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

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

- This PDF includes Document No. 101-200
- The complete set of conference documents includes Document No. 1-984, Document DT No. 1-237

## INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 101-E
12 June 1979
Original: English

PLENARY MEETING

### Republic of Liberia

Add the following new proposals :

kHz 26 100 - 27 500

		Region 1		Region 2	Region 3
LBR/101/87	MOD	26 100 <b>-</b> <del>27</del> - <del>500</del>	<u> 26 175</u>	FIXED	
	i			MOBILE-except-aeronautica	l-mobile
				MARITIME MOBILE	
LBR/101/88	MOD	<u>26 175</u> <b>-</b> 27 500		FIXED	
				MOBILE except aeronautica	l mobile

Reasons: Same as for proposals LBR/101/85-86.



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 101-E

1 May 1979

Original : English

PLENARY MEETING

#### Republic of Liberia

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

The Liberian Administration, in considering Article N7/5 of the Radio Regulations, hereby submits these proposals for the work of the World Administrative Radio Conference, 1979. Having consulted with some sister African Administrations as well as with other national users, it is considered that the present high frequency (HF) bands for broadcasting, mobile and fixed services should be modified.

1. To safeguard the use of the broadcasting services, this administration feels that additional frequencies should be added to the present frequencies allocations in the HF bands. Considering that we rely on these bands for both of external broadcasting services and national broadcasting and as well as our limited use of this band, there should be afforded some protection either by extending the band allocated to these services or by providing for a planning conference.

#### 2. HF band (Fixed-mobile)

Many developing countries such as ours will continue to use the HF band for national as well as for international services because of economic reasons for many years to come; however the congestion in these bands create serious problems.

3. Due to economic and technical reasons this administration recommends that the transition period for changing over from double-sideband to single-sideband be delayed for as long as possible (15-20 years) before converting to single-sideband techniques in the HF bands.

kHz 150 - 285

Region 1

LBR/101/1 MOD 150 - 160

MARITIME-MOBILE
3461/167 3467/174

BROADCASTING
3468/175

160 - 255 (NOC)

BROADCASTING
3469/176



kHz 150 - 285 (cont.)

LBR/101/2 MOD

Region 1

255 - 285

BROADCASTING

MARITIME-MOBILE
3467/174

AERONAUTICAL RADIONAVIGATION

3469/176 3471/178

3470/177

 $\overline{\text{Reasons}}$ : To provide an exclusive LF broadcasting service in Region 1 in accordance with the LF/MF Broadcasting Conference (1975).

LBR/101/3

LBR/101/4

SUP

SUP

3470/177

NOC

3471/178

3467/174

kHz 285 - 495

LBR/101/5

MOD

\_\_\_\_\_

285 - 315

MARITIME RADIONAVIGATION (Radiobeacons)

Region 1

AERONAUTICAL RADIONAVIGATION

LBR/101/6 NOC

315 - 325

AERONAUTICAL RADIONAVIGATION

3473/180

kHz 285 - 495 (cont.)

		Region 1
LBR/101/7	MOD	325 - 405
		AERONAUTICAL RADIONAVIGATION
		Aeronautical-mobile
	-	3 <del>474/181</del>
LBR/101/8	MOD	405 - 415
٠ .		MOBILE-except aeronautical-mobile
		AERONAUTICAL RADIONAVIGATION
		MARITIME-RADIONAVIGATION (Radio-direction finding)
•		3 <del>475/</del> 182
TDD /101 /0		, , , , , , , , , , , , , , , , , , , ,
LBR/101/9	MOD	415 - <del>490</del> <u>445</u>
PBK/101/A	MOD	415 - <del>490</del> <u>445</u> 
LBR/101/9	MOD	
LBR/101/9	MOD	MARITIME-MOBILE AERONAUTICAL
LBR/101/9	MOD	MARITIME-MOBILE  AERONAUTICAL  RADIONAVIGATION
		MARITIME-MOBILE  AERONAUTICAL RADIONAVIGATION  3478/185
		MARITIME-MOBILE  AERONAUTICAL RADIONAVIGATION  3478/185  445 - 450
		MARITIME-MOBILE  AERONAUTICAL RADIONAVIGATION  3478/185  445 - 450  MARITIME-MOBILE  MOBILE except
		MARITIME-MOBILE  AERONAUTICAL RADIONAVIGATION  3478/185  445 - 450  MARITIME-MOBILE  MOBILE except aeronautical mobile  AERONAUTICAL
		MARITIME-MOBILE  AERONAUTICAL RADIONAVIGATION  3478/185  445 - 450  MARITIME-MOBILE  MOBILE except aeronautical mobile  AERONAUTICAL RADIONAVIGATION  MARITIME RADIONAVIGATION  (Radio direction

kHz 285 - 495 (cont.)

			· · · · · · · · · · · · · · · · · · ·	
	٠	Region 1		
LBR/101/11	MOD	<u>450</u> – 490		
٠		MARITIME MOBILE		
		3479/186		
LBR/101/12	MOD	490 <b>-</b> <del>510</del> <u>495</u>		
		MOBILE-(Distress-and calling)		٠
		MARITIME MOBILE		
`.		3478/185 3479/186		
1		Reasons : To provide excl	usive allocation at 315 - 445 kHz for aeronautical	-
	NOC	3473/180		
LBR/101/13	SUP	3474/181		
LBR/101/14	MOD	3475/182 The in the band 405415 445	frequency 410 447.5 kHz is designated	
		Pro mem. : Consequential	changes to other footnotes as required.	
			kHz 490 - 1 605	
			.,,	
LBR/101/15	MOD	490 <b>-</b> <del>510</del> <u>495</u>		
e Programa		MOBILE-(Distress-and calling)		
		MARITIME MOBILE		
LBR/101/16	MOD	495 - 505		
		MOBILE (Distress and calling)	•	
		3480/187		

kHz 490 - 1 605 (cont.)

	Region 1
MOD	<u>505</u> - 510
	MOBILE-(Distress and-ealling)
	MARITIME MOBILE
	<u>3479/186</u>
MOD	510 - 525
	MARITIME MOBILE 3479/186
	Aeronautical radionavigation
MOD	525 - <del>535</del> <u>526.5</u>
	BROADCASTING
	MARITIME MOBILE
	3479/186
MOD	526.5 - 535
	BROADCASTING
	3483/190
NOC	535 - 1 605
	BROADCASTING
	MOD

 $\underline{Reasons}$  : To provide exclusive use for maritime mobile service. A reduced calling and distress guide band of  $\pm 5~\mathrm{kHz}$  centred on 500 kHz because of improved equipment standards.

NOC 3478/185, 3479/186, 3480/187, 3481/188

kHz 1 605 - 2 000

		Region l
LBR/101/22	MOD	1 605 - 2-000 1 606.5
•		FIXED
		MOBILE-except aeronautical-mobile
		BROADCASTING
		3485/192 3487/193 3488/194 3489/195 3490/195A
LBR/101/23	MOD	1 606.5 - 1 625
		FIXED
		MOBILE except aeronautical mobile
·		3485/192 3487/193 3488/194 3489/195 3490/195A
LBR/101/24	MOD	<u>1 625 - 1 635</u>
		FIXED
		MOBILE-except aeronautical-mobile
		RADIOLOCATION
		3485/192 3486/420 3487/193 3490/195A
LBR/101/25	MOD	<u>1 635 - 1 719</u>
		FIXED
		MOBILE except aeronautical mobile
		3485/192 3486/420 3487/193

 $\mathtt{kHz}$ 1 605 - 2 000 (cont.)

LBR/101/26 MOD Region 1

1 719 - 2 000

FIXED

MOBILE except aeronautical mobile

3485/192 3487/193 3490/195A

Reasons : Several narrow sub-bands for position-fixing system are necessary to meet the growing requirement for radio determination service for which no provision exists.

LBR/101/27

SUP 3485/192 Because of change of table in accordance with ICAO's

proposal.

LBR/101/28

3486/420 ..... the band 1-625 1 635 - 1 670 kHz.

Reasons: Table change.

LBR/101/29

SUP

MOD

3490/195A

kHz2 000 - 2 300

LBR/101/30

MOD

2 000 - 2 045

FIXED

MOBILE except

aeronautical mobile

3487/193 3490/195A

LBR/101/31 MOD 2 045 - 2 065

METEOROLOGICAL AIDS

FIXED

MOBILE except

aeronautical mobile

3487/193 3<del>490/195A</del>

kHz 2 000 - 2 300 (cont.)

		Region 1
LBR/101/32	MOD	2 065 - 2 170
		FIXED
		MOBILE except aeronautical mobile (R)
	-	3487/193 <del>3490/195A</del>
LBR/101/33	MOD	2 170 - 2 194
. •	•	MOBILE (Distress and calling)
		3494/201 3495/201A
LBR/101/34	MOD	2 194 - 2 300
		FIXED
		MOBILE except aeronautical mobile (R)
		3487/193 <del>3490/195A</del>

Reasons : Requirements being very constant.

kHz 2 300 - 2 850

LBR/101/35 MOD 2 300 - 2 498

FIXED

MOBILE except
aeronautical mobile (R)

BROADCASTING 3496/202

3487/193 3490/195A

NOC 2 498 - 2 502

STANDARD FREQUENCY

3497/203 3498/203A

kHz 2 300 - 2 850 (cont.)

		Region 1
LBR/101/36	MOD	2 502 - 2 625
		FIXED
		MOBILE-except aeronautical-mobile-(R)
•		MARITIME MOBILE
		MARITIME RADIONAVIGIATION
		3468/175 3487/193 3490/195A
LBR/101/37	MOD	2 625 - 2 650
		MARITIME MOBILE
·		MARITIME RADIONAVIGATION
		3468/175 <del>3490/195A</del>
LBR/101/38	MOD	2 650 - 2 850
		FIXED
		MOBILE except aeronautical mobile (R)
·		3487/193 3490/195A 3499/205

Reasons : Extensively used for fixed and mobile services.

kHz 3 900 - 4 000

LBR/101/39 MOD

3 900 - 3 950

AERONAUTICAL-MOBILE-(OR)

BROADCASTING

kHz 3 900 - 4 000 (cont.)

LBR/101/40

Region 1

MOD 3 950 - 4 000

FIXED

BROADCASTING

Reasons: To provide increased spectrum for the broadcasting service.

kHz4.063 - 4 438

MOD LBR/101/41

4 063 - 4 438.

MARITIME MOBILE

3503/208 3504/209

3505/209A

LBR/101/42

SUP ' 3503/208

LBR/101/43

3504/209 SUP

LBR/101/44

SUP 3505/209A

Reasons: Consequence of table change.

kHz5 005 - 5 060

LBR/101/45

5 005 - 5 060

FIXED-

BROADCASTING 3496/202

Reasons: To satisfy broadcasting requirements.

kHz5 250 - 5 430

LBR/101/46

NOC

5 250 - 5 430

FIXED

LAND MOBILE

Reasons : Extensively used for fixed and mobile services.

kHz 6 200 - 6 525

		Region 1	Region 2	Region 3
LBR/101/47	MOD	6 200 - 6 525	MARITIME MOBILE	
			MOD 3507/211 3508/211A	
		Reasons : Power limitation	not considered necessary.	
LBR/101/48	MOD	3507/211 Dele 50-watts.	te:with-a-mean-power-r	not-exceeding
	,		kHz 7 000 - 8 195	
	NOC	7 000 - 7 100	AMATEUR	
			AMATEUR-SATELLITE	· .
LBR/101:/49	MOD (WW)	7 100 - 7 300	7 100 - 7 300	7 100 - 7 300 (NOC)
	( w w )	BROADCASTING .	AMATEUR	BROADCASTING
		5309/212	BROADCASTING	
LBR/101/50	MOD	7 300 - <del>8-195</del> <u>7 400</u>	FIXED	
			BROADCASTING	
LBR/101/51	MOD	<u>7 400</u> – 8 195	FIXED	
LBR/101/52	SUP	3509/212		
			kHz 8 195 - 9 775	
LBR/101/53	MOD	8 195 - 8 815		
		MARITIME MOBILE		
		3495/201A 3510/213 3510A		

kHz 8 195 - 9 775 (cont.)

		Region 1
LBR/101/54	MOD	8 815 - 8 965
		AERONAUTICAL MOBILE (R)
LBR/101/55	MOD	8 965 - 9 040
		AERONAUTICAL MOBILE (OR) (R)
LBR/101/56	MOD	9 040 - 9-500 9 400
		FIXED
LBR/101/57	MOD	<u>9 400</u> - 9 500
		FIXED
		BROADCASTING
LBR/101/58	NOC	9 500 - 9 775 ·
		BROADCASTING

Reasons: To satisfy broadcasting service requirement and give protection against harmful interference and to expand the broadcasting band.

