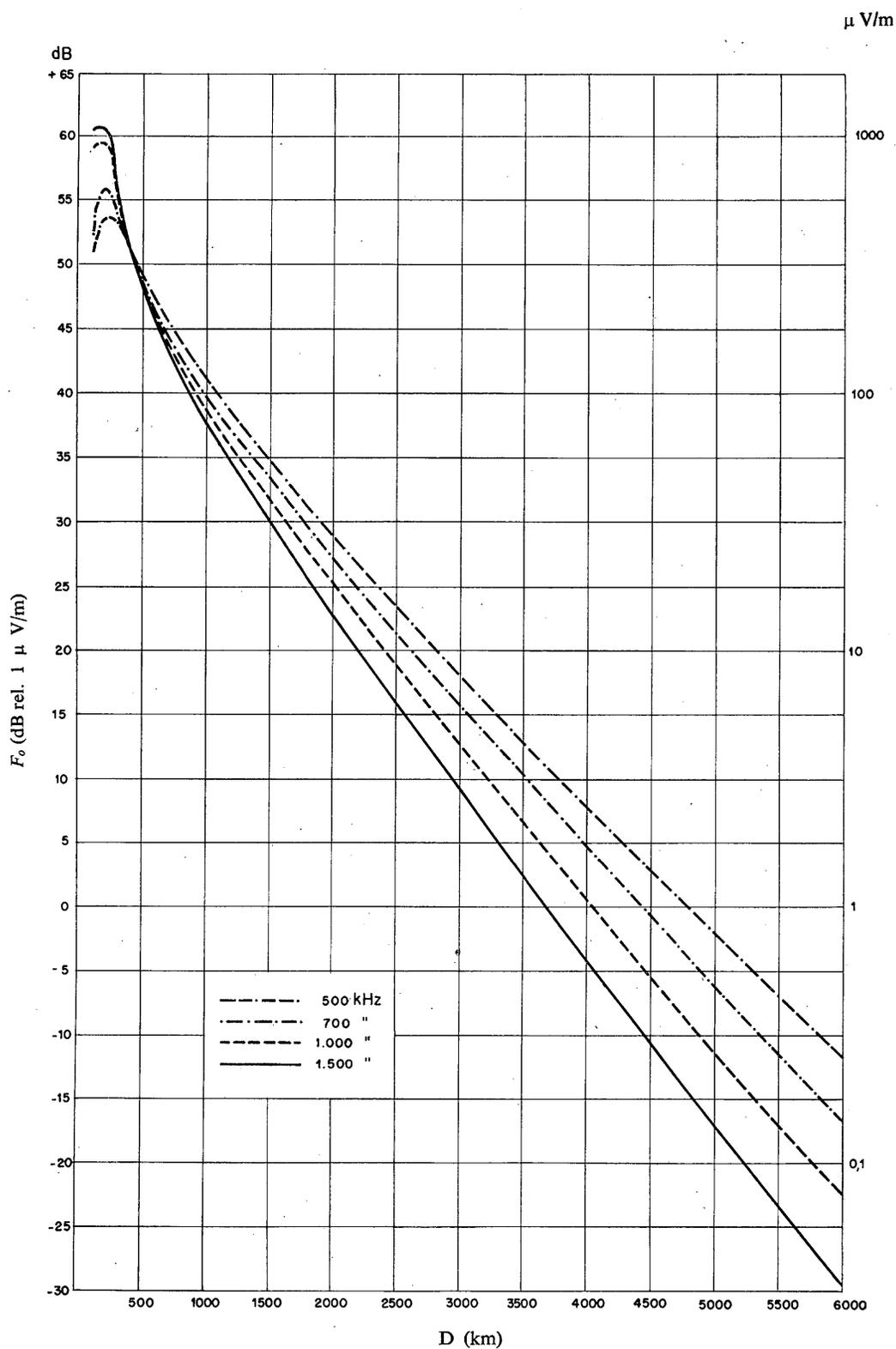


FIGURE 2

Family of basic curves to be used to determine the annual median value F_0 of the field strength

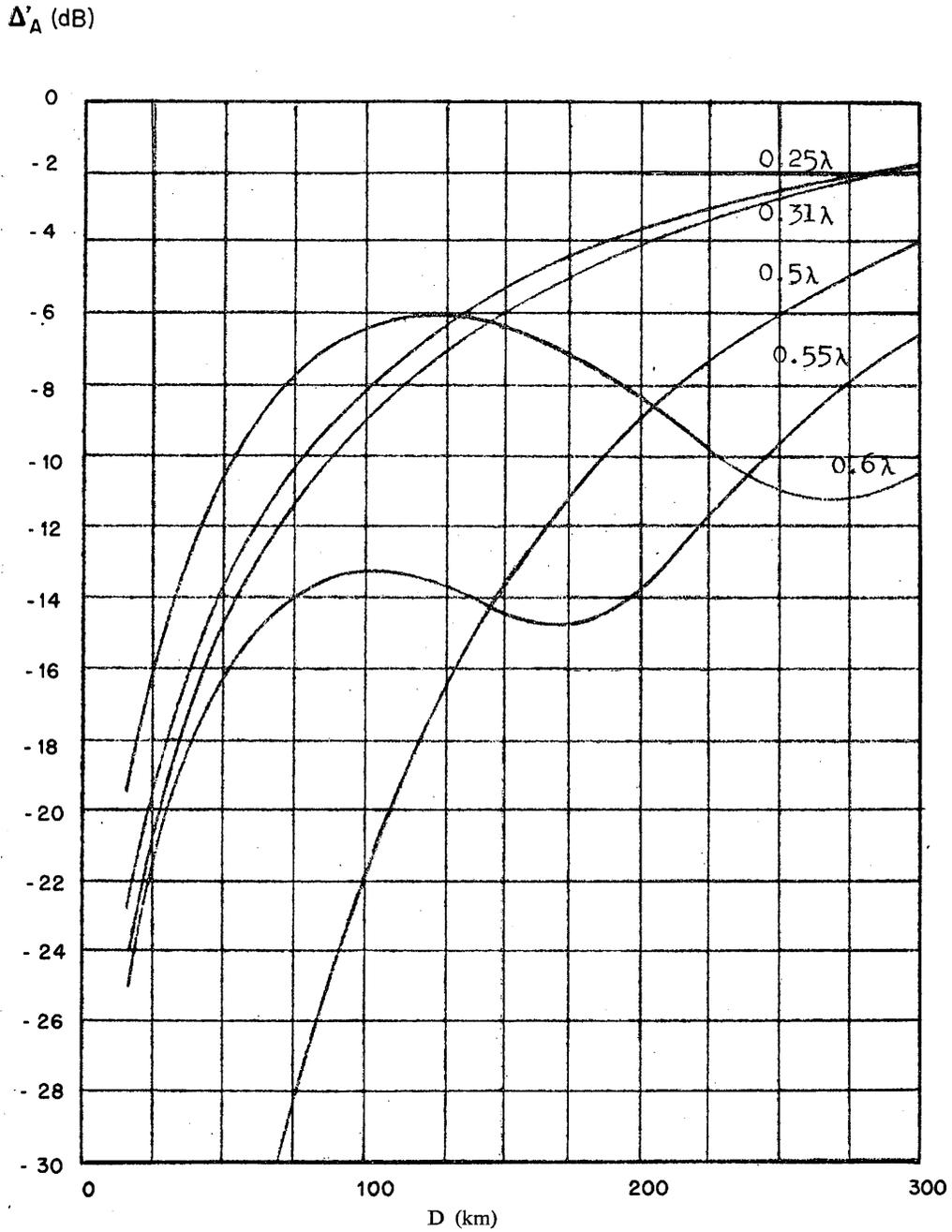


FIGURE 3

Correction factor Δ'_A , for distances up to 300 km, for vertical transmitting antennae of different lengths, as a function of distance at the point of reception (valid for E layer reflections)