LBR/101/59 ADD

510A On condition that harmful interference is not caused

to the maritime mobile service.

kHz 10 100 - 11 175

		Region l	Region 2	Region 3
LBR/101/60	MOD (WW)	10 100 - 11-175 10 200	FIXED	
	( w w )		AMATEUR	
LBR/101/61	MOD	<u>10 200</u> - 11 175	FIXED	
			MOBILE	

 $\underline{\text{Reasons}}$ : (10 100 - 10 200 kHz) New additional amateur band to meet increased requirement.

kHz 11 400 - 12 330

		Region l	Region 2	Region 3
LBR/101/62	MOD	11 400 - <del>11-700</del> <u>11 600</u>	FIXED	
			3512/216	
LBR/101/63	MOD	11 600 - 11 700	FEXED	
		·	BROADCASTING	
LBR/101/64	NOC	11 700 - 11 975	BROADCASTING	
LBR/101/65	MOD	11 975 - <del>12-330</del> <u>12 000</u>	FIXED	
			BROADCASTING	
LBR/101/66	MOD	12 000 - 12 330	FIXED	
			kHz 14 000 - 14 350	
LBR/101/67	NOC	14 000 - 14 250	AMATEUR	·
		·	AMATEUR-SATELLITE	
LBR/101/68	MOD	14 250 - 14 350	AMATEUR	
			AMATEUR-SATELLITE	
			kHz 15 450 - 16 460	
LBR/101/69	MOD	15 450 - <del>16-460</del> <u>15 600</u>	FIXED	
LBR/101/70	MOD	<u>15 600</u> - 16 460	FIXED	
	,		BROADCASTING	
·			kHz 17 360 - 17 900	
LBR/101/71	MOD	17 360 - <del>1</del> 7- <del>700</del> <u>17 500</u>	FIXED	
LBR/101/72	MOD	<u>17 500</u> - 17 700	FIXED	
			BROADCASTING	

## kHz17 360 - 17 900 (cont.)

•			
		Region 1	Region 2 Region 3
LBR/101/73	NOC	17 700 - 17 900	BROADCASTING
		Reasons: To provide incre	eased broadcasting allocations.
			kHz 18 068 - 19 990
LBR/101/74	MOD	18 068 - <del>1</del> 9-990 <u>18 568</u>	FIXED
			MARITIME MOBILE
LBR/101/75	MOD	18 568 - 18 768	FIXED
			AMATEUR
LBR/101/76	MOD	<u>18 768</u> - 19 990	FIXED
		Reasons: (18 068 - 18 568 maritime mobile service.	3 kHz) To provide one new allocation at HF for
		(18 568 - 18 768	8 kHz) To provide new amateur service.
			kHz 21 450 - 21 850
LBR/101/77	NOC	21 450 - 21 750	
		BROADCASTING	
LBR/101/78	MOD	21 750 - 21 850	FIXED
			BROADCASTING
			kHz 22 000 - 23 200
			· · · · · · · · · · · · · · · · · · ·
LBR/101/79	NOC	22 000 - 27 720	MARITIME MOBILE
LBR/101/79 LBR/101/80	NOC MOD	22 000 - 27 720 22 720 - <del>23-200</del> <u>22 830</u>	MARITIME MOBILE FIXED

kHz 23 350 - 24 990

		Region 1	Region 2	Region 3
LBR/101/82	MOD	23 350 - <del>24</del> - <del>990</del> <u>24 000</u>	FIXED	
			LAND MOBILE	,
LBR/101/83	MOD	24 000 - 24 300	FIXED	
			<del>LAND-MOBILE</del>	
	•		AMATEUR	·
LBR/101/84	MOD	<u>24 300</u> - 24 990	FIXED	
			LAND MOBILE	

Reasons: To meet increased requirement.

kHz 25 010 - 25 110

LBR/101/85	MOD	25 010 - 25 070	FIXED	
			MOBILE-except-aeronautical-mobile	
			MARITIME MOBILE	
LBR/101/86	MOD	25 070 - 25 110	MARITIME MOBILE	
			352 <del>4/224</del>	

 $\underline{\text{Reasons}}$ : To take account of the recommendations of Mar2 - 8 for the maritime mobile service in the 25 MHz band.

## INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to
Document No. 102-E
7 September 1979
Original: English

PLENARY MEETING

#### <u>Australia</u>

TECHNICAL BACKGROUND TO AUSTRALIAN PROPOSAL

AUS/102/243 AND 244 TO MODIFY PROVISIONS NOS. 6003

AND 6004 REGARDING CHOICE OF SITES AND FREQUENCIES

FOR TERRESTRIAL RADIOCOMMUNICATIONS SERVICES

SHARING BANDS WITH SPACE RADIOCOMMUNICATION SERVICES

ABOVE 1 GHz

Article N25 provides that in shared bands, the maximum terrestrial radio system eirp shall be limited to 55 dBW, with no restriction as to the direction of maximum radiation in bands above 15 GHz.

However, as CCIR Report 790 illustrates, this eirp at 30 GHz can cause harmful interference where there is a direct interference entry from a terrestrial radio-relay station in the main-beam of a narrow spot-beam satellite receiving antenna directed towards the satellite horizon. In this case, the analysis shows that the situation would not be tolerable with satellite receiving spot-beams having less than a 1.50 beamwidth. The significant assumptions are that:

- a total C/N ratio of about 17 dB is required for a 120Mb/s, 4 Phase PSK/TDMA satellite system to achieve a link ber of 1 in 10°;
- using the 10% of noise criterion, the tolerable carrier to total terrestrial interference ratio would be 27dB;
- the up-path carrier to terrestrial interference ratio (C/Iu) becomes 30dB, assuming the interference allowance is divided equally between the up and down paths;
- the satellite system noise temperature is 1000 K, and the up-path noise allowance varies from 10% to 40% of the total noise;
- only one radio-relay station gives rise to direct interference and for the narrow beam satellite antenna the gain in the direction of a radio-relay station in the main beam is 2dB less than the beam-centre gain.

The question as to whether this type of interference is significant requires examination of the following two system elements:

- the likely usage of satellites with spot beams with less than a 1.50 beamwidth pointing at the satellite horizon, and



- the likelihood of a terrestrial beam pointing at the geostationary orbit and directly entering the beam of a satellite antenna.

With regard to the first element, satellite beamwidths of around 1° at 30 GHz are easily generated, using reflector diameters of around 0.75 metres. The need for narrow beamwidths would flow from requirements for multiple reuse of the frequency spectrum and from the need to minimise up-link transmitter power requirements in the face of atmospheric absorbtion.

International satellites typically are located in orbit far from their service area, with some earth stations operating at a low elevation angle. This is the geometry by which narrow spot beams would be pointed towards the satellite horizon, and thus could suffer direct entries from terrestrial systems. (INTELSAT-V, with its 14/11 GHz spot beams would operate in this way in the Indian Ocean region). It should be pointed out that a one degree beam-width, when pointed towards the satellite horizon, can illuminate earth stations operating at elevation angles from zero degrees up to about 16 degrees, the latter being a practical figure for 20/30 GHz operation (see also Figure 1). The elevation angle can be up to 27° if the satellite beam just grazes the horizon.

With regard to the likelihood of a terrestrial beam pointing at the geostationary orbit, Report 790 in Annex 1 estimates that at 30 GHz, there would be around 19 radio relay stations pointing within 0.5° of the geostationary orbit. From the assumptions of Annex 1 of Report 790 it can be shown (see Annex) that there is a probability of around 82% that there would be at least on direct entry in a one degree spot beam pointed at an inhabited part of the earth on the satellite horizon.

In summary, Report 790 shows that radio relay systems can cause harmful interference to marrow spot beam geostationary satellites at 30 GHz. This paper concludes that such satellites are likely to be used with spot beams pointing at the satellite horizon. In that case there is a high probability of direct interference, requiring the protecting of the geostationary orbit from radio relay system eirp of 55 dBW to 30 GHz.

### ANNEX

## PROBABILITY OF DIRECT ENTRY INTERFERENCE TO A SATELLITE SPOT BEAM

From Figure 1, the radius of the earth from geostationary orbit is about 8.7 degrees. It follows that the satellite horizon or circumference of the earth is about 55 degrees "long".

From Annex I of Report 790, only about 20% of the satellite horizon is assumed to be populated, and from this annular area on earth, there are about 19 radio relay systems pointed within 0.5 degrees of the geostationary orbit.

Therefore, the average number of stations per degree, N, is:

$$N = 19 \text{ stations}$$
 = 1.7 stations per degree 20% of 55 degrees

The 19 terrestrial stations are assumed to be uniformly and randomly distributed around the 11 degrees of inhabited satellite horizon.

Using the average interval between entries of 0.58 degrees, the probability that there is at least one entry in a beam of one degree beamwidth is the probability that any given interval between entries is less than or equal to one degree, given that the entries are uniformly randomly distributed.

Using the exponential distribution,

ie. 
$$dp = \frac{1}{m} e^{-\frac{1}{m}}$$
 dl

where p is the value of probability l is the length of orbit and

m is the mean length (in degrees) between entries: the probability that the length between entries is between 0 and 1 degrees is:

$$p = \int_{0.58}^{1} \frac{1}{0.58} e^{-\frac{1}{0.58}} d1$$

$$= \left(-\frac{1}{0.58}\right)_{0}^{1}$$

$$= -e^{-\frac{1}{0.58}} + 1 = -0.178 + 1$$

0.822

Thus there is a probability of around 80% that there will be at least one entry.

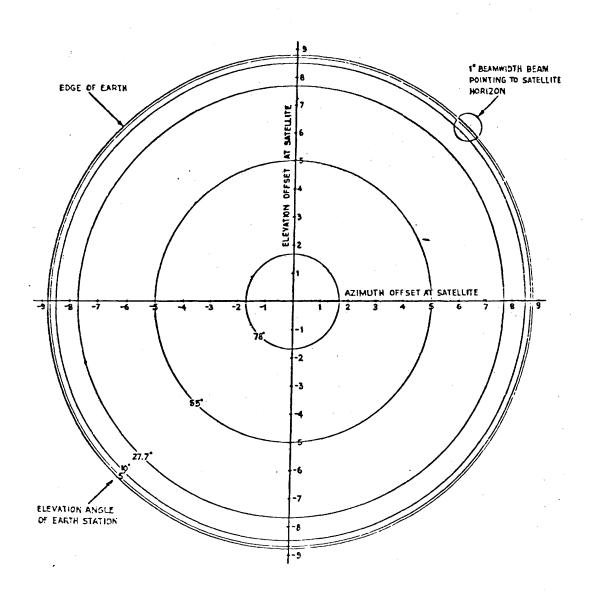


ILLUSTRATION OF 1° SATELLITE BEAM POINTING TO SATELLITE HORIZON

Figure 1

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 102-E
14 August 1979
Original: English

PLENARY MEETING

### Australia

Page 14, replace proposal AUS/102/275 by the following new text:

AUS/102/275 MOD (Corr. 1)

5224/728 § 2. The holder of a licence is required to preserve the secrecy of telecommunication, as provided in Article 22 of the Convention. Moreover, the licence shall provide, specifically or by reference, that if the station includes a receiver, the-interception-of no radiocommunication correspondence, other than that which the station is authorized to receive, is-forbidden, and that-in-the case-where-such-correspondence-is-involuntarily received, it shall not be reproduced, nor communicated to third parties, nor used for any purpose, and even its existence shall not be disclosed.

Reason: The availability of receivers with automatic programmable channel switching or band scanning facilities and the additional sharing of operating frequencies has increased the probability of reception of radiocommunication transmissions from other services to the extent that it is no longer practical to forbid reception of these transmissions. Proposal AUS/102/274 is also relevant.



### INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 102-E 30 April 1979

Original : English

PLENARY MEETING

## Australia\*)

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

#### 1. INTRODUCTION

This document contains Australian proposals for revision of the Radio Regulations within the terms of reference of the Conference, except for those proposals relating to Article N7/5 (Table of Frequency Allocations) which are contained in document No. 59 and corrigendum No. 1 to that document.

The proposals herein are presented in sections in the order of the Conference agenda and, within each section, in the order of paragraph numbers indicated in the Rearrangement of the Radio Regulations, September, 1977.

Proposals referring to agenda items 2.1 (except Article N7/5), 2.2, 2.3, 2.6 and 2.9 are made.

#### 2. PROPOSALS REFERRING TO AGENDA ITEM 2.1

Under this agenda item proposals are made in relation to Articles N1/1, N5/3, N8/6, N25, N26 and N33.

### ARTICLE N1/1

#### Terms and Definitions-

It is the opinion of the Australian administration that Article Nl/l should contain all definitions required to permit an accurate interpretation of the provisions of the Regulation and, in this regard, it is believed that, with few exceptions, the present definitions are adequate. The following proposals are therefore submitted:-



<sup>\*)</sup> See also Document No. 59.

AUS/102/225 ADD

3023A Industrial, Scientific and Medical Equipment: Equipment or appliances generating electromagnetic energy for industrial, scientific, medical or similar purposes excluding applications in the field of telecommunications.

Reason: To define the term Industrial, Scientific and Medical Equipment as used in the Radio Regulations.

AUS/102/226 NOC 3026/45

Reason: The Regulation is adequate as stated.

AUS/102/227 NOC 3027/48

Reason: The Regulation is adequate as stated.

AUS/102/228 NOC 3028/54

Reason: The Regulation is adequate as stated.

AUS/102/229 MOD

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

<u>Reason</u>: To align the definition of the "Amateur Service" and the "Amateur Satellite Service", and to ensure consistency with other provisions of the Radio Regulations.

AUS/102/230 MOD

3138/89 Assigned Frequency Band: The frequency band the-centre-of within which coincides-with-the frequency-assigned-to the emission of a station is authorized; and the width of which the band equals the necessary bandwidth plus twice the absolute value of the frequency tolerance.

Reason: To incorporate the improved definition included in the SPM Report (2.2.2.4.).

AUS/102/231 MOD

3139/90 Occupied Bandwidth: The frequency bandwidth such that, below its the lower and above its the upper frequency limits, the mean powers radiated emitted are each equal to 0.5% a specified percentage /2 of the total mean power radiated by of a given emission. In-seme-eases,-fer-example-multichannel frequency-division-systems,-the-percentage-ef-0.5%-may lead-te-certain-difficulties-in-the-practical application-ef-the-definitions-ef-eccupied-and-necessary bandwidth,--in-such-cases-a-different-percentage-may prove-useful. Unless otherwise specified by the CCIR for the appropriate class of emission, the value of /2 should be taken as 0.5%.

Reason: To incorporate the improved definition included in the SPM Report (2.2.2.2).

AUS/102/232 MOD

3140/91 Necessary Bandwidth: For a given class of emission, the-minimum-value-of-the-occupied-bandwidth the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required for-the-system-employed, under specified conditions. Emissions-useful-for-the good-functioning-of-the-receiving-equipment-as,-for example,-the-emission-corresponding-to-the-carrier-of reduced-carrier-systems,-shall-be-included-in-the necessary-bandwidth.

Reason: To incorporate the improved definition included in the SPM Report (2.2.2.1).

#### ARTICLE N5/3

General Rules for the Assignment and Use of Frequencies

AUS/102/233 ADD 3276 Members of the Union undertake to facilitate the use of radio frequencies mainly for those applications where there is no appropriate alternative means of transmission.

Reason: To incorporate a general philosophy regarding use of the radio spectrum in the Radio Regulations in line with the material presented in Chapter 7 of the SPM Report (7.1).

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AUS/102/234 NOC 3279/115

Reason: Necessary and adequate in present form.

AUS/102/235 NOC 3280/116

Reason: Necessary and adequate in present form.

AUS/102/236 NOC 3281/116A

Reason: Necessary and adequate in present form.

#### ARTICLE N8/6

Special Rules for the Assignment and Use of Frequencies

AUS/102/237 NOC 3919/415

Reason: Necessary and adequate in present form.

AUS/102/238 NOC 3922/418

Reason: Necessary and adequate in present form.

AUS/102/239 NOC 3923/419

Reason: Necessary and adequate in present form.

AUS/102/240 MOD

3925/421 § 7. Any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the international distress frequencies 500 kHz or 2182 kHz or on the supplementary distress and safety frequencies 4125 kHz or 6215.5 kHz is prohibited (see Nos. 3480/187, 3494/201, 6643/1351E, 6648/1351F, 6676/1112, and 6681/1325 and 6688/1351G). Any emission causing harmful interference to distress, safety and calling communications on the frequency 156.8 MHz is prohibited (see Nos. 3595/287, 6691/1363 and 8258/1376).

Reason: To provide for protection from interference to distress and safety communications on the 4125 and 6215.5 kHz channels.

#### ARTICLE N25

Terrestrial Radiocommunication Services sharing Frequency Bands with Space Radiocommunication Services Above 1 GHz

AUS/102/241 NOC 6001/470A

Reason: Regulation adequate as stated.

AUS/102 / 242 NOC 6002/470AA

Reason: Regulation adequate as stated.

AUS/102 /243 MOD 6003/470AB 3(2) As far as practicable, sites for transmitting stations, in the fixed or mobile service, employing maximum values of equivalent isotropically radiated power exceeding +45 dBW in the frequency bands between 10 and 15 31 GHz, should be selected so that the direction of maximum radiation of any antenna will be at least 1.5 away from the geostationary satellite orbit, taking into account the effect of atmospheric refraction.

Reason: To extend protection to Space Radiocommunication Services from Terrestrial Radiocommunication Services up to 31 GHz.

AUS/102/244 MOD 6004/470AC (3) In the frequency bands above ±5 31 GHz there shall be no restriction as to the direction of maximum radiation for stations in the fixed or mobile service.

Reason: To extend protection to Space Radiocommunication Services from Terrestrial Radiocommunication Services up to 31 GHz.

AUS/102/245 NOC 6005/470B

Reason: Regulation adequate as stated.

- AUS/102 / 246 NOC 6006/470BA

Reason: Regulation adequate as stated.

AUS/102 /247 NOC 6007/470C

Reason: Regulation adequate as stated.

AUS/102 /248 NOC 6008/470CA

<u>Reason</u>: Regulation adequate as stated.

AUS/102/249 MOD 6009/470D (5) The limits .... service:

2655-2690 MHz (for Regions 2 and 3)
5800-5850 MHz (for the countries mentioned in No. 3759/390)
5850-5925 MHz (for Regions 1 and 3)
5925-6425 6925 MHz
7900-7975 MHz
7975-8025 MHz (for the countries mentioned in No. 3766/392H)

8025-8400 MHz

Reason: Consequential to the proposal AUS/59/144.

AUS/102/250 MOD 6010/470DA (6) The limits... mobile service:

10.95 - 11.20 GHz (Region 1) - 12.75 12.50 GHz (Regions 1 and 2) - 13.25 12.75 GHz 14.175 - 14.300 GHz (for the countries mentioned in No. 3792/407) 14.4 - 14.5 GHz - 15.0 14.5 GHz 29.5 27.5 GHz 29.5 31.0 GHz (for the country mentioned in No. 3800/409E)

Reason: Consequential to Australian proposals AUS/59/171 and AUS/59/178 and 178A and rationalization consequential to proposals AUS/102/243 and AUS/102/244.

AUS/102/251 SUP 6011/470DB

Reason: This provision is to be included in 6010/470DA
vide proposal AUS/102 / 250.

AUS/102 /252 ADD 6012

The limits .... mobile service:

29.5 - 31.0 GHz (for the country mentioned in No. 3800/409E)

Reason: Consequential to the proposals AUS/59/192 and AUS/102/243.

#### ARTICLE N26

Space Radiocommunication Services sharing Frequency Bands with Terrestrial Radiocommunication Services above 1 GHz

AUS/102/253 MOD 6045/470J (8) The limits .... or mobile service : 2655 - 2690 MHz (Regions 2 and 3) 4400 - 4700 MHz 5800 - 5850 MHz (for the countries mentioned in No. 3759/390) 5850 - 5925 MHz (Regions 1 and 3) - 6425 6925 MHz 5925 - 7975 MHz 7900 - 8025 MHz (for the countries mentioned in No. 3766/392H) 7975 8025 - 8400 MHz 10.95 - 11.20 GHz (Region 1) 12.50 - 12.75 GHz (Regions 2 and 3 and for the countries mentioned in No. 3788/405BD) 12.75 - 13.25 GHz 14.175- 14.300 GHz (for the countries mentioned in No. 3792/407) 14.4 - 14.5 GHz

Reason: Consequential to the proposals AUS/59/144,  $\overline{\rm AUS/59/171}$ , and AUS/59/178 and 178A.

GHz (Region 3)

AUS/102/254 MOD 6070/470NS

8025 - 8400 MHz 8400 - 8500 MHz 10.70 - 10.95 GHz 10.95 - 11.20 GHz 11.20 - 11.45 GHz 11.45 - 11.70 GHz

14.5 - 15.0

Reason: Consequential to the proposals AUS/59/166 and AUS/59/168.

#### ARTICLE N33

Radiodetermination Service and Radiodetermination-Satellite Service

AUS/102/255 MOD 6476/433 § 15. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 and 415 1800 kHz shall be based on a protection ratio against interference of at least 10 15 dB for each beacon throughout its service area.

Reason: A co-channel protection ratio of 10 dB is technically unacceptable and can give rise to unacceptable bearing errors. Section 4.7.3.2 of the SPM Report is relevant.

AUS/102/256 MOD 6477/434 (2) It-is-agreed-that,-to-provide-the protection-ratio-required,-the The radiated power should be kept to the minimum value necessary to give the desired field strength at the service range.

<u>Reason</u>: To clarify the intention to enable maximum development of the bands for aeronautical radiobeacons.

AUS/102/257 NOC 6478/435

Reason: Necessary and adequate as stated.

AUS/102/258 NOC 6479/436

Reason: Necessary and adequate as stated.

AUS/102/259 NOC 6480/437

Reason: Necessary and adequate as stated.

#### 3. PROPOSALS REFERRING TO AGENDA ITEM 2.2

Under this agenda item proposals are made in relation to Article Nll (Co-ordination of Frequency Assignments, Space Radiocommunication service) and Nl2/9 (Notification and Recording, Master International Frequency Register, Terrestrial Radiocommunication Stations).

#### ARTICLE N11

Co-ordination of Frequency Assignments to Stations in a Space Radiocommunication Service except Stations in the Broadcasting-Satellite Service and to Appropriate Terrestrial Stations

AUS/102/260 MOD 4104/639AD (4) At the 4th line read: publishing all of the information listed in Appendix 1B.

Reason: To clarify the requirement to provide all of the information listed in Appendix 1B. Comment No. 2 on Regulation 4104/639AD by the I.F.R.B. in Circular Letter 429 is relevant.

AUS/102/261 MOD 4114/639AJ 82.(1) At the 4th line read : of the assignment with any-other each administration.

Reason: To clarify the requirements of the co-ordination procedure.

AUS/102/262 MOD 4117/639AJ (3) For this purpose, the administration requesting co-ordination shall send to any-ether each such administration the information listed in Appendix 1A.

Reason: To clarify the requirements of the co-ordination
procedure.

AUS/102/263 MOD 4138/639AN § 5. (1) Towards the end, read ....

frequency spectrum above 1 GHz, it shall effect co-ordination of
the assignment with any-other each administration whose territory
lies wholly or partly within the co-ordination area<sup>2</sup> of the
planned earth station.

Reason: To clarify the requirements of the co-ordination procedure.

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AUS/102/264 MOD 4141/639AN (3) For this purpose it shall send to any-other each such administration a copy of a diagram .... (rest without change).

Reason: To clarify the requirements of the co-ordination procedure.

#### ARTICLE N12/9

Notification and Recording in the Master International Frequency Register of Frequency Assignments to Terrestrial Radiocommunication Stations

AUS/102/265 MOD 4336/541 § 21. (1) Examination of Notices concerning Frequency Assignments to Coast Radiotelephone Stations in the Bands allocated exclusively to the Maritime Mobile Service between 4000 and 23000 26175 kHz for Coast Radiotelephone Stations (see No. 4295/500).

Reason: Consequential to proposal AUS/59/50.

AUS/102/266 MOD 4344/547 § 22. (1) Examination of Notices concerning Frequencies used for Reception by Coast Radiotelephone Stations in the Bands allocated exclusively to the Maritime Mobile Service between 4000 and 23000 26175 kHz for Ship Radiotelephone Stations (see Nos. 4281/487 and 4295/500).

Reason: Consequential to proposal AUS/59/50.

Note: If proposals MOD 4336/541 and MOD 4344/547 (Australian proposals AUS/102/265 and AUS/102/266) are successful, a similar amendment will be required to the heading for sub-section IIB.

#### 4. PROPOSALS REFERRING TO AGENDA ITEM 2.3

Under this agenda item proposals are made to Article N4/12 (Technical Characteristics); N16 (Interference); N21/17 (Secrecy); N22/18 (Licences); and N23 (Identification of Stations).

#### ARTICLE N4/12

#### Technical Characteristics

AUS/102/267 MOD 3243/668 (2) Towards the end read .... in the CCIR Recommendations and other international standards.

<u>Reason</u>: To reflect the desirability of use of equipment that is internationally standardised as recommended in Chapter 7 of the SPM Report (7.1).

AUS/102/268 MOD 3249/674 § 5. The bandwidths of emissions also shall be such as to ensure the most efficient utilization of the spectrum; in general this requires that bandwidths be kept at the lowest values which the state of the technique and the nature of the service permit.

Appendix 5 is provided as a guide for the determination of the necessary bandwidth.

Reason: To allow for systems using modulation techniques which provide efficient spectrum utilization but which may operate with a bandwidth substantially greater than the information bandwidth. Examples of such systems are mentioned in Chapter 7 (7.2.2) and Chapter 8 (page 8.17) of the SPM Report.

#### ARTICLE N16

#### Interference

AUS/102/269 MOD

5000/696 § 5. The class of emission to be employed by a station should be such as to achieve minimum interference and to assure efficient spectrum utilization. In general this requires that in selecting the class of emission to meet these objectives every effort shall be made to minimize the bandwidth occupied, taking into account the practical and technical considerations of the service to be performed.

Reason: To allow for systems using modulation techniques which provide efficient spectrum utilization and minimum interference but which may operate with a bandwidth substantially greater than the information bandwidth. Examples of such systems are mentioned in Chapter 7 (7.2.2) and Chapter 8 (page 8.17) of the SPM Report.

AUS/102/270 ADD

Section IV. Interference from Industrial, Scientific and Medical Equipment

 $AUS/_{102}/_{271} ADD$ 

Administrations shall take all necessary steps to ensure that, as far as practicable radiation from Industrial, Scientific and Medical Equipment is minimal and that, outside the bands designated for use by this equipment, radiation from such equipment is at a level that does not cause harmful interference to radio services operating in accordance with the provisions of these Regulations.

Reason: To expand on the requirement relating to the operation of Industrial, Scientific and Medical Equipment and in particular to stress the need to avoid harmful interference to radiocommunication services. Australian proposal AUS/102/225 is relevant.

#### ARTICLE N21/17

#### Secrecy

 $AUS/_{102}/272$  MOD

5193/722 The administrations bind themselves to take the necessary measures to prohibit and prevent-+-, without authorization, the divulgence of the contents, simple disclosure of the existence, publication, or any use whatsoever, of information of any nature obtained by the interception of radiocommunications not intended for general use by the public.

AUS/102/273 SUP 5194/723

AUS/102/274 SUP 5195/724

<u>Reason</u>: The availability in many countries of radio receivers that cover high frequency broadcasting bands and also bands allocated to other services results in administrations being unable to legislate effectively to give effect to No. 5194/723. It is considered that as amended, the provisions of this Article will be capable of enforcement. Proposal AUS/102/275 is also relevant.

### ARTICLE N22/18

#### Licences

AUS/102/275 MOD

5224/728 § 2. The holder ... other than that which the station is authorised intended to receive, is forbidden not authorized, and that in the case where such correspondence is involuntarily received, it shall not be reproduced, nor communicated to third parties, nor used for any purpose, and even its existence shall not be disclosed.

Reason: The availability of receivers with automatic programmable channel switching or band scanning facilities and the additional sharing of operating frequencies has increased the probability of reception of radiocommunication transmissions from other services to the extent that it is no longer practical to forbid reception of these transmissions. Proposal AUS/102/274 is also relevant.

#### ARTICLE N23

#### Identification of Stations

AUS/102/276 MOD

5335/738 § 4. In order that.... however, identification shall be transmitted at least hourly, preferably within the period from ten five minutes before to ten five minutes after the hour (G.M.T.), unless to do so would cause unreasonable interruption of traffic, in which case identification shall be given at the beginning and end of transmission. To meet these identification requirements, administrations are urged to ensure that, wherever practicable, superimposed identification methods be employed in accordance with C.C.I.R. Recommendations.

Reason: To reduce the time required for a monitoring station to wait for identification of a station carrying identification signals and to introduce a requirement for identification at the beginning and end of transmissions if normal identification would cause unreasonable interruption of traffic.