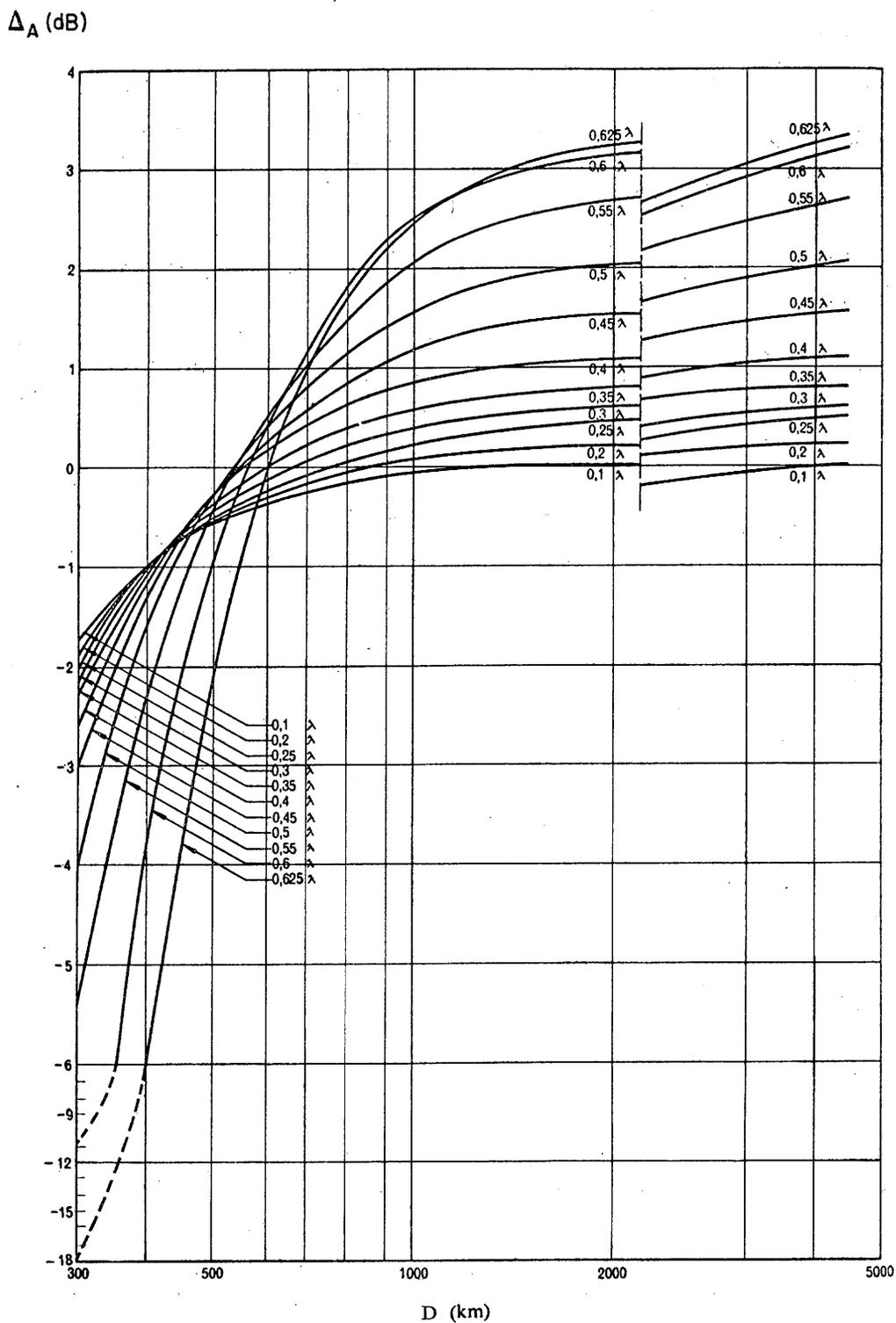


FIGURE 4
 Correction factor Δ_A , for distances of more than 300 km, for vertical transmitting antennae of different lengths as a function of distance at the point of reception

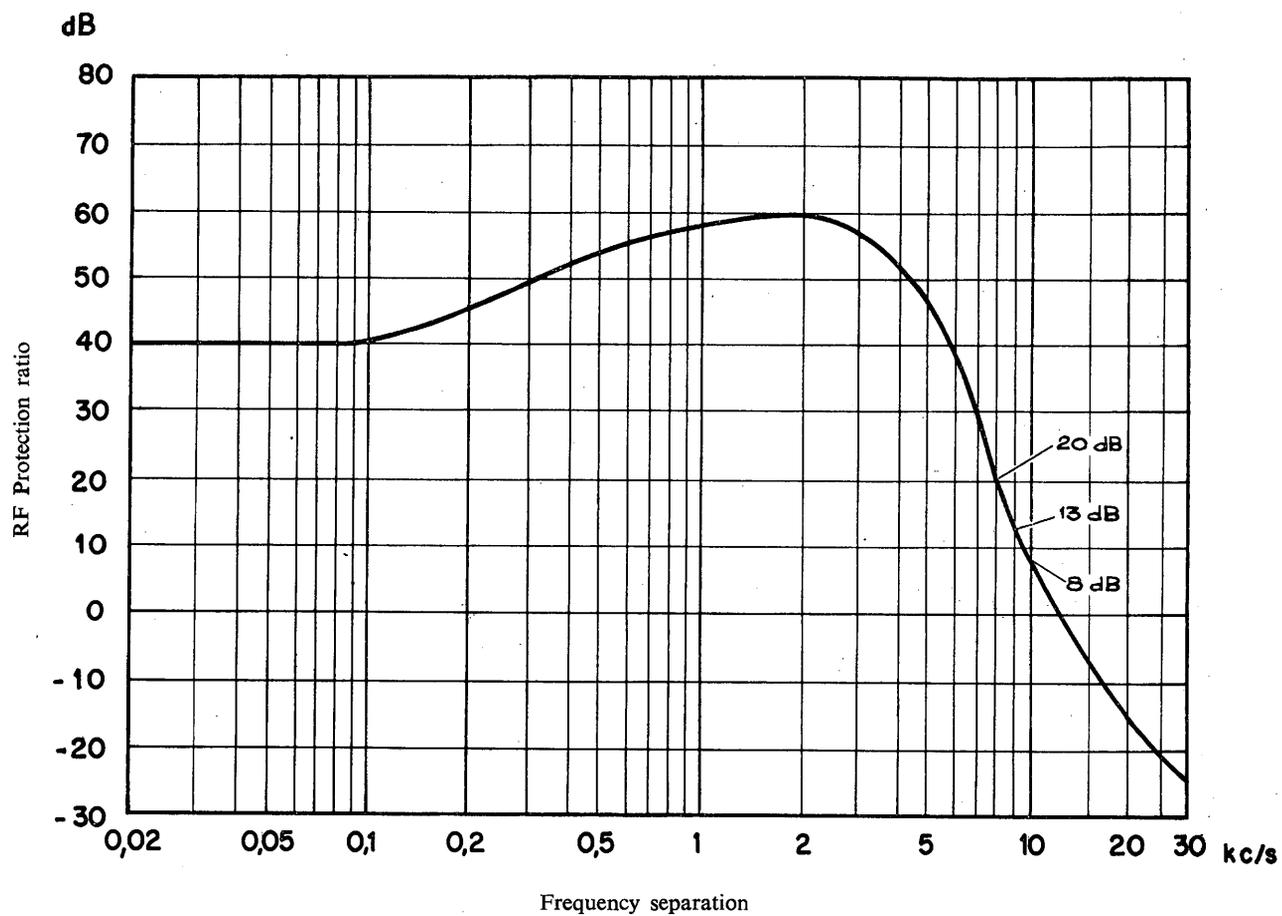


FIGURE 5

RF protection ratio as a function of frequency separation between wanted and unwanted signal

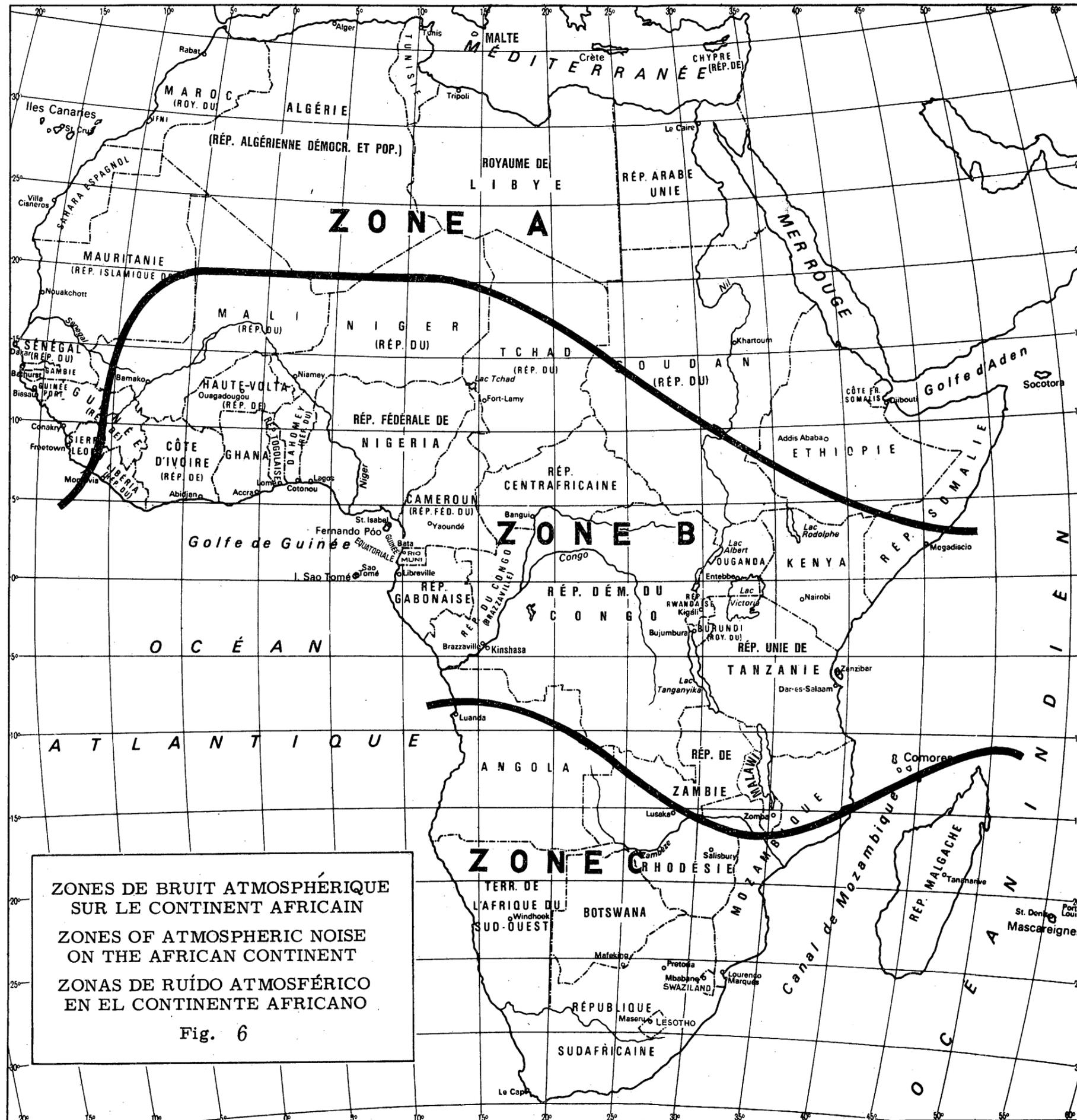
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L'inscription d'un pays ou d'un territoire sur cette carte ainsi que le tracé de frontières n'impliquent, de la part de l'U.I.T., aucune prise de position quant au statut politique de ces pays ou territoires, ni aucune reconnaissance officielle de ces frontières.