# 5. DRAFT RESOLUTIONS REFERRING TO AGENDA ITEM 2.3

Two proposals pertaining to radiocommunications equipment are made under this agenda item. The proposals take the form of Resolutions AA and AB and are directed to improvements in the design and use of radio equipment and to international standardization of equipment characteristics.

Proposed Resolution No. AA calls for continued encouragement by Administrations for improvement in the design and use of radio equipment in order to increase efficiency of utilization of the spectrum. It is considered important to include a resolution on this matter in the Radio Regulations.

Proposed Resolution No. AB is directed towards the international standardization of equipment specifications and general acceptance by Administrations of equipment meeting such specifications. Amongst other things, it is considered that acceptance of this Resolution will help reduce equipment costs and hence system costs and thereby facilitate the use of the spectrum, will enable Administrations of countries that are not at the forefront of technological developments to have acceptable specifications available and will reduce the workload on Administrations in regulating equipment performance.

AUS/102/276A ADD

RESOLUTION / AA\_7

Relating to Improvements in the Design and Use of Radio Equipment

The World Administrative Radio Conference, Geneva, 1979 considering

- a) that the radio frequency spectrum is a scarce natural resource which has value only when used;
- b) that efficient utilization of the spectrum can be limited by the characteristics of both transmitting and receiving equipment;
- c) that operational aspects of radio systems can also limit the efficient utilization of the spectrum;
- d) that continuing advancements in electronics and allied fields are enabling the production of more spectrum efficient radiocommunication systems;

resolves that Administrations should encourage improvements in the design and construction of radio equipment and in the mode of operation of systems in order to improve the utilization of the radio frequency spectrum.

Reason: To emphasize the importance of continual improvement in the technical and operational aspects of equipment and systems as a means of improving utilization of the spectrum. The technical guidelines on optimum use of the spectrum, given in 7.1 of the SPM report, are relevant.

AUS/102/276B ADD

RESOLUTION \_ AB\_7

Relating to Standardization of the Technical and Operational Characteristics of Radio Equipment

The World Administrative Radio Conference, Geneva, 1979 considering

- a) that the cost of radiocommunications equipment is often a substantial portion of overall transmission system costs;
- b) that reducing system costs facilitates greater utilization of the radio frequency spectrum;
- c) that development of equipment for limited markets usually increases equipment costs;
- d) that Administrations find it necessary to allocate increasing resources to regulation of equipment performance;
- e) that Administrations, and in particular those in developing countries often have difficulty in providing such resources;
- f) that a number of international bodies including the CCIR, the IEC and IMCO provide recommendation and standards for the technical and operating characteristics for equipment performance and measurement;

noting that, in international trade negotiations, a multilateral code of conduct is being negotiated with a view to reducing and/or eliminating technical barriers to trade and to fostering greater uniformity of product standards;

#### resolves

- that Administrations will endeavour to produce radio equipment specifications that are internationally standardized in the appropriate international forum;
- 2. that, where such internationally standardized specifications exist, Administrations will adhere to those standard specifications for their national regulation of equipment performance;
- 3. that, again where such internationally standardized specifications exist, Administrations will allow the use of equipment meeting such standards on a national basis, and, in particular they will accept type approval of equipment to such specifications by Administrations of other countries;
- 4. that, where such internationally standardized specifications do not exist and are not in the course of preparation, Administrations, when developing equipment specifications for national use, will produce specifications that are capable of acceptance as internationally standardized specifications.

Reason: To emphasize the importance of international standardization of equipment characteristics in facilitating use of the radio frequency spectrum. The technical guidelines on optimum use of the spectrum, given in 7.1 of the SPM report, are relevant.

. . . . . . . . . . .

# 6. PROPOSALS REFERRING TO AGENDA ITEM 2.6

Under this agenda item proposals are made to Article N34 (Distress and Safety Communications); N37 (Urgency and Safety Transmissions).

#### ARTICLE N34

Distress and Safety Communications

AUS/102/277 ADD

6603 § 10. The use of Radiocommunications by parties to a conflict for announcing the movements of the means of medical transport protected under the 1949 Geneva Conventions and any additional instruments of these Conventions is optional, however if they are used the provisions of this chapter are obligatory.

Reason: To implement the recommendations of the Diplomatic Conference on the Re-affirmation and Development of International Humanitarian Law Applicable in Armed Conflicts (Geneva 1974-77). Chapter 11 of the CCIR SPM Report is relevant.

#### ARTICLE 37

Urgency and Safety Transmissions

AUS/102/278 MOD

6877/1481 § 3. (1) The urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person, or announcing the movements of the means of medical transport protected by the 1949 Geneva Conventions.

<u>Reason</u>: To implement the recommendations of the Diplomatic Conference of the Re-affirmation and Development of International Humanitarian Law Applicable in Armed Conflicts (Geneva 1974-77). Chapter 11 of the CCIR SPM Report is relevant.

AUS/102/279 ADD

6879A (3A) The message following the urgency signal announcing the movements of the means of medical transport shall convey the following data:

- a) call sign of the medical transport;
- b) position of the medical transport;
- c) number and type of medical transports;
- d) intended route;
- e) estimated time en route and of departure and arrival as appropriate;

f) any other information such as flight altitude, radio frequency guarded, languages and secondary surveillance radar modes and codes.

Reason: To implement the recommendations of the Diplomatic Conference on the Re-affirmation and Development of International Humanitarian Law Applicable in Armed Conflicts (Geneva 1974-77). Chapter 11 of the CCIR SPM Report is relevant.

# **WORLD ADMINISTRATIVE RADIO CONFERENCE**

(Geneva, 1979).

Addendum No. 1 to Document No. 103-E

12 June 1979

Original: English

PLENARY MEETING

U.I.T.

GENÈVE

## Ghana

MHz88 - 108

<del>87.5</del> <u>88</u> - 100
BROADCASTING
3563/264 3564/265 3568/269 3569/270 3570/271
100 - 108
MOBILE-except aeronautical-mobile-(R)
BROADCASTING
3563/264 3564/265 3568/269 3569/270 3570/271

Reasons: Requirement for more channels for FM broadcasting.

MHz174 - 223

GHA/103/54	NOC	174 - 216	
		BROADCASTING	
	-	3599/291 3600/292 3601/293 3602/294	
GHA/103/55	MOD	216 - 223	
		AERONAUPICAL RADIONAVIGATION	
		BROADCASTING	
		3605/297 3606/298 3607/299 3608/300 3609/301	

Reasons: Exclusive allocation to broadcasting and providing extra TV channels. Relevant footnotes can be modified where necessary.

MHz 470 - 942

GHA/103/56 NOC

Allocations appearing in boxes 470 - 942 MHz.

<u>Reasons</u>: There should be no reduction in the existing allocations to broadcasting; however, any extension to the ranges will be welcomed.

MHz 942 - 960

GHA/103/57 NOC

Allocations appearing in box 942 - 960 MHz.

<u>Reasons</u>: Allocations to broadcasting must be retained and relevant footnotes strictly respected.

GHA/103/58

NOC 3

3662/333

MHz 2 500 - 2 690

Region 1 GHA/103/59 MOD 2 500 - 2 550 FIXED 3721/364C MOBILE-except aeronautical-mobile BROADCASTING-SATELLITE 3715/361B 3714/361A 3716/362 3724/364F GHA/103/60 2 550 - 2 690 MOD FIXED 3721/364C MOBILE-except aeronautical-mobile BROADCASTING-SATELLITE 3715/361B

> 3716/362 3717/363 3718/364 3724/364F

3725/364G

Reasons: To reduce restriction on coordination when planning for earth stations in the broadcasting-satellite service.

MHz 3 400 - 4 700

GHA/103/61 NOC

Allocations appearing in boxes 3,400 - 4 700 MHz.

Reasons: There is need to maintain these allocations.

MHz 5 850 - 7 300

GHA/103/62 NOC

Allocations appearing in boxes 5 850 - 6 425 and

7 250 - 7 300 MHz.

Reasons: No need for a change.

MHz 7 300 - 7 750

GHA/103/63 NOC

Allocations appearing in boxes 7 300 - 7 750 MHz.

Reasons: There is need to maintain these allocations.

MHz 7 750 - 8 025

GHA/103/64 NOC

Allocations appearing in boxes 7 750 - 8 025 MHz.

Reasons: No need for a change.

GHz 11.7 - 12.5

GHA/103/65 MOD

11.7 - 12.5

FIXED

MOBILE-except
aeronautical-mobile

Region 1

BROADCASTING

BROADCASTING-SATELLITE

3785/405BA

 $\overline{\text{Reasons}}$ : To reduce restriction on coordination when planning for earth stations in the broadcasting-satellite service.

GHA/103/66 NOC 3785/405BA

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 103-E

7 May 1979

Original : English

PLENARY MEETING

#### Ghana

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### Introduction

The World Administrative Radio Conference (WARC) 1979 is an important conference for all countries in the field of telecommunications but for most developing countries like Ghana it is of special significance in that this is the first time most of these countries are participating in such a conference. In 1959 when a similar conference was held, an insignificant number of these countries had any of the related services in operation. Even where the services in operation, they were in the hands of the then colonial administrations which formulated all that were incorporated in the 1959 WARC.

Now a number of new and developing countries have made substantial investments in radio communications. Changes in equipment specifications which might arise as a result of amendments/revision of the Radio Regulations and/or re-allocation of the radio frequency spectrum should not adversely affect these investments. It is the view of Ghana that transitional arrangements associated with implementing re-allocations should therefore be spread over a sufficiently long period.

In these days of our era, although developing countries due to various constraints cannot categorically claim that they are on their own as far as telecommunications are concerned, they can however make such contributions as may be meaningful to the WARC-79.

# HF bands

# Fixed services

Ghana has depended and continues to rely on the HF medium for its external telecommunication services. However, there is a transition going on at the moment and it would not be long before some of these services are transferred to the fixed-satellite service as well as the Pan African Telecommunication Network (PANAFTEL) for intra-African traffic. Notwithstanding this, HF will continue to be an essential feature of Ghana's internal services, particularly the land mobile service. There is also the need for increased allocation to the broadcasting and maritime services, and Ghana intends to support proposals to this effect. However, sharing of the HF band by the broadcasting service and fixed service within national boundaries should be encouraged whenever possible.

Ghana's internal public telecommunication services is carried by terrestrial microwave, and it is proposed that allocations in this should be maintained as far as possible. More and more international traffic is being carried by circuits operating in the fixed-satellite service mainly within the INTELSAT system. There is no doubt that the trend will continue and it may be necessary to extend the allocations for the fixed-satellite service in order to meet future demand.



#### Broadcasting service

Recent research into LF/MF usage in the tropics indicates that the much feared adverse effect of atmospheric noise levels in these bands is not as serious as previously thought of and that the use of these bands in the tropics is feasible. Ghana therefore does not rule out the future use of these bands for national broadcasting.

HF bands are mainly used for external broadcasting and many countries, both developed and developing, use these bands for this purpose, hence the heavy congestion. Consideration should therefore be given to ensuring that no Administration employ, simultaneously, more than one frequency per band for the same programme to any one reception area. Furthermore, those countries and other services which can afford to release those HF bands which they no more use may do so to the benefit of broadcasting to ease the congestion and thus uphold the quality of service.

In the early sixties, the Ghana Broadcasting Corporation embarked upon a pilot VHF/FM broadcasting to assess its reliability and cost-effectiveness. After five years of this pilot scheme which proved favourable, the GBC installed three VHF/FM transmitting equipment co-sited with the television transmitting equipment. Through this project the practical capabilities of VHF/FM broadcasting in the tropics have been realised, and Ghana can, without any reservation, recommend it to other developing countries. Therefore the allocations for this service should be maintained and if possible expanded.

Ghana is presently using both bands I and III for its television service, and although the service is still young, about 16 years old, the projected future favours band III and later, bands IV and V.

Ghana took part in the deliberations of WARC-BS-1977 which led to the establishment of the 1977 Geneva Plan for Satellite Broadcasting at 12 GHz in Regions 1 and 3. Before the establishment of this Plan, however, it has been found that attenuation due to rain is minimal at lower frequencies when satellite broadcasting is being considered. In the tropics where the rate of rainfall is high, due consideration will have to be given to such low frequencies as the 2.5 GHz for future satellite broadcasting.

The need for data with regard to propagation is apparent in the above-mentioned case. That is why developing countries, especially those in the tropics as well as the Arab States have, at most seminars and conferences of the ITU, been demanding ionospheric propagation noise and conductivity studies in their zones to enable efficient and reliable planning of telecommunication services to be undertaken. Ghana feels it is now time the ITU makes firm proposals to the countries in these regions so that a programme is drawn for both the countries concerned and the CCIR to coordinate their efforts for the realisation of the much-needed data.

# Maritime bands

Innovations have been introduced into the maritime service to improve the efficiency of ship communications and to use the available spectrum more effectively. Despite these innovations, which include change to SSB operation, IMCO ship projections are such that additional bandwidth requirements have to be met in the future. We feel that IMCO proposals take into account the overall requirements of the maritime service and as such has to be supported as far as possible. Additional allocations in the HF band should be made available to the maritime service whenever this is possible.

As a result of improved technical characteristics, it is possible to reduce the guard bands around the distress frequencies of 500 kHz and 2 182 kHz. The useful band thus gained should be allocated exclusively to the maritime mobile service. Ghana considers search and rescue operation as very essential to the maritime service and has therefore accepted responsibility as a Regional Coordinating Centre for search and rescue. However, it is felt that proposals for

additional maritime distress frequencies need to be considered in the light of additional equipment cost and operational expenses that may be involved. Ghana therefore does not support the IMCO proposal for one frequency in each band of the 4, 6, 8, 12 and 16 MHz to be allocated and designated exclusively for a global maritime distress and safety system capable of increasing the horizon of the existing maritime Distress and Safety System. One additional HF frequency as distress frequency may be more manageable.

Provision for new services in the maritime band like the International Maritime Satellite System (INMARSAT) should take into account the future requirements of developing countries who, for economic reasons, might not be able to participate in the System in the immediate future.

#### Aeronautical service

Civil aviation has expanded considerably in many parts of the world. Consequently, air traffic density in international and domestic air routes has greatly increased. Ghana is no exception. In recent years the need for additional radio channels including those required for the transmission and reception of meteorological messages for long distance flight control has become apparent. However, the conversion to single sideband as a result of the 1978 WARC on the aeronautical mobile (R) service will more than double the number of available frequencies. Ghana therefore supports the results of the 1978 WARC for the aeronautical service. However, the change to single sideband operation should be effected with minimal impact upon the existing allotments.

#### Proposals for allotments

Proposals for allotments of frequencies in some bands is attached as Annex I. These are mainly in the HF band, and concerns principally the services mentioned above.

kHz 130 - 160

			Allocation to Services
		Region 1	
GHA/103/1	MOD	130 - <del>150</del> <u>130.5</u>	
		MARITIME MOBILE 3465/172	
		/FIXED/	
GHA/103/2	MOD	<u>130.5</u> - 150	
		MARITIME-MOBILE 3465/172	
		<del>/FIXED/</del>	
		BROADCASTING	
		3457/163 <del>3461/167</del> 3466/173	

Page 4

kHz 130 - 160 (cont.)

GHA/103/3

MOD

Region 1

150 - 160

MARITIME-MOBILE 3461/167

3467/174

BROADCASTING

3468/175

Reasons: Exclusive allocation to the broadcasting service in the

LF band in Region 1.

GHA/103/4

MOD

3465/172

Delete "However ... the-permitted-basis."

GHA/103/5

MOD

3461/167

Reasons: To take into account the proposed changes in bandwidths.

kHz 160 - 285

GHA/103/6

NOC

160 - 255

BROADCASTING

3469/176

GHA/103/7 MOD 255 - 285

MARITIME-MODILE 3467/174

BROADCASTING

**AERONAUTICAL** RADIONAVICATION

3469/176 3470/177

3471/178

Reasons: Exclusive allocation to the broadcasting service.

GHA/103/8

SUP

3467/174

kHz285 - 405

GHA/103/9

NOC

Allocations appearing in boxes 285 - 405 kHz

Reasons: Continuing requirements exist for these allocations.

kHz 405 - 510

GHA/103/10 NOC

Allocations appearing in boxes 405 - 510 kHz

Reasons: No need for a change.

kHz 510 - 2 000

		Region 1
GHA/103/11	NOC	510 - 525
		MARITIME MOBILE 3479/186
		Aeronautical radionavigation
	ļ	3478/185
GHA/103/12	MOD	525 - <del>535</del> <u>526.5</u>
		BROADCASTING
		MARITIME MOBILE 3479/186
		Aeronautical radionavigation

Reasons: Increased band allocation.

GHA/103/13	MOD	526.5 - 535		
GNA/103/13	MOD	<u> </u>		
	*	BROADCASTING		
		3483/190		
GHA/103/14	NOC	535 - 1 605		
			BROADCASTING	
GHA/103/15	MOD	1 605 - 2-000 <u>1 606.5</u>		
		BROADCASTING	·	
		FIXED		
		MOBILE-except aeronautical-mobile		

Reasons: Adjustment to agree with Geneva 1975 Broadcasting Conference.

kHz 510 - 2 000 (cont.)

GHA/103/16 MOD

Region 1

1 606.5 - 2 000

FIXED

MOBILE except

aeronautical mobile

Reasons: To comply with the adjustment made above.

Pro mem. : Consequential changes to footnotes as required.

kHz 2 000 - 2 194

GHA/103/17 NOC

Allocations appearing in boxes 2 000 - 2 194 kHz

kHz 2 300 - 2 498

GHA/103/18

2 300 - 2 498

FIXED

MOBILE-except

aeronautical-mobile (R)

BROADCASTING 3496/202

3487/193 3490/195A

Reasons: Exclusive allocation to the broadcasting service.

GHA/103/19

NOC

MOD

3496/202

kHz 3 200 - 3 400

GHA/103/20 MOD

3 200 - 3 230

FIXED

MOBILE-except

aeronautical-mobile-(R)

BROADCASTING 3496/202

kHz 3 200 - 3 400 (cont.)

GHA/103/21 MOD

Region 1.

3 230 - 3 400

#<del>IXED</del>

MOBILE-except aeronautical-mobile

BROADCASTING 3496/202

Reasons: Exclusive allocation to and expansion of the ranges for the broadcasting service.

kHz 3 950 - 4 000

GHA/103/22 MOD

3 950 - 4 000

FEXED

BROADCASTING

<u>Reasons</u>: Exclusive allocation to and expansion of the range for the broadcasting service.

kHz 4 850 - 5 060

GHA/103/23

MOD

4 850 - 4 995

FIXED

LAND-MOBILE

BROADCASTING 3496/202

GHA/103/24 NOC

4 995 - 5 005

STANDARD FREQUENCY

kHz 4 850 - 5 060 (cont.)

GHA/103/25 MOD

Region 1

5 005 - 5 060

FIXED

BROADCASTING 3496/202

Reasons: (4 850 - 4 995 kHz) Exclusive allocation to and expansion of the broadcasting range for the broadcasting service.

(4 995 - 5 005 kHz) No need for a change.

(5 005 - 5 060 kHz) Exclusive allocation to and expansion of the broadcasting range for the broadcasting service.

kHz 5 730 - 6 200

Reasons: Portion of band to be exclusively allocated to the broadcasting service.

kHz 7 100 - 7 300

GHA/103/29

MOD

7 100 - 7 300

BROADCASTING

3509/212

GHA/103/30

SUP

3509/212

No longer required.

Reasons: Exclusive use for the broadcasting service.

# kHz9 040 - 9 995

		Region 1
GHA/103/31	MOD	9 040 <b>- 9</b> - <del>500</del> <u>9 400</u>
		FIXED
GHA/103/32	MOD	<u>9 400</u> - 9 500
		₹¥¥EÐ
		BROADCASTING
GHA/103/33	NOC	9 500 - 9 775
		BROADCASTING
CHA/103/34	MOD	9 775 - <del>9-995</del> <u>9 900</u>
		FIXED
		BROADCASTING
GHA/103/35	MOD	9 900 - 9 995
		FIXED

for the broadcasting service.

Reasons: (9 400 - 9 900 kHz) Exclusive allocation to and additional ranges

(9 900 - 9 995 kHz) Part of band given up to the broadcasting service.

kHz 11 400 - 12 330

GHA/103/36	MOD	11 400 - <del>11-700</del> <u>11 600</u>
		FIXED
		3512/216
GHA/103/37	MOD	<u>11 600</u> - 11 700
		FIXED
		BROADCASTING
GHA/103/38	NOC	11 700 - 11 975
		BROADCASTING

kHz 11 400 - 12 330 (cont.)

•		
		Region 1
GHA/103/39	MOD	11 975 - <del>12-330</del> <u>12 000</u>
		<del>FIXED</del>
		BROADCASTING
GHA/103/40	MOD	<u>12 000</u> - 12 330
		FIXED

 $\underline{\text{Reasons}}$  : Bands reduced to satisfy need for additional exclusive range for the broadcasting service.

kHz 15 100 - 17 900

GHA/103/41	NOC	15 100 - 15 450
		BROADCASTING
GHA/103/42	MOD	15 450 - <del>16-460</del> <u>15 600</u>
		<del>FIXE</del> Đ
		BROADCASTING
GHA/103/43	MOD	<u>15 600</u> - 16 460
		FIXED
GHA/103/44	NOC	16 460 - 17 360
		MARITIME MOBILE
		1510/213
GHA/103/45	MOD	17 360 - <del>17-700</del> <u>17 500</u>
		FIXED
		MARITIME MOBILE
GHA/103/46	MOD	<u>17 500</u> - 17 700
		FIXED
		BROADCASTING ,
	•	······································

kHz15 100 - 17 900 (cont.)

GHA/103/47

NOC

Region 1

17 700 - 17 900

BROADCASTING

Reasons: Exclusive allocation to the broadcasting service and an attempt to extend the range for the maritime mobile.

> kHz21 750 - 21 850

GHA/103/48

NOC

21 450 - 21 750

BROADCASTING

GHA/103/49 MOD 21 750 - 21 850

FIXED

BROADCASTING

Reasons: Band extended to allow for more channels for the broadcasting service.

kHz

25 600 - 26 100

GHA/103/50

NOC

25 600 - 26 100

BROADCASTING

MHz

47 - 68

GHA/103/51

NOC

47 - 68

BROADCASTING

3536/238 3537/239

3539/241 3540/242

3541/243

Reasons: Existing allocation to national TV broadcasting must be maintained where possible.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 104-E 7 May 1979

Original: French

PLENARY MEETING

# Cameroon (United Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE\*)

#### ARTICLE N1

CME/104/1

MOD

3040/28 Broadcasting service: A radiocommunication service in which the transmissions are intended available for direct reception of the required quality by the general public for which they are intended. This service may include sound transmissions, television transmissions or other types of transmissions.

Reasons: Broadcasting plays an important part in the general efforts to create a better life in a better world. It provides information and educational aid and promotes culture and national identity. Broadcasting is therefore accepted as an essential need in each country. In the developing countries, it is closely linked to efforts to speed up development. The present definition does not reflect these facts, nor does it indicate the conditions required to accomplish this task.

The amendment proposing that the words "intended for direct reception by the general public" should be replaced by "available for direct reception of the required quality by the general public for which they are intended" widens the scope of the existing definition regarding both transmission and reception.

It also refers to the minimum transmission quality standard which must be met.

The words "for which they are intended" emphasizes that broadcasting services transmit programmes containing information with linguistic, cultural, historical and other features which must be taken into account when the question of making the programmes available to the general public is considered.



<sup>\*)</sup> These proposals were formulated by the Group of Broadcasting Experts of the non-aligned countries at the meeting in Havana (Cuba) in February 1979.

#### ARTICLE N28

CME/104/2 MOD 6215/423

Replace the present text by the following:

### Fin-principle, Except in the frequency band

3 900 - 4 000 kHz broadcasting stations using frequencies below 5 060 kHz or
above 41 MHz shall not employ power transmission system parameters exceeding
that those necessary to maintain economically an effective national service of
good quality within the frontiers of the country concerned.

<u>Reasons</u>: The replacement of the term "power" by "transmission system parameters" is intended to cover all technical features relating to the total results which may be obtained from a sound and television broadcasting station.

The deletion of the words "in principle" is to make the rules defined in the text compulsary.

Exceptions are, however, still possible under Article N6/4 of the Radio Regulations on the basis of special agreements.

CME/104/3 M

MOD 6217/424

Replace the present text by the following new text:

In these Regulations, the expression "broadcasting in the Tropical Zone" indicates a type of broadcasting for national use in countries in the zone defined in No. 3425/135 and 3426/136, where it can be demonstrated that owing to special propagation conditions and for economic reasons satisfactory coverage cannot be provided in frequency bands other than those defined in No. 6218/425.

- Reasons: 1) Studies in various parts of the Tropical Zone have shown that the atmospheric noise level is not very high, although it may be somewhat higher than in the temperate zones.
- 2) Special provisions are, however, indispensable for the maintenance of national services in the Tropical Zone in very high frequency bands. The reasons are as follows:
- a) the allocations in the MF band made to countries in the Tropical Zone in the plan drawn up at the Regional Administrative LF/MF Radio Conference (Geneva, 1975) rely on very high usable field strength values; these countries cannot therefore provide complete national coverage in the MF band;
- b) VHF band allocations to the broadcasting services in Tropical Zone countries, whose economies are in process of development, cannot be used for the time being because of the high cost involved. This band would therefore be brought into service in stages over a fairly long period of time;
- c) national broadcasts in the HF bands are the only means by which these countries can provide total coverage for their territory, although such a service is no more than second-grade.
- 3) The proposed text duly emphasizes the economic aspect, which is in fact the main reason for this special allocation.

#### ARTICLE N7/5

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

#### Present position

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

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

#### CME/104/4 Proposal

- 1. In the Table of Frequency Allocations, a bandwidth of 1 GHz at a frequency between 15 and 30 GHz should be allocated to the inter-satellite service.
- 2. The band should be used exclusively to connect space stations of the broadcasting-satellite service.
- 3. The use of the band allocated should be in conformity with an internationally accepted plan for all Regions.
- Reasons: 1) The lowest band now allocated to the inter-satellite service is 54.25 58.20 GHz. At the present stage of technology, frequencies above 30 GHz cannot be used for the radiocommunication service.
- 2) An allocation suitable for immediate use is essential, since the final declaration of WARC-BS-12 GHz-1977 has entered into force and many administrations have taken steps to place broadcasting satellites in orbit.
- 3) The need to allocate another band at a lower frequency was duly stated by the CCIR Special Preparatory Meeting (SPM), Geneva, 1978 (Doc. XP-1067-E).
- 4) CCIR studies have shown that frequencies between 15 and 35 GHz are optimal for links of the short-hop type (Doc. 4/1008, Kyoto, 1978).
- 5) Where inter-satellite links are associated with broadcasting satellites, it is essential to provide multiple emissions on each side of the satellite position. The allocation of a bandwidth of 1 GHz would meet that need.