The mention of the name of a country or of a territory on this map, as well as the tracing of borders, do not imply, on the part of the I.T.U., any position with respect to the political status of such a country or territory, or official recognition of these borders.

L'inscription d'un pays ou d'un territoire sur cette carte ainsi que le tracé de frontières n'impliquent, de la part de l'U.I.T., aucune prise de position quant au statut politique de ces pays ou territoires, ni aucune reconnaissance officielle de ces frontières.



ZONES DE BRUIT ATMOSPHÉRIQUE
 SUR LE CONTINENT AFRICAIN
 ZONES OF ATMOSPHERIC NOISE
 ON THE AFRICAN CONTINENT
 ZONAS DE RUIDO ATMOSFÉRICO
 EN EL CONTINENTE AFRICANO
 Fig. 6

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Correction factor

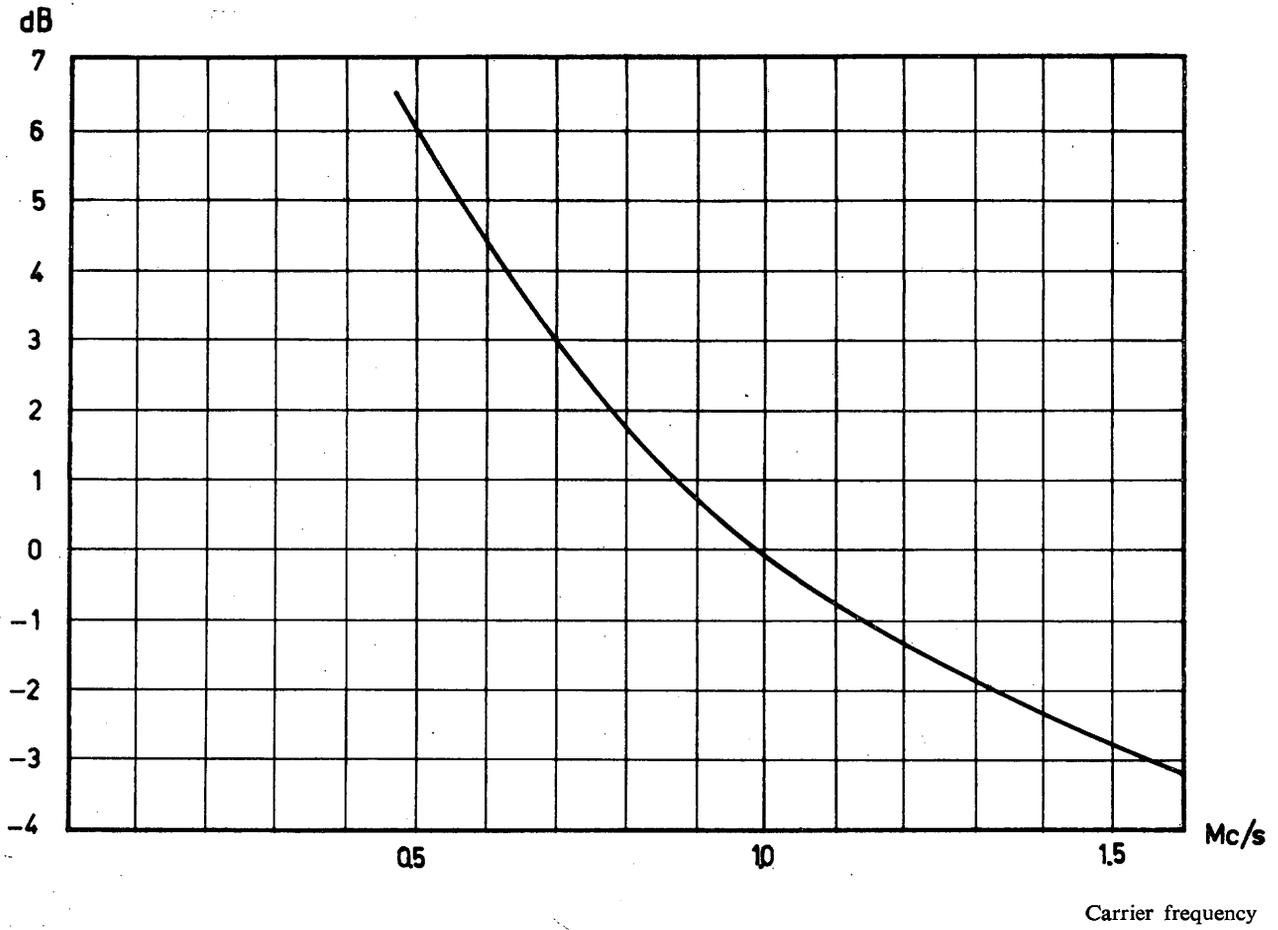


FIGURE 7

Correction factor to be applied to the minimum field to be protected

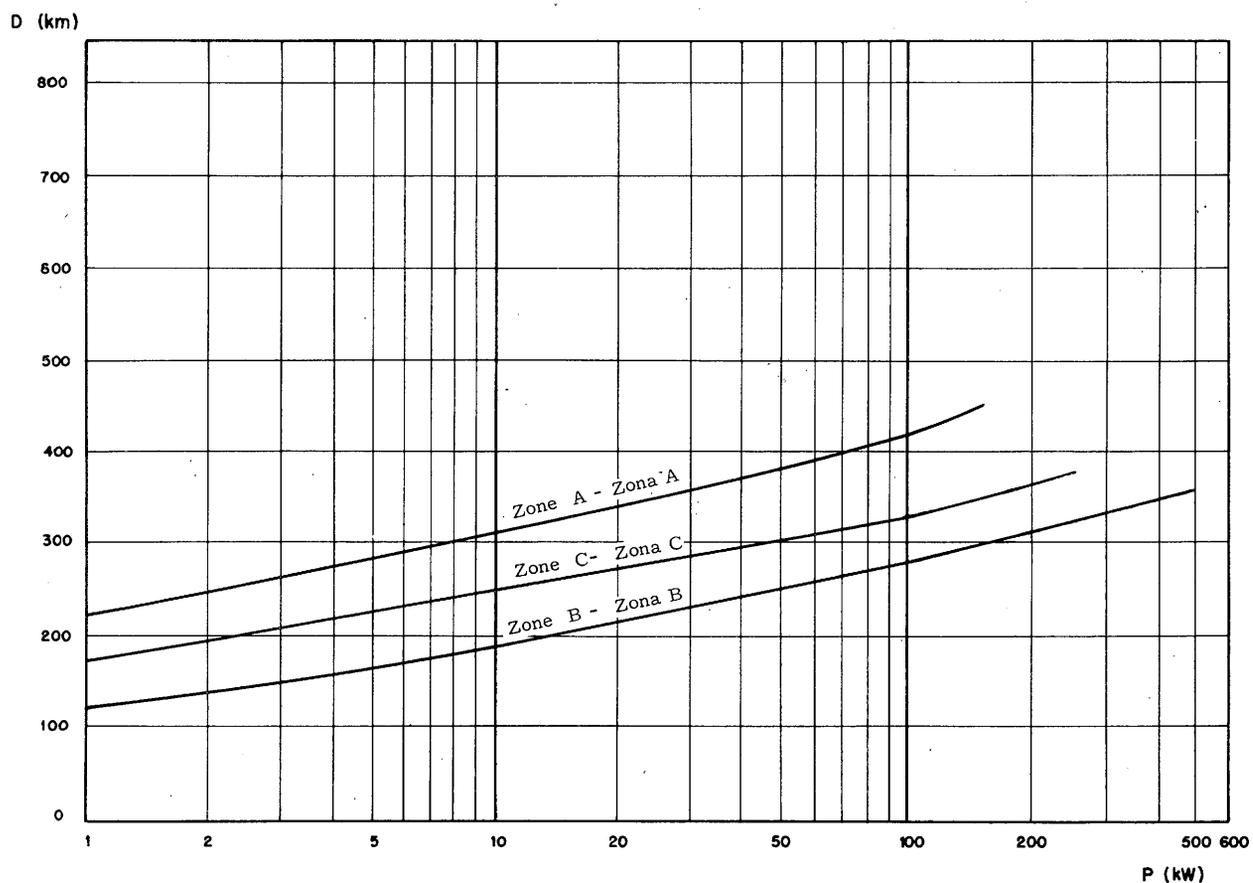


FIGURE 8
Average transmitter spacing

PROTOCOL

FORMING PART OF THE FINAL ACTS OF THE AFRICAN LF/MF BROADCASTING CONFERENCE, GENEVA, 1966

The undersigned Delegates of Administrations Members of the Union the territories of which are entirely or partly in the European Broadcasting Area,