Proposal for the Allocation of Bands to BSS Up-links

### Present position

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

#### CME/104/5

#### Proposal

- 1. In the Table of Frequency Allocations, a bandwidth of 1 200 MHz at a frequency close to  $1^{1}4$  GHz should be allocated to up-links in the broadcasting-satellite service.
- 2. Use of the band allocated should be in conformity with an internationally approved plan of allocations for all Regions. For the preparation of this plan, an administrative conference should be convened as soon as possible after the end of WARC-79.
- Reasons: 1) With regard to the bandwidth at present allocated to the satellite service, the width for the up-link is consistently much smaller than that for the down-link. It may therefore be expected that the bands for the up-links will be completely saturated long before the Allocation Plan prepared at the WARC-BS-12 GHz (Geneva, 1977) has become fully operative.
- 2) If the Plan prepared at the WARC-BS-12 GHz (Geneva, 1977) is to be carried out, adequate allocations also for up-links are essential.
- 3) The bandwidth required for up-links is greater than that for down-links, particularly because:
- a) it would be impractical to place the earth station in the transmission centre;
- b) in most cases more than one earth station will be required for each programme service;
- c) in practice, many countries will wish to use mobile earth stations for the up-link.
- 4) The CCIR Special Preparatory Meeting (SPM) (Geneva, 1978) found that a bandwidth 1 to  $1\frac{1}{2}$  times that of the down-link is required for the up-link (Doc. XP/1107-E).
- 5) Complex arrangements to reduce requirements to less than  $1\frac{1}{2}$  times the allocation for the down-link are regarded as impracticable.
- 6) For practical reasons, the band for the up-link must also be adequately separated / from that of the down-link /. It is further essential that the band should not be in too high a frequency range, because attenuation, particularly in the Tropical Zone, would be too great.
- 7) In view of the foregoing, it is estimated that the most suitable band would be around 14 GHz.

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

#### Present position

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

#### CME/104/6

#### Proposal

- 1. In the Table of Frequency Allocations, the band 1 429 1 525 MHz should be allocated to the sound-broadcasting-satellite service for sharing with the terrestrial services to which it is currently allocated. The broadcasting-satellite service should have primary status.
- 2. The use of the band allocated should be in conformity with a plan for all Regions which would be internationally accepted and would be prepared on the basis of a well-defined sharing rule with the terrestrial services.
- Reasons: 1) In many developing countries, the frequencies at present allocated to the broadcasting service do not allow the creation of a national sound-broadcasting service on an economical basis ensuring reception of adequate quality for all listeners in the national territory.
- 2) A sound-broadcasting-satellite system is potentially capable of providing such a service.
- 3) At the frequencies currently allocated to the broadcasting-satellite service, signals can be received only with the aid of fixed and costly receiving installations.
- 4) A sound-broadcasting-satellite system operating around 1 GHz would allow signals to be received with cheap mobile receivers.
- 5) The CCIR Special Preparatory Meeting (SPM) (Geneva, 1978) found that the establishment of a sound-broadcasting service based on stationary satellites at a frequency situated between 0.5 and 2 GHz is technically feasible (Doc. XP/1106-E).
- 6) Several technico-economic studies have shown that a sound-broadcasting-satellite service operating at a frequency close to 1 GHz would be economically viable and less costly than a terrestrial broadcasting service providing the same coverage with the same quality. Such a system might therefore be set up at much less cost than a corresponding terrestrial broadcasting system.
- 7) In view of linguistic, social and cultural differences in most developing countries, a sound-broadcasting-satellite system must be capable of providing more than one programme service. Allocation of the band  $1\ 429-1\ 525\ \text{MHz}$  would make it possible for each country to organize 6 to 8 simultaneous programme services.
- 8) In view of all the various factors involved, including cost and propagation conditions, the band 1 429 1525 MHz would be the best choice in the 0.5 2 GHz range.
- 9) CCIR studies have shown that in the proposed band sharing between the sound-broadcasting-satellite service and the terrestrial services may be regarded as possible (Docs. 4-9/1106, 10-11/1106, Kyoto, 1978).

kHz150 - 160

		-	Allocation to Services	
		Region 1	Region 2	Region 3
CME/104/7	MOD*)	150 - 160	150 - 160	
(WW) /		MARITIME-MOBILE 3461/167 3467/174	FIXED	
		BROADCASTING	MARITIME-MOBILE	
		BROADCASTING	BROADCASTING	
		3468/175 <u>3</u> 468 <u>A</u>	3461/167 <u>3468A</u>	

Reasons: The non-aligned countries need this band to expand their national broadcasting services.

CME/104/8

SUP

3467/174

Becomes redundant.

CME/104/9

ADD,

3468A

The allocation and use of frequencies in this band shall be preceded by the introduction of a frequency allocation plan.

> kHz160 - 285

CME/104/10	MOD	160 - 255	160 - 200	160 - 200	
		BROADCASTING	F <del>IXED</del>	F <del>IXED</del>	
			BROADCASTING	Aeronautical radionavigation	
				BROADCASTING	
			3472/179 <u>3468A</u>	<u>3468a</u>	
CME/104/11	MOD	3 <del>469/176</del> <u>3468A</u>	200 - 285		
CME/104/12	MOD	255 - 285	AERONAUTICAL-RADIONAVIGATION		
		MARITIME-MODILE 3467/174	Aeronautical-mobile		
		BROADCASTING	BROADCASTING		
		AERONAUTICAL RADIONAVIGATION			
		3468A 3469/176 3470/177 3471/178	<u>3468a</u>		

Reasons: The non-aligned countries need this band to expand their national broadcasting services.

<sup>\*)</sup> Proposals for regional allocations which, if adopted, will entail world-wide allocations.

CME/104/13	SUP	3469/176	Becomes	redundant.
CME/104/14	SUP	3470/177	Becomes	redundant.
CME/104/15	SUP	3471/178	Becomes	redundant.
CME/104/16	SUP	3472/179	Becomes	redundant.

kHz 525 - 1 605

		Region l	Region 2	Region 3
CME/104/17	MOD	525 - 535	525 - 535	525 - 535
		BROADCASTING	MOBILE	MOBILE
			/BROADCASTING/ 3484/191 /AERONAUTICAL	/BROADCASTING/ BROADCASTING
		3483/190	RADIONAVIGATION/ 3481/188	
	NOC	535 - 1 605	BROADCASTING	

Reasons: It is considered necessary to create equality of rights between the mobile and broadcasting services in Region 3.

## TROPICAL BROADCASTING

For the tropical broadcasting service, the telecommunication administrations of all non-aligned countries are requested to advocate and support the following positions at the WARC:

# CME/104/18 NOC

1. Maintain the present position with regard to the bands allocated to tropical broadcasting in the three Regions :

2 300 - 2 498 kHz

3 200 - 3 400 kHz

4 750 - 4 995 kHz

5 005 - 5 060 kHz

and also in the band

3 950 - 4 000 kHz

# CME/104/19 NOC

2. Resolutely oppose the use of these bands for international broadcasting or any other transmissions; footnote 3496/202 must remain unchanged.

kHz 7 100 - 7 300

CME/104/20 MOD (WW)

Region 1	Region 2	Region 3
7 100 - 7 300	7 100 - 7 300	7 100 - 7 300
BROADCASTING	AMATEUR	BROADCASTING
3509/212	BROADCASTING	

 $\overline{\text{Reasons}}$ : It is considered necessary to include the broadcasting service in Region 2.

CME/104/21 NOC

MHz 41 - 50

41 - 47	41 - 50	41 - 44
BROADCASTING	FIXED 3525/228 3528/231 3535/237	FIXED 3525/228 3535/237
Fixed 3525/228 3535/237	MOBILE	MOBILE
Mobile		3534/236A
3534/236A 3536/238 3537/239 3538/240		44 – 50
3539/241		FIXED 3525/228 3528/231 3535/237
		MOBILE
	35 <b>3</b> 0/233A 3534/236A	BROADCASTING

 $\overline{\text{Reasons}}$ : The non-aligned countries consider the maintenance of the present allocations in these bands to be imperative.

MHz 47 - 68

	47 - 68 (NOC)		
	BROADCASTING	50 - 54 (NOC)	
		AMATEUR	
		3542/244 3543/245 3544/2	246 3545/247
CME/104/22 MOD		54 - 68	54 - 68 (NOC)
		BROADCASTING	FIXED 3525/228 3528/231
		FIXED	3535/237
• • • •	·	MOBILE	MOBILE
	3536/238 3537/239	Fixed 3525/228 3535/237	BROADCASTING
	3539/241 3540/242 3541/243	<u>Mobile</u>	3544/246

 $\underline{\text{Reasons}}$ : The non-aligned countries consider that in Region 2 the broadcasting service in bands I and III used for television should have priority over the other services sharing these bands.

CME/104/23 NOC

MHz 68 - 75.4

Region 1	Region 2	Region 3	
68 - 74.8	68 - 73	68 - 70	
FIXED	FIXED	FIXED	
MOBILE except aeronautical mobile	MOBILE	MOBILE	
aeronauticai mobile	BROADCASTING	AERONAUTICAL RADIONAVIGATION	
		3553/254 3554/255 3555/256	
		70 - 74.6	
	73 - 74.6	FIXED	
·	RADIO ASTRONOMY	MOBÎLE	
3546/248 3547/249 3548/250 3549/251	3551/253A 3552/253B	3555/256 3556/257 3557/258	
3550/252	74.6 - 75.4		
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION		
AERONAUTICAL RADIONAVIGATION			
3558/259	3558/259		

 $\overline{\text{Reasons}}$ : The non-aligned countries consider the maintenance of the present allocations in this band to be essential.

CME/104/24 NOC

MHz 75.2 - 100

Region 1	Region 2	Region 3
75.2 - 87.5	·	
FIXED	75.4 - 88	75.4 - 78
MOBILE except aeronautical mobile	FIXED	FIXED
	MOBILE	MOBILE
	BROADCASTING	3554/255 3555/256 3556/257 3565/266
	·	78 - 80
		FIXED
		MOBILE
		AERONAUTICAL RADIONAVIGATION
		3554/255 3555/256 3556/257 3560/261 3565/266
	·	80 - 87
		FIXED
		MOBILE
		3553/254 3554/255 3555/256 2556/257 3560/261 3565/266
	·	87 - 100
3546/248 3548/250 3550/252 2559/260		FIXED
3560/261 3561/262 3562/263		MOBILE
87.5 - 100		BROADCASTING
BROADCASTING	88 - 100	2552/05h 2566/067
3563/264 3564/265	BROADCASTING	3553/254 3566/267 3567/268

 $\overline{\text{Reasons}}$ : The non-aligned countries consider the maintenance of the present allocations in these bands to be essential.

MHz 100 - 108

3554/255 3555/256 3557/258 3566/267 3571/272

		Region 1	Region 2	Region 3
CME/104/25	MOD	100 - 108	100 - 108	
		MOBILE except aeronautical mobile (R)	BROADCASTING	
		BROADCASTING		
		3568/269 3568A		

 $\underline{\text{Reasons}}$ : The non-aligned countries consider that allocations to the broadcasting service should be the same in the three Regions.

CME/104/26	SUP	3568/269	Becomes redundant.
CME/104/27	SUP	3569/270	Becomes redundant.
CME/104/28	SUP	3570/271	Becomes redundant.
CME/104/29	ADD	3568A be preceded by the in Regions 1 and 3.	The allocation and use of frequencies in this band shall ntroduction of a new frequecy allocation plan for

CME/104/30 NOC

<del>3569/270</del>

3570/271

MHz 470 **-** 960

470 - 582	470 - 890	470 - 585
BROADCASTING	BROADCASTING	BROADCASTING
582 - 606		3664/335
BROADCASTING		585 - 610
RADIONAVIGATION		RADIONAVIGATION
3651/325 3652/327 3653/328 3654/329		3658/330B 3665/336 3666/337
606 - 790		610 - 890
BROADCASTING		
3654/329 3656/330		FIXED
3657/330A 3659/331 3660/332 3661/332A		MOBILE
790 - 890		BROADCASTING
FIXED		
BROADCASTING		
3654/329 3659/331 3662/333 3663/334	3655/329A 3660/332 3661/332A	3658/330B 3660/332 3661/332A 3667/338 3668/339

MHz 470 - 960 (cont.)

Region 1	Region 2	Region 3	
890 - 942	890 - 942	890 - 942	
FIXED	FIXED FIXED		
BROADCASTING	RADIOLOCATION	MOBILE	
Radiolocation		BROADCASTING	
265),/200 2650/221		Radiolocation	
3654/329 3659/331 3662/333 3669/339A	3669/339A 3670/340	3668/339 3669/339A	
942 - 960	942 - 960	942 - 960	
FIXED	FIXED	FIXED	
BROADCASTING		MOBILE	
		BROADCASTING	
3654/329 3659/331 3662/333 3669/339A	3669/339A	3667/338 3668/339 3669/339A	

 $\underline{\text{Reasons}}$ : The non-aligned countries consider the maintenance of the present allocations in this band to be essential.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 4 to
Document No. 105-E
20 November 1979
Original: English

COMMITTEES 5 AND 7

# Federal Republic of Nigeria

#### DRAFT RESOLUTION

Relating to the Convening of a Regional Broadcasting Conference to Review and Revise the Provisions of the Final Acts of the African VHF/UHF Broadcasting Conference (Geneva, 1963)

The World Administrative Radio Conference, Geneva, 1979,

# considering

- a) that the last African VHF/UHF Plan was drawn up in Geneva in 1963 for Sound Broadcasting in Band II (87.5 100 MHz) and for Television Broadcasting in Band I (41 68 MHz), Band III (174 223 MHz), Band IV (470 582 MHz) and Band V (582 960 MHz);
- b) that only a few African countries participated in, and benefited from the Plan which was drawn up sixteen years ago;
- c) that many more sovereign African countries have emerged and will need to be included in a new Plan;

## noting

- a) the extension of the primary allocation to the sound broadcasting service in Region 1 from 87.5 100 MHz to 87.5 108 MHz;
- b) the extension of the primary allocation to the television broadcasting service in Region 1 from 174 223 MHz to 174 230 MHz;

#### realizing

- a) that there is a need to up-date the existing Plan;
- b) that the existing Sound Broadcasting Plan should be modified to take into account the latest technical standards;

# resolves

that a Regional Conference be convened as soon as possible, preferably by 1981 to review and revise the provisions of the existing VHR/UHF Plan (Geneva, 1963) for the African Broadcasting Region;

#### invites the Administrative Council

to take all necessary steps for convening the Conference and to fix the date and agenda for the Conference;

#### requests the IFRB

to carry out the necessary engineering studies and preparations for the Conference.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1(Rev.1) to
Addendum No. 3 to
Document No. 105-E