take note

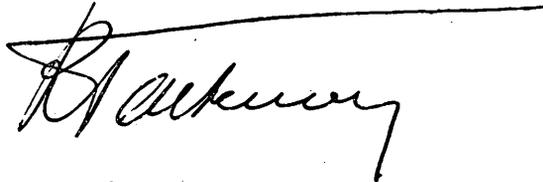
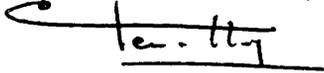
of the Plan for broadcasting stations in the African Broadcasting Area annexed to the Agreement, which was prepared in accordance with the terms of reference of the Conference determined by the Administrative Council in paragraph 1.2 of its Resolution No. 497 and in paragraph 2 of its Resolution No. 547, taking into account the situation as reflected by the assignments recorded in the Master International Frequency Register on 21 September 1966.

Pour l'Autriche:



L. MANDL

Pour la Belgique:

R. TASTENOY

M. GEWILLIG

Pour la République Socialiste Soviétique de Biélorussie:



G. KOROLEV

Pour la République Populaire de Bulgarie:



D.P. STAMATOV

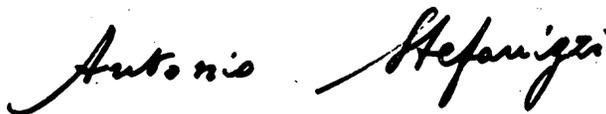
Pour la République de Chypre:



R. MICHAELIDES

C.G. ANASTASSIADES

Pour l'Etat de la Cité du Vatican:



A. STEFANIZZI

P.V. GIUDICI

Pour l'Espagne:

F. Benito



F. BENITO MESTRE

I. MIRO FORTEZA

Pour la Finlande:

T. Kytöniemi

T.V.G. KYTÖNIEMI

Pour la France:

B. de Chalvron

M. Huët

B. de CHALVRON

M. HUET

Pour la Grèce:

B.N. Aslanidis
J.N. Kaffetzakis

B.N. ASLANIDIS

J.N. KAFFETZAKIS

Pour l'Etat d'Israël:

H. Langholz

H. LANGHOLZ

Pour l'Italie:

Augusto Bigi

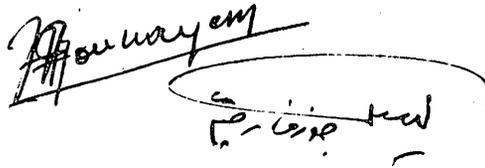
A. BIGI

Pour le Royaume Hachémite de Jordanie:

Adnan Bayat

A. BAYAT

Pour le Liban:

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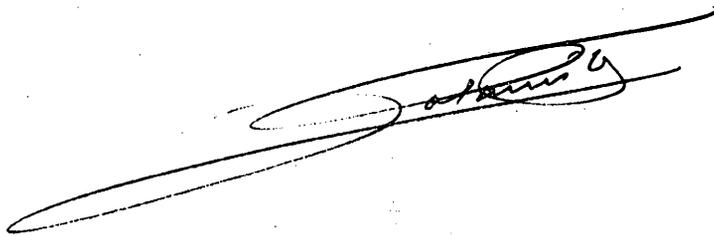
J. ROUHAYEM

Pour le Luxembourg:

A handwritten signature in cursive script, appearing to read "L. Maack", with a long, horizontal underline.

L. MAACK

Pour Monaco:

A highly stylized and somewhat illegible handwritten signature in cursive script, with a very long, sweeping underline.

C.C.R. SOLAMITO

Pour la Norvège:

A handwritten signature in cursive script, appearing to read "J. Chr. Dahlin", with a long, horizontal underline.

J.Chr. DAHLIN

Pour le Royaume des Pays-Bas:

J. C. Verton

J.C. VERTON

Pour la République Populaire de Pologne:

J. Rutkowski

J. RUTKOWSKI

Pour le Portugal:

F. de Alcambar Pereira

F. J. E. Duarte Catulo

V. Rodrigues

C. de Anciães Felício

F. de ALCAMBAR PEREIRA

F.J.E. DUARTE CATULO

V. RODRIGUES

C. de ANCIÃES FELICIO

Pour la République Arabe Unie:

أبو كنديل
A. Kandil

A. ABOU-KANDIL

Pour la République Fédérale d'Allemagne:

K. V. G.
U. Mohr.

K. VOGT

U. MOHR

Pour la République Socialiste Soviétique de l'Ukraine:

Саванчук

V. SAVANTCHOUK

Pour la République Socialiste de Roumanie:

I. Petru
V. Niculescu

I. PETRARU

V. NICOLESCU

Pour le Royaume-Uni de la Grande-Bretagne et de l'Irlande du Nord,
y compris les Iles Anglo-Normandes et l'Ile de Man:

H.C. Greenwood

H.C. GREENWOOD

Pour la Suède:

P.V. Åkerlind

P.V. ÅKERLIND

Pour la Confédération Suisse:

W. Klein
W. Ebert

W. KLEIN

W. EBERT

Pour la République Socialiste Tchécoslovaque:

J. Maršiček
M. Zahradníček

J. MARŠÍČEK

M. ZAHRADNÍČEK

Pour les Territoires d'Outre-Mer dont les relations internationales
sont assurées par le Gouvernement du Royaume-Uni
de la Grande-Bretagne et de l'Irlande du Nord:

T. Kilvington

R.A. Dilworth

T. KILVINGTON

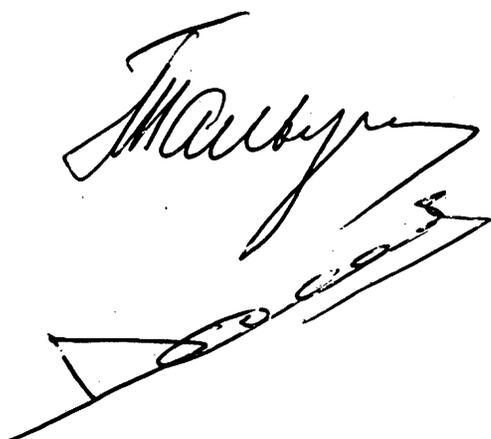
R.A. DILWORTH

Pour la Tunisie:

A handwritten signature in black ink, consisting of a horizontal line that curves upwards and then downwards, with a small vertical stroke at the top.

M. CHAFFAI

Pour l'Union des Républiques Socialistes Soviétiques:

Two handwritten signatures in black ink. The top signature is 'Talyzine' and the bottom signature is 'I. Dombrowsky', both written in a cursive style.

N. TALYZINE

I. DOMBRODSKY

Pour la République Socialiste Fédérative de Yougoslavie:

A handwritten signature in black ink, appearing to be 'R. Galic' in a cursive style.

R. GALIĆ

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FINAL PROTOCOL

FORMING PART OF THE FINAL ACTS OF THE AFRICAN LF/MF BROADCASTING CONFERENCE, GENEVA, 1966

At the time of signing the Final Acts of the African LF/MF Broadcasting Conference, Geneva, 1966, the undersigned Delegates take note of the following statements:

I

FOR ALGERIA (ALGERIAN DEMOCRATIC AND POPULAR REPUBLIC), THE HASHEMITE KINGDOM OF JORDAN, LEBANON, THE KINGDOM OF MOROCCO, THE UNITED ARAB REPUBLIC AND TUNISIA:

The above-mentioned Delegations declare that the signature by them of the Final Acts of the African LF/MF Broadcasting Conference (Geneva, 1966) and the possible subsequent approval of the Agreement by their respective Governments are not valid with respect to the Member appearing under the name of Israel in the Final Acts, and in no way imply its recognition.

II

FOR ALGERIA (ALGERIAN DEMOCRATIC AND POPULAR REPUBLIC), THE KINGDOM OF MOROCCO AND TUNISIA:

When signing the Agreement and the Final Protocol of the African LF/MF Broadcasting Conference (Geneva, 1966), the above-mentioned Delegations declare that the date of 21 September 1966 entered in the Protocol can in no case be regarded as conferring official approval on a *de facto* situation in the European Broadcasting Area or as according any right of protection whatsoever to certain stations in this Area.

III

FOR ALGERIA (ALGERIAN DEMOCRATIC AND POPULAR REPUBLIC):

When signing the Final Protocol forming part of the Final Acts of the African LF/MF Broadcasting Conference, the Algerian Delegation declares that it cannot accept the declaration made by the Delegation

tion of the Kingdom of Morocco, insofar as this declaration contests the sovereignty of the Algerian Government over the totality of its national territory.

IV

FOR BELGIUM AND ITALY:

Signature of the Protocol by the Belgian and Italian Administrations does not imply recognition by those Administrations of any rights which might result from consideration by the Conference of assignments with respect to stations in the European Broadcasting Area for which no entry appears in columns 2a or 2b of the Master International Frequency Register.

V

FOR SPAIN:

The Delegation of Spain declares that its signature of these Final Acts does not imply acceptance of any obligation deriving from the European Broadcasting Convention signed in Copenhagen on 15 September 1948, to which it is not a party. It reserves for its Government the right to take whatever measures it deems fit to protect its legitimate interests and ensure the proper functioning of its broadcasting services in conformity with the provisions of the Radio Regulations, while making every effort, as it has always done, to avoid causing harmful interference to the broadcasting services of other countries. It likewise reserves its Government's right to accept or reject the consequences of any reservations made by other delegations to this Conference and to take whatever action is required to safeguard its interests in accordance with the international provisions in force.

VI

FOR GREECE:

The signing of the Protocol by the Greek Administration does not imply that it recognizes any rights which might result from the consideration by the Conference of assignments to stations in the European Broadcasting Area for which no entry appears in columns 2a or 2b of the Master International Frequency Register.

VII

FOR THE STATE OF ISRAEL:

A

The Delegation of the State of Israel cannot accept the declarations made by the Delegations of Algeria (Algerian Democratic and Popular Republic), Jordan (Hashemite Kingdom of), Lebanon (Republic of), Morocco (Kingdom of), Tunisia, United Arab Republic and the Islamic Republic of Mauritania, concerning Israel, and reserves the right of its Government to take any appropriate measure it may deem necessary to safeguard the interests of the State of Israel in the application of the Final Acts and Protocols of the LF/MF African Broadcasting Conference (Geneva, 1966), as far as the above Member countries are concerned.

B

The Israeli Delegation declares its disagreement with the assignment by this Conference, of a number of frequencies to a neighbouring country in the African Area which will, inevitably, cause harmful inter-

ference to channels recorded in the Master International Frequency Register on 21 September 1966, and which are in use by the Israeli Administration.

By incorporating these frequencies in the Plan, the protection ratio will be reduced far below the liberal standards accepted by the Conference, which are ranging down to -36 dB, thus contradicting the Radio Regulations of the Union.

In signing the Final Acts and Protocols of the African LF/MF Broadcasting Conference, the Israeli Delegation reserves the right of its Government to take all necessary measures to safeguard its interests within the framework of international agreements and the Radio Regulations.

VIII

FOR THE KINGDOM OF MOROCCO:

A

The Delegation of the Kingdom of Morocco, aware of the purely geographical nature of the radio frequency assignments, declares that its participation in the preparation of the Plan for the African LF/MF Broadcasting Area and its acceptance of frequency assignments in that Plan to certain stations appearing under the names of the Algerian Republic and of Spain in no way imply recognition of the authority of these two States over the parts of its territory in which the said stations are situated.

B

The Delegation of the Kingdom of Morocco,
considering

a) that the work of the African LF/MF Broadcasting Conference (Geneva, 1966) was conducted with such speed that it was impossible to make a rational study of the problems raised by the frequency requirements of the African countries;

b) that the debates were conducted in such a manner as to lead to frequent violation of number 568 of the International Telecommunication Convention (Geneva, 1959),

noting

a) that as a result the Conference did not respect the terms of reference allotted it by the Administrative Council in Resolution No. 565, in particular in that it assigned to some African stations frequencies already used by certain countries in accordance with the Radio Regulations now in force;

b) that these new frequency assignments are bound to cause harmful interference to stations already entered in the Master International Frequency Register, thus calling for the application of Article 47 of the International Telecommunication Convention (Geneva, 1959),

declares

that it reserves for its Government the right to take the necessary steps to ensure the protection of the stations on its territory in accordance with the Radio Regulations (Geneva, 1959) and the International Telecommunication Convention (Geneva, 1959).

IX

FOR THE ISLAMIC REPUBLIC OF MAURITANIA:

The Delegate of the Islamic Republic of Mauritania declares that his signature of the Final Acts of the African LF/MF Broadcasting Conference and any subsequent approval of the Agreement by the Mauritanian Government are not valid with respect to the Member entered under the name of Israel and in no way imply its recognition.

FOR MONACO:

The Delegation of Monaco notes that the Plan prepared by the African LF/MF Broadcasting Conference does not take account either of the particular geographical position or of the real service area of the Monaco station and thus does not provide adequate protection for that service area.

Consequently, since the Monaco Administration has only one MF broadcasting frequency, namely 1466 kc/s, it hereby declares that, in order to protect its service area, it will be unable to take into consideration any observations submitted in this connection.

XI

FOR THE PEOPLE'S REPUBLIC OF POLAND:

Delegation of the People's Republic of Poland,

noting

the provisions of the I.T.U. Administrative Council Resolution No. 497 concerning the terms of reference of the African LF/MF Broadcasting Conference,

the fact that the frequency 818 kc/s is assigned in the Copenhagen Plan to the exclusive use of the People's Republic of Poland and is recorded in the Master International Frequency Register with a date in column 2a,

taking into consideration

that the United Arab Republic operates on the same frequency a broadcasting station called Batra with the power of 450 kW, situated in the European Broadcasting Area and not recorded in the Master International Frequency Register,

that the operation of that station causes a serious harmful interference to the Polish broadcasting service,

declares

that it could not accept any assignment concerning the frequency 818 kc/s in the Plan for broadcasting stations in the African Broadcasting Area to any broadcasting station of the United Arab Republic,

that the Administration of the People's Republic of Poland is willing to enter into direct negotiations with the Administration of the United Arab Republic with a view to adopting all adequate measures in order to clear harmful interference on this frequency.

XII

FOR THE UNITED ARAB REPUBLIC:

The Delegation of the United Arab Republic,

noting

that the Delegation of the People's Republic of Poland has made a declaration concerning the use of the frequency 818 kc/s;

wishes to draw the attention of the Conference to the following points:

a) The matter raised in said declaration concerns two stations in the European Broadcasting Area, and as such, is not a subject for discussion in this African Conference;

b) that there are several similar cases of interference between stations in the European Area, which are not brought to the attention of the Conference for the reason mentioned in a) above;

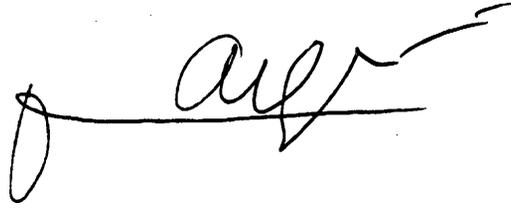
c) that such mutual interference between stations in the European Area will undoubtedly be the subject matter of future conferences for the European Area.

And, since the use of frequencies in the African zone is governed only by the terms of reference of this Conference and the planning methods adopted by it, which do not forbid the use of any frequency in Africa, or assign it to any country therein, only because there is mutual interference experienced on this frequency in the European Area,

declares

that the Delegation of the United Arab Republic do not agree with the conclusions drawn by the Polish Delegation in the above-mentioned declaration.

Pour la République Algérienne Démocratique et Populaire:



A. LAGHOUATI

M. HARBI

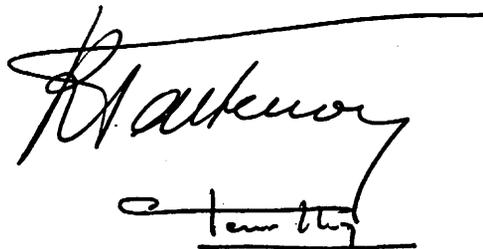
A. MAHIEDDINE

Pour l'Autriche:



L. MANDL

Pour la Belgique:



R. TASTENOY

M. GEWILLIG

Pour la République Socialiste Soviétique de Biélorussie:



G. KOROLEV

Pour la République Populaire de Bulgarie:



D.P. STAMATOV

Pour le Royaume du Burundi:

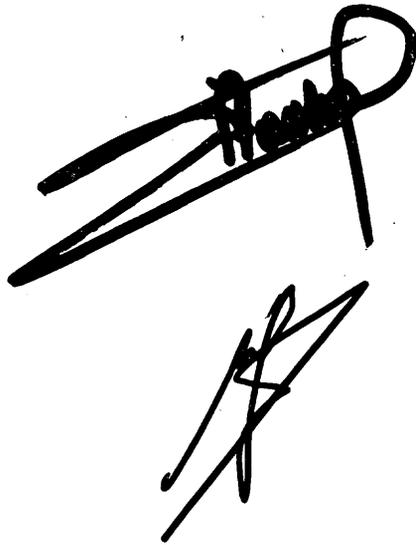


L. KAHUNGU



V. JEAN-LOUIS

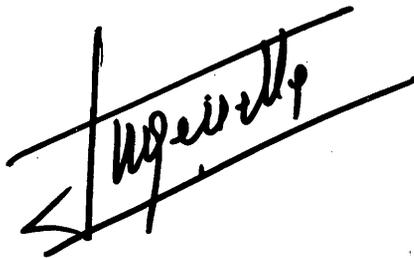
Pour la République Fédérale du Cameroun:

Two handwritten signatures in black ink. The top signature is large and stylized, with a prominent loop at the end. The bottom signature is smaller and more compact.