9 November 1979 Original : English

COMMITTEE 5

# Federal Republic of Nigeria

RADIO ASTRONOMY ALLOCATION IN THE BAND 322 - 328.6 MHz

The delegation of Federal Republic of Nigeria,

# considering

- that a major project for the formation of International Institute of Space Sciences and Electronics and the construction of a Giant Equatorial Radio Telescope is envisaged as an important Afro-Asian collaborative effort in the field of science and technology;
- 2. that the major objective of the project is the development of self reliance and indigenous technological capabilities in the important areas of space technologies and electronics;
- 3. that the Institute will undertake basic research in radio astronomy utilizing the Giant Equatorial Radio Telescope designed and to be constructed as an indigenous effort;
- 4. that of special interest is the frequency band 322 328.6 MHz which has the desired octave spacing with the band 150.05 153 MHz and 602 614 MHz needed for continuum observation including the important deuterium spectral line;
- 5. that the deuterium line occurring at 327.4 MHz is fixed by nature and cannot be relocated to an alternative band;
- 6. that the band 322 328.6 MHz has been used by radio astronomers for a long time in many countries throughout the world;

strongly recommends that Committee 5 give careful consideration to the proposal by Nigeria to make a table allocation in the band 322 - 328.6 MHz to radio astronomy on a shared basis with fixed and mobile except aeronautical on a worldwide basis as detailed below:



	Region 1	Region 2	Region 3
NIG/105/59A MOD (Corr.1(Rev.1) to	273 - <del>328,</del> 6 <u>322</u>	FIXED	
Add.3)		MOBILE	
		MOD 3618/308A	
NIG/105/59B MOD (Corr.1(Rev.1) to	322 - 328.6	FIXED	
Add.3)		MOBILE (except aeronautica	1)
	*	RADIO ASTRONOMY	
		3622/310 3623/310A	
NIG/105/60 MOD (Corr.1(Rev.1) to	308A T	o read : The bands 240 - 322 MH	z and 335.4 - 399.9 MHz
Add.3)			
NIG/105/61 SUP (Corr.1(Rev.1) to	310		
Add.3)			
NIG/105/62 SUP	310A	eing unnecessary	
(Corr.1(Rev.1) to Add.3)			

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Addendum No. 3 to
Document No. 105-E
2 November 1979
Original: English

COMMITTEE 5

# Federal Republic of Nigeria

RADIO ASTRONOMY ALLOCATION IN THE BAND 322 - 328.6 MHz

The delegation of Federal Republic of Nigeria,

#### considering

- 1. that a major project for the formation of International Institute of Space Sciences and Electronics and the construction of a Giant Equatorial Radio Telescope is envisaged as an important Afro-Asian collaborative effort in the field of science and technology;
- 2. that the major objective of the project is the development of self reliance and indigenous technological capabilities in the important areas of space technologies and electronics;
- 3. that the Institute will undertake basic research in radio astronomy utilizing the Giant Equatorial Radio Telescope designed and to be constructed as an indigenous effort;
- 4. that of special interest is the frequency band 322 328.6 MHz which has the desired octave spacing with the band 150.05 153 MHz and 602 614 MHz needed for continuum observation including the important deuterium spectral line;
- 5. that the deuterium line occurring at 329.4 MHz is fixed by nature and cannot be relocated to an alternative band;
- 6. that the band 322 328.6 MHz has been used by radio astronomers for a long time in many countries throughout the world;

strongly recommends that Committee 5 give careful consideration to the proposal by Nigeria to make a table allocation in the band 322 - 328.6 MHz to radio astronomy on a shared basis with fixed and mobile except aeronautical on a worldwide basis as detailed below:



Page 2
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		Region 1	Region 2	Region 3
NIG/105/59A (Corr.1 to	MOD	273 - <del>328-6</del> <u>322</u>	FIXED	
Add.3)			MOBILE	
			MOD 3618/308A	
NIG/105/59B (Corr.1 to	MOD	<u>322</u> - 328.6	FIXED	
Add.3)			MOBILE (except aeronautica	ri)
			RADIO ASTRONOMY	
			3622/310 3623/310A	
NIG/105/60 (Corr.l to Add/3)	MOD	308A To	read : The bands 240 - 322 M	z and 335.4 - 399.9 MHz
NIG/105/61 (Corr.1 to Add.3)	SUP	310		
NIG/105/62 (Corr.1 to Add.3)	SUP	310A	ng unnecessary	

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 3 to
Document No. 105-E
20 October 1979
Original: English

COMMITTEE 5

# Federal Republic of Nigeria

PROPOSAL FOR THE WORK OF THE CONFERENCE

MHz 273 - 328.6

NIG/105/59A MOD (Add.3)

Region 1	Region 2	Region 3
273 - <del>328,6</del> <u>322</u>	FIXED	
	MOBILE	
	MOD 3618/308A	
<u>322</u> - 328.6	FIXED	
	MOBILE	
	RADIO ASTRONOMY	
	3622/310 3623/310A	

MOD 308A To read: The bands 240 - 322 MHz and 335.4 - 399.9 MHz ...

SUP 310

Being unnecessary

SUP 310A

Reasons: To provide required frequency band for the development of the radio astronomy service in Nigeria and collaborating Afro-Asian countries.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 2 to

Document No. 105-E

17 October 1979

Original: English

COMMITTEE 5

GENÈVE

### Federal Republic of Nigeria

PROPOSALS FOR THE WORK OF THE CONFERENCE

kHz 21 720 - 25 010

NIG/105/32A NOC

Region 1	Region 2	Region 3
22 000 - 22 720	MARITIME MOBILE	,

kHz 25 010 - 27 500

NIG/105/34A NOC

25 070 - 25 110 MARITIME MOBILE 224

Reasons: No change is required on these bands to enable long distant communications with our ships.

MHz 3 600 - 4 200

NIG/105/67A NOC

3 600 - 4 200

FIXED

FIXED-SATELLITE (Space-to-Earth)

Mobile

MHz. 5 925 - 6 425

NIG/105/68A NOC

5 925 **-** 6 425 FIXED

FIXED-SATELLITE (Earth-to-space)

MOBILE

 $\underline{\text{Reasons}}$ : These bands are already in use for our domestic satellites internal telecommunication networks.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to
Document No. 105-E
9 October 1979
Original : English

WORKING GROUP 5B

# Federal Republic of Nigeria

### PROPOSALS FOR THE WORK OF THE CONFERENCE

kHz 6 200 - 6 785

· · [	Region 1	Region 2	Region 3
NIG/105/28A MOD	6 200 <b>- 6-525</b> <u>6 585</u>	MARITIME MOBILE	
		3507/211 3508/211A	
NIG/105/28B MOD	<u>6 585</u> - 6 685	AERONAUTICAL MOBILE (R)	·
NIG/105/28C <u>NOC</u>	6 685 - 6 785	AERONAUTICAL MOBILE (OR)	

Reasons: Communications in the band 1 605 through 3 500 kHz in the West Coast of Africa, suffer enormously from statics and other atmospheric disturbances. In order to provide a more efficient service to the mariners approaching the coasts, this band adjustment is necessary.

The band adjustment will also increase our public correspondence with the mariners.

kHz 7 300 - 8 815

NIG/105/29A MOD	7 300 - <del>8-195</del> <u>8 050</u>	FIXED
NIG/105/29B MOD	8 050 - 8 815	MARITIME MOBILE
		3495/201A 3510/213

Reasons: To provide more avenue of communication for maritime mobile service, especially in the tropical regions.



kHz 11 975 - 13 200

	Region 1	Region 2	Region 3
NIG/105/29C MO	11 975 - <del>12-330</del> <u>12 200</u>	FIXED	
NIG/105/29D MO	12 200 - 13 200	MARITIME MOBILE	
		3510/213	

 $\underline{\text{Reasons}}$ : To provide more avenue for communications in the maritime mobile service in the tropical regions.

kHz 15 762 - 17 360

NIG/105/29E <u>NOC</u>	15 762 - 15 768 <del>15-768 - 16-46</del> 0	FIXED
NIG/105/29F MOD	15 768 - 17 360	MARITIME MOBILE
		3510/213

Reasons: To provide more space for the maritime mobile service, especially in the tropical regions.



# WORLD ADMINISTRATIVE **RADIO CONFERENCE**

(Geneva, 1979)

Document No. 105-E 30 May 1979

Original : English

PLENARY MEETING

# Federal Republic of Nigeria

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

#### INDEX

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#### TERMS AND DEFINITIONS

Very few definitions are modified in the Radio Regulations. This is to avoid confusion. The ones modified are to ensure clarity of thought.

#### ARTICLE N1/1

NIG/105/1

MOD . 3040/28

Broadcasting Service : A one direction radio communication service in which the transmissions are intended made available for direct good quality reception by the general public for whom these transmissions are intended. This-service-may-include-sound-transmissions. television-transmission-or-other-types-of-transmissions.

Reasons: 1. A broadcasting service is always a one direction radiocommunication system whereby the receiving end is not supposed to transmit. This fact is not reflected in the existing Radio Regulations.

2. Broadcasting plays an essential role in the creation of a better life in a better world. It provides information, assists in education and promotes culture and national identity. Broadcasting, therefore, is accepted as an essential requirement of every country. In developing countries, broadcasting is deeply engaged in supporting the efforts to accelerate their



general development. The existing definition does not reflect these facts and fails to indicate the requirements to fulfil this task. The proposed modification extends the sense of the existing definition to include transmission as well as reception.

- 3. The expression "for whom these transmissions are intended" implies that the broadcasting service transmits the broadcasting programmes, with the information comprising linguistic, cultural, historical and other similar characteristics which should be taken into account when considering the availability of these programmes for the general public.
- 4. The statement that "this service may include sound transmission, television or other types of transmissions" is redundant and superfluous.

NIG/105/2

MOD .

3113/84AQA Aeronautical Radionavigation-Satellite Service: A radionavigation-satellite service in which mobile earth stations rendering radionavigation service are located on board aircraft.

2. ARTICLES OF THE RADIO REGULATIONS (with the exclusion of Article N7/5)

#### ARTICLE N5/3

NIG/105/3

MOD

3282/117 Where, in adjacent Regions or sub-Regions, a band of frequencies is allocated to different services of the same category (see Sections I and II of Article N7/5), the basic principle is the equality of right to operate. Accordingly, the stations of each service in one Region or sub-Region must operate so as not to cause harmful interference to services in the other Regions or sub-Region. However, this does not apply to the frequency bands restricted to the broadcasting services in the tropical zone (see Article N28 No. 6218/425). In these bands the broadcasting service in the tropical zone will have priority over any other service in the adjacent Regions or sub-Regions.

Reasons: This is to enable full protection of a station in the tropical zone against interference from stations outside the tropical zone to be fully guaranteed.

#### ARTICLE N28

NIG/105/4

MOD

Reasons: 1. The deletion of the phrase "In principle" has an aim to avoid arbitrary exceptions in the application of the rule given in the definition and giving to it a more mandatory character. Agreed exceptions to this rule are possible in the framework of Article 4 (Special Agreements).

2. The substitution of the phrase "parameters of the transmitting system" for the word "power" allows for consideration of all technical factors linked to the general results that may be obtained in sound broadcasting or television transmitter.

#### ARTICLE N41

NIG/105/5 MOD

The word "officer" should be substituted for "operator" wherever it appears in the Article.

Reasons: The word "operator" is rather misleading. It gives an impression the person referred to is not versed in electronics.

#### ARTICLE N35

NIG/105/6

MOD

6640/1326C The frequency 3-023.5-kHz 3 023 kHz may be used for: intercommunication between mobile stations when engaged in coordinated search and rescue operations including communication between these stations and participating land stations with the carrier frequencies, classes of emission and conditions of operation defined in Appendix 27.

Reasons: To fall in with the WARC (1978) Aeronautical Plan.

#### 3. BROADCASTING

#### 3.1 BROADCASTING IN THE TROPICAL ZONE

#### Introduction

- The Radio Regulations define broadcasting in the tropical zone (Article N28 No. 6217/424) as a type of broadcasting for national internal use in countries situated in the tropical zone where it may be shown that because of the difficulty of high atmospheric noise and propagation, it is not possible to provide economically a more satisfactory service by using low, medium or very high frequencies.
- The frequency bands restricted to broadcasting in the tropical zone are as follows :-

2 300 - 2 498 kHz (Region 1)

2 300 - 2 495 kHz (Regions 2 and 3)

3 200 - 3 400 kHz (All Regions)

4 750 - 4 995 kHz (All Regions)

5 005 - 5 060 kHz (All Regions)

Article N28, Section 1 states that within the tropical zone, the broadcasting service has priority over other services with which it shares the bands. It is evident from experience that the other services with which broadcasting service shares the bands cause harmful interference to the broadcasting service.

NIG/105/7

#### PROPOSAL A (Article N28)

The frequency bands restricted to broadcasting in the tropical zone should be used EXCLUSIVELY for tropical zone countries. Use of these frequency bands in countries outside the tropical zone should not be permitted because transmitters located in other zones operating on these bands will cause harmful interference to the reception intended specifically for the tropical zone areas.

Page 4

NIG/105/8

#### PROPOSAL B (Article N28)

Band sharing with broadcasting services should be discontinued if tropical broadcasting bands are to be used effectively for broadcasting.

#### ARTICLE N15/10

#### 3.2 SEASONAL HIGH FREQUENCY BROADCASTING

Frequencies above 5 060 kHz are normally used for international broadcasting but are also very useful in providing a national broadcasting service since they allow the use of optimum frequencies. The problem here is that of competition from foreign broadcasts. The Radio Regulations as at present, permit any country to broadcast into another country and to use any power desired. Ironically, the existing "first served" principle does not permit the receiving country to use that particular frequency. There are suggestions that the HF broadcasting bands be expanded but this will not benefit developing countries unless the increased bands are used according to an allocation plan.

NIG/105/9

#### PROPOSAL C (Article N15/10)

This organization proposes that a world-wide conference on HF broadcasting be organized to plan the effective utilization of HF and to provide an allocation plan.