J. FOALEM-FOTSO

J. JIPGUEP

Pour la République Centrafricaine:

A handwritten signature in black ink, written in a cursive style and enclosed within a rectangular frame.

J. M'BILO

Pour la République de Chypre:

A handwritten signature in black ink, reading "R. Michaelides", with a horizontal line underneath.A handwritten signature in black ink, reading "C. G. Anastasiades", with a vertical line extending downwards from the end.

R. MICHAELIDES

C.G. ANASTASSIADES

Pour l'Etat de la Cité du Vatican:

Antonio Stefanizzi

Pier Vincenzo Giudici

A. STEFANIZZI

P.V. GIUDICI

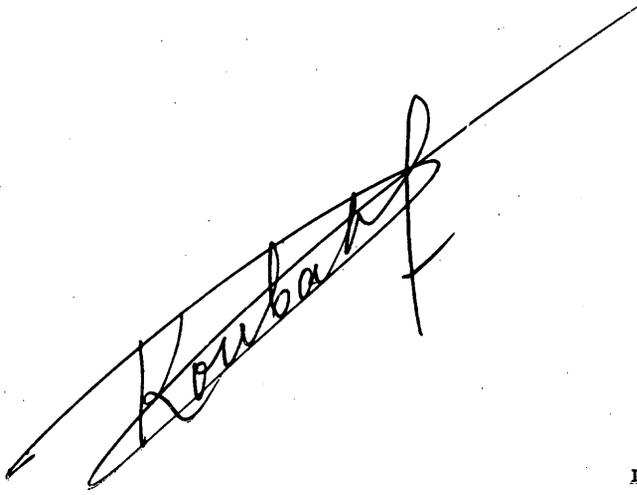
Pour la République Démocratique du Congo:

A.P. KUMBA

V. NIKUNA

M.G. M'BELA

Pour la République du Congo (Brazzaville):

A handwritten signature in black ink, written diagonally across the page. The signature is stylized and appears to read 'Koubatika'.

D. KOUBATIKA

Pour la République de Côte d'Ivoire:

A handwritten signature in black ink, written diagonally across the page. The signature is stylized and appears to read 'C. Noguou'.A handwritten signature in black ink, written diagonally across the page. The signature is stylized and appears to read 'L. Diallo'.A handwritten signature in black ink, written diagonally across the page. The signature is stylized and appears to read 'P. Koinin'.

C. NOGBOU

L. DIALLO

P. KOPOIN

Pour la République du Dahomey:

~~Signature~~

Signature

T. BOURAÏMA

V. COMLAN

Pour l'Ensemble des Territoires représentés par
l'Office français des postes et télécommunications d'Outre-Mer

~~Signature~~
Signature

G. AUNEVEUX

J. AUBERTOT

Pour l'Espagne:

F. Benito

Signature

F. BENITO MESTRE

I. MIRO FORTEZA

Pour l'Ethiopie:

*በገጠናው ላይ
የሕግ ስርዓት*

*~~T. Sebhatu~~
ተገቢው ስርዓት*

B. DESTA

T. SEBHATU

Pour la Finlande:

T. Kytöniemi

T.V.G. KYTÖNIEMI

Pour la France:

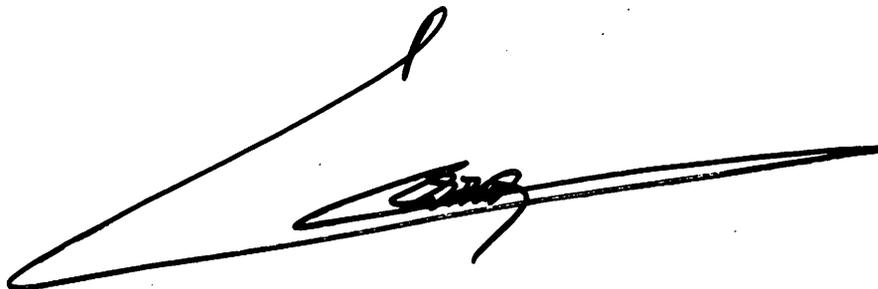
B. de Chalvron

M. Huët

B. de CHALVRON

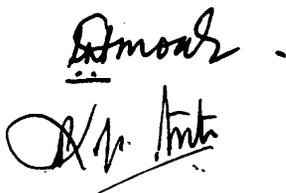
M. HUËT

Pour la République Gabonaise:

A large, stylized handwritten signature in black ink, consisting of a long horizontal stroke with a loop at the end and a smaller, more complex signature above it.

P. ESSONE

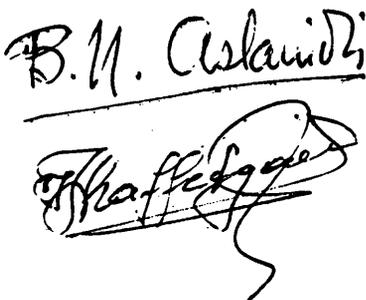
Pour le Ghana:

Two handwritten signatures in black ink. The top one is 'S.N. AMOAH' and the bottom one is 'P.K. ANTI', both written in a cursive style.

S.N. AMOAH

P.K. ANTI

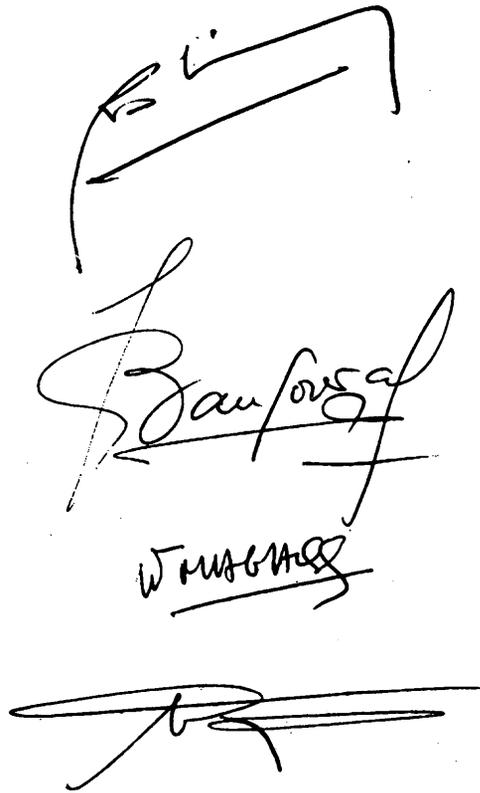
Pour la Grèce:

Two handwritten signatures in black ink. The top one is 'B.N. ASLANIDIS' and the bottom one is 'J.N. KAFFETZAKIS', both written in a cursive style.

B.N. ASLANIDIS

J.N. KAFFETZAKIS

Pour la République de Guinée:



The first signature is a stylized, cursive mark. The second signature is 'Bangoura' written in a cursive script. The third signature is 'Moussa' written in a cursive script.

A. DIALLO

L. BANGOURA

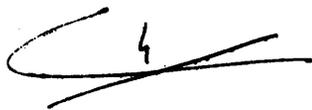
N. MAGASSOUBA

M. B. CAMARA

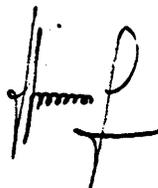
Pour la République de Haute-Volta:



A handwritten signature consisting of a cursive mark with a horizontal line underneath.



A handwritten signature consisting of a cursive mark with a horizontal line underneath.



A handwritten signature consisting of a cursive mark with a horizontal line underneath.

R. ZONGO

J. CHABANEL

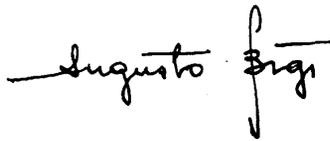
J. M. OUEDRAOGO

Pour l'Etat d'Israël:

A handwritten signature in black ink, appearing to read 'H. Langholz' with a stylized flourish at the end.

H. LANGHOLZ

Pour l'Italie:

A handwritten signature in black ink, appearing to read 'Augusto Bigi' with a stylized flourish at the end.

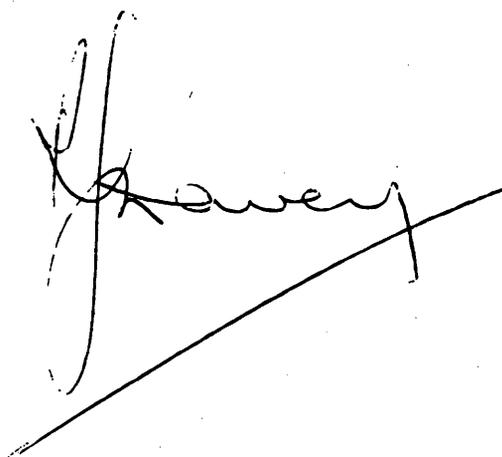
A. BIGI

Pour le Royaume Hachémite de Jordanie:

A handwritten signature in black ink, appearing to read 'Adnan Bayat' with a stylized flourish at the end.

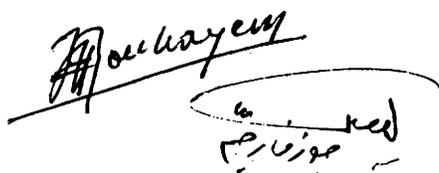
A. BAYAT

Pour le Kenya:

A handwritten signature in cursive script, appearing to read 'R. Davey', is written over a long, thin diagonal line that extends from the bottom left towards the middle right of the signature.

R.J. DAVEY

Pour le Liban:

A handwritten signature in cursive script, appearing to read 'J. Rouhayem', is written over a long, thin diagonal line. Below the signature, there is a small, circular stamp or mark containing some illegible text.

J. ROUHAYEM

Pour la République du Libéria:

A handwritten signature in cursive script, appearing to read 'S.H. Butler', is written in a fluid, connected style.

S.H. BUTLER

Pour le Luxembourg:



L. MAACK

Pour le Malawi:



B.B. NHLANE

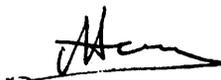
Pour la République Malgache:



B. RAKOTOARIVELO

R. LERUSTE

Pour la République du Mali:



M. KÉITA

Pour le Royaume du Maroc:

A handwritten signature in Arabic script, consisting of several fluid, connected strokes.

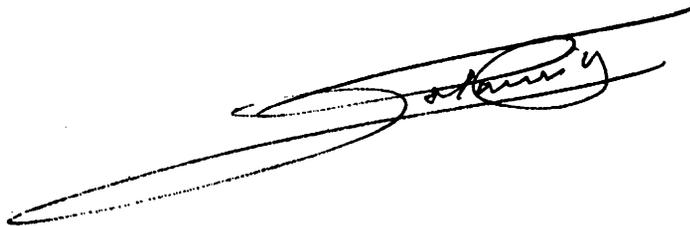
L. BOUTAMI

Pour la République Islamique de Mauritanie:

A handwritten signature in a cursive style, with a long horizontal stroke at the bottom.

M. BABA FALL

Pour Monaco:

A handwritten signature in a cursive style, with a long horizontal stroke at the bottom.

C.C.R. SOLAMITO

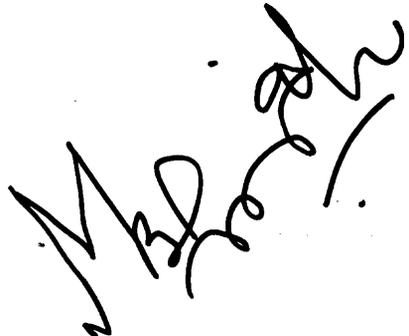
Pour la République du Niger:




B. LUCAS

M. NAÏNO

Pour la République Fédérale de Nigeria:




M.B. BRIMAH

G.P.J. WHITE

Pour la Norvège:



J.Chr. DAHLIN

Pour l'Ouganda:



(H.F. HUMPHREYS)

H.F. HUMPHREYS

Pour le Royaume des Pays-Bas:



J.C. VERTON

Pour la République Populaire de Pologne:

Handwritten signature

J. RUTKOWSKI

Pour le Portugal:

F. de Alcambar Pereira

de Duarte Catulo

Handwritten signature

Celso de Ançães Felício

F. de ALCAMBAR PEREIRA

F.J.E. DUARTE CATULO

V. RODRIGUES

C. de ANCIÃES FELICIO

Pour les Provinces espagnoles d'Afrique:

L.J.M.S.

L.J.M.S. MAHO-SICACHA

Pour les Provinces portugaises d'Outre-Mer:

F. de Alcambar Pereira

F.J.E. Duarte Catulo

V. Rodrigues

C. de Ançães Felício

F. de ALCAMBAR PEREIRA

F.J.E. DUARTE CATULO

V. RODRIGUES

C. de ANÇÃES FELICIO

Pour la République Arabe Unie:

عبد اوكنديل
A. Kandil

A. ABOU-KANDIL

Pour la République Fédérale d'Allemagne:

Kg.
U. Mohr.

K. VOGT

U. MOHR

Pour la République Socialiste Soviétique de l'Ukraine:

V. Savantchouk

V. SAVANTCHOUK

Pour la République Socialiste de Roumanie:

I. Petru

V. Nicolescu

I. PETRARU

V. NICOLESCU

Pour le Royaume-Uni de la Grande-Bretagne et de l'Irlande du Nord,
y compris les Iles Anglo-Normandes et l'Ile de Man:

H.C. Greenwood

H.C. GREENWOOD

Pour la République Rwandaise:

G.G. Thiele

G.G. THIELE

Pour la République du Sénégal:

J. N'DIAYE

M. M'BAYE

L. DIA

I. N'DIAYE

M. M'BAYE

L. DIA

Pour la Suède:

P.V. ÅKERLIND

P.V. ÅKERLIND

Pour la Confédération Suisse:

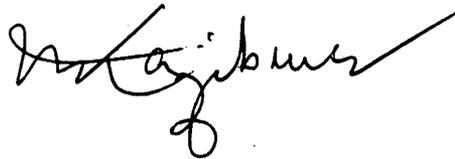
W. Klein

K. Ebert

W. KLEIN

W. EBERT

Pour la République Unie de Tanzanie:



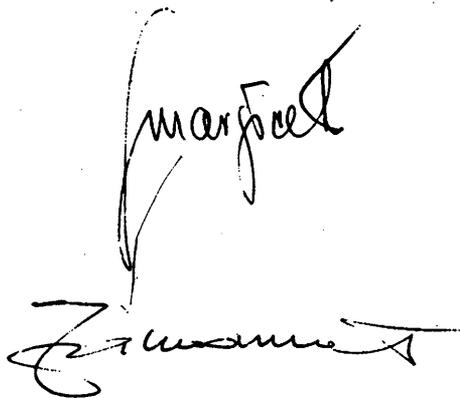
Y. KAZIBURE

Pour la République du Tchad:



I.M. AMANE

Pour la République Socialiste Tchécoslovaque:



J. MARŠÍČEK

M. ZAHRADNÍČEK

Pour les Territoires d'Outre-Mer dont les relations internationales
sont assurées par le Gouvernement du Royaume-Uni
de la Grande-Bretagne et de l'Irlande du Nord:

T. Kilvington

R.A. Dilworth

T. KILVINGTON

R.A. DILWORTH

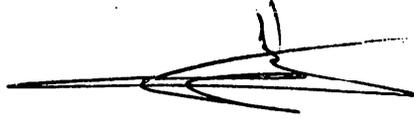
Pour la République Togolaise:

G. Ekue

G. EKUE

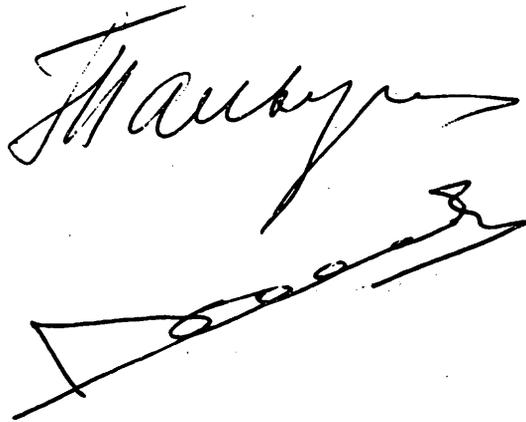


Pour la Tunisie:

A handwritten signature in black ink, consisting of several horizontal strokes and a vertical stroke at the top, forming a stylized, somewhat abstract shape.

M. CHAFFAI

Pour l'Union des Républiques Socialistes Soviétiques:

Two handwritten signatures in black ink. The top signature is written in a cursive style and appears to be 'Talyzine'. The bottom signature is more stylized and appears to be 'Dombrotsky'.

N. TALYZINE

I. DOMBRODSKY

Pour la République Socialiste Fédérative de Yougoslavie:

Galic

R. GALIC

Pour la République de Zambie:

G.R. Tate

A. Davis

J. Kalisilira

G.R. TATE

A. DAVIS

J.D. KALISILIRA

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RESOLUTIONS

RESOLUTION No. 1

relating to the implementation of the Plan adopted by the Conference

The African LF/MF Broadcasting Conference (Geneva, 1966),

noting

a) that the Conference adopted an Agreement and a frequency assignment Plan annexed thereto for MF broadcasting stations in the African Broadcasting Area;

b) that Article 4 of this Agreement specifies that, insofar as the relations between Contracting Administrations are concerned, all frequency assignments put into use in conformity with the Plan and recorded in the Master International Frequency Register as a result of the application of the provisions of Article 9 *) of the Radio Regulations shall be considered as having the same status irrespective of the dates entered in Column 2a or Column 2b for such assignments;

considering

that it is desirable to clarify the procedure to be followed in the event of harmful interference between stations, the assignments to which are considered by Contracting Administrations as having the same status;

recognizing

a) that the number of requirements in relation to the available spectrum has precluded meeting all requirements submitted and ensuring that stations, the assignments to which appear in this Plan, will be free in all cases from any possible harmful interference;

b) that, in many such cases, harmful interference may be avoided by suitable arrangements between the Administrations concerned, but that it may, in other cases, require adjustments of the Plan;

c) that the I.F.R.B. could play a useful role in the elimination of such harmful interference, but that the assistance which it could give may be limited by the practical possibilities imposed by the Plan itself;

resolves

1. that Administrations shall make every endeavour to eliminate harmful interference to stations operated in conformity with the provisions of the Plan by direct negotiations with the other Administrations concerned, in accordance with the procedures prescribed in Article 15 *) of the Radio Regulations;

2. that the I.F.R.B. should be consulted in cases where modifications to the Plan are envisaged in consequence of the negotiations described in 1. above;

3. that, should direct negotiations between Administrations fail to settle a specific problem of harmful interference, the I.F.R.B., upon request, shall endeavour to give such advice and assistance in the solution of the problem as it finds to be practicable according to the information at its disposal and within the technical limitations imposed by the Plan.

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

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RESOLUTION No. 2

relating to the bringing up-to-date of the Master International Frequency Register on the date of entry into force of the Agreement

The African LF/MF Broadcasting Conference (Geneva, 1966),

noting

a) that the Conference adopted an Agreement and a frequency assignment Plan annexed thereto for MF broadcasting stations of the African Broadcasting Area;

b) that in accordance with Article 4 of the Agreement, Contracting Administrations shall notify to the I.F.R.B. in conformity with Article 9 *) of the Radio Regulations, frequency assignments which they will put into use in conformity with the Plan or with the provisions of the Agreement;

c) that, in view of the time limits specified in Article 9 *) of the Radio Regulations for the notification of frequency assignments, the frequency assignments to MF broadcasting stations put into use in the African Broadcasting Area in conformity with the Plan or with the provisions of the Agreement will bear, in Column 2a or 2b of the Master International Frequency Register, dates which will generally not be prior to the date of entry into force of the Agreement;

d) that these dates will consequently be later in general than the dates appearing in Column 2a or 2b of the Master International Frequency Register for the frequency assignments in use before the date of entry into force of the Agreement;

e) that, according to the provisions of Article 9 *) of the Radio Regulations, Administrations may hold certain rights attached to the dates recorded for the assignments concerned in Column 2a or 2b of the Master International Frequency Register;

considering

a) that, under the terms of the Agreement, Contracting Administrations adopted for their broadcasting stations operating in the African Broadcasting Area the characteristics specified in the Plan and that consequently such stations shall operate as from the date of entry into force of the Agreement in accordance with the characteristics specified in the Plan;

b) that the presence in the Master International Frequency Register, after the date of entry into force of the Agreement, of frequency assignments due to be released on that date would be contrary to the provisions of Article 9 *) of the Radio Regulations and would be apt to distort the results of the application of the provisions of this article;

c) that, in addition, the application of the Plan and of the Agreement could be seriously hampered if, after the entry into force of the Agreement, Contracting Administrations were to invoke rights to which they might consider they are entitled in respect of the frequency assignments recorded in the Master International Frequency Register before the entry into force of the Agreement;

d) that it is, nevertheless, in the general interest of the Contracting Administrations that the Plan and the Agreement be applied smoothly and without difficulty;

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

invites the Administrations which have assignments in the Plan

to notify in due time to the I.F.R.B., in accordance with the provisions of No. 619 *) of the Radio Regulations, the deletion from the Master International Frequency Register of all frequency assignments to their broadcasting stations in the frequency band covered by the Agreement, in use before the date of entry into force of the Agreement;

resolves

1. that, on the date of entry into force of the Agreement, the Contracting Administrations shall surrender any rights they may hold, according to the provisions of Article 9 **) of the Radio Regulations, as a result of the dates recorded in Column 2a or 2b of the Master International Frequency Register for their frequency assignments to broadcasting stations recorded in the Master International Frequency Register before the date of entry into force of the Agreement;
2. that any such frequency assignment which on the date of entry into force of the Agreement may continue to exist in the Master International Frequency Register on behalf of a Contracting Administration shall bear a special symbol in the "Remarks" column, to indicate that the date formerly entered in Column 2a or 2b for the assignment has been deleted and that the assignment in question shall no longer be taken into account in the application of the provisions of Article 9 **) of the Radio Regulations;
3. that any Contracting Administration wishing to continue to use such a frequency assignment after the entry into force of the Agreement shall apply the provisions of Articles 3 and 4 of the Agreement; however, should the technical characteristics of this frequency assignment be the same as those of an assignment appearing in the Plan, it would suffice for the Administration concerned to apply the provisions of Article 4;

invites the International Frequency Registration Board

to do its utmost to assist Administrations in the bringing up-to-date of the Master International Frequency Register in conformity with the provisions of this Resolution, for example by forwarding to them, in due time, lists of frequency assignments recorded on their behalf in the Master International Frequency Register.

*) or the corresponding number of the Radio Regulations currently in force.

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

RESOLUTION No. 3

regarding the Administrations of Members of the Union not represented at the Conference and on behalf of which broadcasting stations have been included in the Plan adopted by the Conference

The African LF/MF Broadcasting Conference (Geneva, 1966),

noting

that the Conference adopted an Agreement and a frequency assignment Plan annexed thereto for MF broadcasting stations in the African Broadcasting Area;

considering

that it is essential, for the efficient implementation of the Plan in the general interest of the African countries, that the provisions of the Agreement be followed by all countries on behalf of which frequency assignments appear in the Plan and, in particular, that the broadcasting stations of African countries operate in conformity with the Plan;

noting however

that several Administrations of Members of the Union on behalf of which broadcasting stations have been included in the Plan adopted by the Conference are not in a position to sign the Agreement because they are not represented at the Conference;

urges these Administrations

1. to accede to the Agreement in conformity with the provisions of Article 5 of the said Agreement and to use, as from 1 January 1968 at 0000 hours G.M.T., for broadcasting stations under their jurisdiction the frequencies assigned to them in the Plan;
2. meanwhile, to follow as far as possible the provisions of Resolutions No. 1 and No. 2 adopted by the Conference;

invites the International Frequency Registration Board

to extend to these Administrations the measures specified in the last paragraph of Resolution No. 2.

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RESOLUTION No. 4

**concerning co-ordination of the African MF Broadcasting Plan
with the countries of Region 3 and the countries of the Middle
East which do not belong to the European Broadcasting Area**

The African LF/MF Broadcasting Conference (Geneva, 1966),

noting

that the Conference adopted an Agreement and a frequency assignment Plan annexed thereto for MF broadcasting stations in the African Broadcasting Area;

observing

a) that, in accordance with its terms of reference, in preparing the Plan, the Conference took into account the entries recorded on 21 September 1966 in the Master International Frequency Register concerning stations in the European Broadcasting Area, in Region 3 and in the countries of the Middle East which do not belong to the European Broadcasting Area (paragraph 1.2.1 of Administrative Council Resolution No. 497);

b) that, in preparing the Plan, the Conference adopted channels the centre frequencies of which are the same as in the European Broadcasting Area, which facilitated the co-ordination of the African Plan with the countries of this area;

c) that the channel frequencies thus adopted are not those generally used in Region 3 and in the countries of the Middle East which do not belong to the European Broadcasting Area;

d) that, on account of this, the Conference has met with difficulties since, according to C.C.I.R. Recommendation 449, an increase of protection ratio up to 20 dB may be required to maintain the same grade of service when the carriers are different, which corresponds to an increase of up to 1500 km in the minimum distance between stations working on neighbouring frequencies, and that, in certain cases, this has necessitated the use by the Conference of protection ratios on a co-channel basis for stations in Africa affected by stations in Region 3;

considering

that it would be accordingly of general interest for any future planning that the centre frequencies of the channels should be uniform in as wide a territorial extent as possible;

invites

the administrations of countries in Region 3 and the Middle East which do not belong to the European Broadcasting Area to study this matter and to consider adopting, for their MF broadcasting stations, channels, the centre frequencies of which would be the same as those in the African and European Broadcasting Areas.

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RESOLUTION No. 5

on regional frequency planning for broadcasting

The African LF/MF Broadcasting Conference (Geneva, 1966),

noting

that the Conference adopted an Agreement and a frequency assignment Plan annexed thereto for MF broadcasting stations in the African Broadcasting Area;

considering

a) that it prepared the Plan in accordance with its terms of reference, taking into account the present state of the Master International Frequency Register with respect to stations in the European Broadcasting Area, in the western part of Region 3 and in the countries of the Middle East which do not belong to the European Broadcasting Area;

b) that it is desirable to improve the use of frequencies for broadcasting in Africa, Asia and Europe with a view to reducing harmful interference to a minimum;

draws the attention of the Administrative Council of the Union

to the need to consider convening at a suitable date a regional conference of the countries in the African Broadcasting Area and the European Broadcasting Area, the countries in the western part of Region 3 and the countries of the Middle East which do not belong to the European Broadcasting Area, for the purpose of preparing a common broadcasting plan covering the frequency requirements of all the countries in the above-mentioned areas.

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