#### 3.3 SINGLE SIDEBAND (SSB) BROADCASTING

The advantage of the future use of SSB system for HF broadcasting include better performance of SSB as regards transmitter power and inselective fading conditions. SSB will in future provide effective answer to the problem of accommodating more radio broadcasting services in the available band resulting in an economical utilization of the frequency spectrum. The following difficulties associated with the adoption of SSB must be recognized however:

- a) Reception of SSB suppressed carrier transmissions would require a total replacement of existing receivers which are designed for the reception of DSB transmissions.
- b) Due to high stability of the local oscillators and other complicated design features incorporated in SSB suppressed carrier receivers, better and more expensive maintenance techniques would be required in order to keep such receivers operational.
- c) In poor developing countries it would be extremely difficult for the masses to understand and appreciate the justification for such conversion as a result of which listening habits would probably drop due to non-availability of the new type of receivers.

NIG/105/10

#### PROPOSAL D (Agenda item 2.10)

Obviously, more studies are still necessary on the operational aspect of the introduction of SSB, in particular to overcome the difficulties arising from the existing transmitters and receivers. This

organization, therefore, recommends that a future conference be convened to consider the technical and economical aspects of SSB in HF broadcasting.

#### 3.4 VHF BROADCASTING

The exploitation of VHF represents the most efficient means of ensuring the future development of sound broadcasting. Allocations in this band are different in many countries many of which permit sharing of broadcasting with other services.

NIG/105/11

PROPOSAL E (Article N7/5)

This organization proposes the allocation of the frequency band 88-108 MHz to the broadcasting service world-wide on an exclusive basis.

AFRICAN VHF/UHF PLAN

NIG/105/12

PROPOSAL F (Agenda item 2.10)

It is also recommended that WARC 79 should consider the revision, by a future conference, of the African VHF/UHF Broadcasting Plan (1963), the implementation of which has not been successful for economical and political reasons.

#### 3.5 LF BROADCASTING

A contribution from Asia Pacific Broadcasting Union (Document No. P/154) to the SPM proves the feasibility of LF broadcasting also in the tropical areas. And a contribution from UK (Document No. P/25) indicates that harmful interference will result from the sharing of the same band within the same Region.

NIG/105/13

PROPOSAL G (Agenda item 2.10)

Since the 1975 LF/MF plan did not include an LF broadcasting plan for the majority of countries in Africa a future Regional Planning Conference of LF broadcasting for the countries so left out will have to be convened.

#### 3.6 FREQUENCIES FOR OUTSIDE BROADCASTING

The Nigerian Administration supports the view that a new auxiliary broadcasting service should be created to meet the requirements of outside broadcasting (sound and television). It is recommended that measures be taken to include explicitly the frequency allocations for such a service in the bands of the fixed and mobile services.

#### 4. RADIO ASTRONOMY

This service is considered quite important. Consequently, a number of bands, which would otherwise have been shared with other services, have been made exclusive to radio astronomy.

#### 5. AMATEUR RADIO

In recognition of the great contribution rendered to humanity, amateur radio has been given prominence in the scheme of things.

. The amateur radio among other things helps in the training of electronic personnel; contributes immensely towards research and development; assists during rescue operations, e.g., during distress working and helps in unifying the world irrespective of race, colour, political ideology, etc.

#### 6. CONCLUSIONS OF NAIROBI SEMINAR

The Nigerian Administration fully endorses the conclusions of the Regional Seminar Preparatory to WARC 1979. They are as follows:-

#### 6.1 TROPICAL BROADCASTING

Conclusions relating to broadcasting in the tropical zone as well as the HF bands with a view to maintaining at least the existing priorities to broadcasting bands in the tropical zones and ensuring protection to the use of HF bands for national coverage. Because the tropical zone covers developing countries where particular noise level and propagation criteria prevail, the use of the BC bands in the tropical zones is essential for these countries; to this effect the power limitations referred to in the SPM Report to the WARC should be reconsidered.

#### 6.2 HF EXTERNAL BROADCASTING

The participants in the seminar consider that their countries are entitled to use the exclusive HF broadcasting bands for their external broadcasting service and that their limited use of this band should be afforded some protection either by extending the band allocated to this service or by providing for a planning conference.

#### 6.3 HF BAND (FIXED AND MOBILE)

On the question concerning the HF bands (fixed and land mobile service) many developing countries will continue to use HF band for national as well as for international services essentially for economic reasons and for several more years to come.

It has been noted that congestion in the band creates serious problems; the participants in the seminar should, therefore, request that their delegations to WARC-79 study and formulate proposals in such a way that:

- a) this portion of the band continues to be placed at the disposal of these services;
- b) to see to it that WARC-79 takes necessary measures in order that those countries that can use other means of transmission release frequency assignments in this band; and
- c) formulate proposals to the effect that priority be given to developing countries in connection with the choice and the registration of frequencies in these bands.

#### 6.4 VHF BAND (FIXED AND MOBILE)

The participants in the seminar noted the continued use of VHF bands to provide fixed mobile and BC services. The participants should urge their delegation to the WARC-79 to make proposals with a view to apportionate the bands to their requirements. The participants should also request their delegates to recommend the revision of the Geneva 1963 Agreement.

#### 6.5 LF BROADCASTING

The participants discussed the use of the LF band for BC in the tropical area in particular from the point of view of its suitability despite the noise level existing in the area and this use was considered possible.

#### 6.6 BROADCASTING IN THE 1 GHz BAND

The participants noted that satellite sound broadcasting in the 1 GHz band shows interesting prospects for the developing countries; they should, therefore, request their delegations to the WARC-79 to take this into account when formulating their proposals.

#### 6.7 SSB BROADCASTING

Due to economic and technical reasons, participants recommend that a transition period as long as possible should be allowed to convert to SSB techniques in the HF bands.

# 6.8 PROPAGATION MEASUREMENTS AND STUDIES IN THE TROPICAL COUNTRIES

It was recognized that propagation studies concerning Africa and the Arab countries do not contain all the data required for planning in many frequency bands. Participants should urge their Administrations to initiate in the framework of the pertinent CCIR questions, measurements campaigns through their national relevant organ, universities, etc.

Regional organizations such as PATU, ATU, URTNA, ASBU and UAPT should be requested to collaborate in these studies. UNDP/ITU assistance should be requested as necessary.

### 6.9 BASIS FOR ESTABLISHING WORLD REGIONS

Participants noted that many changes have occurred since Atlantic City 1947 Conference adopted the present division of the world in the 3 Regions. It would be desirable that the WARC-79 request the CCIR to undertake the study as to whether there should be a better division, taking into account the relevant factors including development of countries, climatic and geographical conditions.

#### 6.9.1 THE GEOSTATIONARY ORBIT

Since the geostationary orbit is limited in both physical and electrical senses and in order to reserve the right of all countries in the world to have an access to it on equal rights basis and not on "first come first served" basis, and since congestion is already experienced in certain areas such as the Indian Ocean, therefore, the participating countries in this seminar should urge the delegates to WARC-79 to safeguard their equal rights.

Participants should also urge their delegations to the conference to make appropriate proposals with a view to making an efficient implementation, in the interest of the developing countries of the principles existing in the Convention and the Radio Regulations.

However, some participants made statements relating to the claim of equatorial countries for sovereignty on certain portions of the orbit. It was noted that this question is under study by Governments in the United Nations.

#### 6.9.2 MINIMUM EQUIPMENT SPECIFICATIONS

Regional organizations such as ATU, URTNA, UAPT, PATU and ASBU, etc., must organize technical groups to establish minimum technical standards and specifications for all communication equipment that could be offered to African and Arab countries. This is necessary to safeguard those countries who have not sufficient expertize from accepting equipment dumped on them and also to forestall the interference problems that may be experienced by neighbouring countries. Where external assistance would be necessary this should be sought from other institutions, including the ITU.

Participants should inform their national delegations on the need for the WARC-79 to establish, for the adoption of any new specification, a calendar which will fit with the equipment used in their country.

# 6.9.3 RADIO REGULATIONS AND MEASURES AGAINST HARMFUL INTERFERENCE

The seminar noted the deficiency in the present Radio Regulations on measures against harmful interference. The Regulations have no protection for a lawful station that suffers interference.

The use of satellite for national and international broadcasting seemed in the opinion of the delegates that a sort of mandatory Regulation be incorporated in the Radio Regulations whereby a station that causes interference to other stations would automatically be required to close down. The solution of interference on mutual cooperation could not stand the test of time in that the solutions usually took a very long time to materialize. A case in point is where the interfering station refused to vacate the frequency, the matter would be referred to arbitration which has no mandatory force to shut the station down.

Participants are urged to mandate their delegates to press for the revision of the Radio Regulations to incorporate mandatory protection for lawful stations.

The participants discussed questions concerning the Radio Regulations and the preparation of the WARC-79 and noted how the countries of the Region should systematically prepare the conference giving special consideration to:

- a study of the preferred bands to cover their future needs;
- the suitability of consulting neighbouring countries with a view to coordinating as much as possible the results of the studies; and
- a regular perusal of other countries' proposals.

#### ARTICLE N7/5

# Table of Frequency Allocations

<u>Note</u>: These proposals reflect the Nigerian Administration's requirements for the next 20 years.

kHz 150 - 160

		Allocation to Services			
		Region 1			
NIG/105/14	MOD	150 - 160			
		MARITIME MOBILE 3461/167 3467/174	)		
		BROADCASTING			
		3468/175			

Reasons: For extension of national service.

Remark concerning footnote 3468/175: This must be preceded by frequency planning.

kHz 255 - 285

NIG/105/15 MOD

255 - 285

MARITIME-MOBILE-3467/174

BROADCASTING

AERONAUTICAL RADIONAVIGATION

3469/176 3470/177 3471/178

Reasons: This is in keeping with the Recommendation of LF MF Broadcasting Conference 1975 and consequent upon suggestions made by the 3rd World African Experts that the band should be reserved exclusively for broadcasting.

NIG/105/16 SUP 3470/177

NIG/105/17 SUP 3471/178

Reasons: Consequential to changes.

kHz ·1 605 - 2 000

	Region 1	Region 2	Region 3
NIG/105/18 MOD	1 605 - 2-000 1 800	1 605 - 1 800 (NOC)	1 605 - 1 800 (NOC)
	FIXED	FIXED	FIXED
	MOBILE except aeronautical mobile	MOBILE	MOBILE
	geronautical mobile	AERONAUTICAL RADIONAVIGATION	·
		Radiolocation	3491/197
NIG/105/19 MOD (WW)*)	1 800 - 2 000	1 800 - 2 000 (NOC)	
(ww)	AMATEUR	AMATEUR	
	FIXED	FIXED	
	MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	
	RADIONAVIGATION	RADIONAVIGATION	
1 1	3485/192 3487/193 3488/194 3489/195 3490/195A	3492/198	

Reasons: To provide world-wide service of amateur, fixed, mobile except aeronautical mobile and radionavigation.

<sup>\*)</sup> Denotes proposals concerning regional allocations which, if adopted, result in world-wide allocations.

kHz 2 300 - 2 498

NIG/105/20 MOD

Region 1	Region 2	Region 3
2 300 - 2 498	2 300 - 2 495	
Fixed	FIXED	
MOBILE-except aeronautical-mobile-(R)	MOBILE	
	BROADCASTING 3496/202	
BROADCASTING 3496/202		
3487/193 3490/195A		

Reasons: Exclusively for tropical zone broadcasting.

 $/\overline{\text{MOD}}$  3495/201A, see under 2 850 - 3 025 kHz $/\overline{}$ 

kHz 2 850 - 3 025

NIG/105/21 MOD

2 850 - 3 025	AERONAUTICAL MOBILE (R)
	•
	MOD 3495/201A MOD 3500/205A

kHz 3 200 - 3 400

		Region 1	Region 2	Region 3
NIG/105/22	MOD	3 200 - 3 230	FIXED	•
·			MOBILE-except-aeronautical	-mobile-(R)
	•		BROADCASTING 3496/202	
NIG/105/23	MOD	3 230 - 3 400	FIXED	
			MOBILE-except-aeronautical	-mobile
			BROADCASTING 3496/202	
NIG/105/2h	MOD	3495/201A The 8 364 kHz (rest withou	frequencies 2 182 kHz, 3-025 t change).	3.5 <u>3 023</u> kHz, 5 680 kHz,
		Reasons: To fall in line	with WARC (Aeronautical plan	1) 1978.
NIG/105/25	MOD		frequencies 3-023.5-kHz 3 02 with (rest without char	
		Reasons : To fall in line	with WARC (Aeronautical) 197	78.
			kHz 3 950 - 4 000	
NIG/105/26	MOD	3 950 - 4 000		

FEXED

aeronautical mobile

BROADCASTING

 $\underline{\text{Reasons}}$ : To make provision for mobile except aeronautical mobile as bands have previously been allocated for broadcasting.

kHz 4 850 - 5 250

		Region 1	Region 2	Region 3
NIG/105/27	MOD	4 850 - 4 995	FIXED	
			LAND-MOBILE	
	-		BROADCASTING 3496/202	
	NOC	4 995 - 5 005	STANDARD FREQUENCY 3498/203	BA 3506/210
NIG/105/28	MOD	5 005 - 5 060	FIXED	
			BROADCASTING 3496/202	
	NOC	5 060 - 5 250	FIXED	

Reasons : To meet world-wide requirements for tropical zone broadcasting.

kHz 7 100 - 7 300

NIG/105/29	5/29 MOD (WW)	7 100 - 7 300	7 100 - 7 300	7 100 - 7 300
	( w w )	BROADCASTING	AMATEUR	BROADCASTING
		3509/212	BROADCASTING	

Reasons: To meet world-wide requirements for broadcasting.

kHz 18 030 - 18 052

NIC/105/30	MOD	18 030 - 18 052	MARITIME MOBILE	
			FIXED	

kHz 20 010 - 21 000

NIG/105/31	MOD	20 010 - <del>21</del> - <del>000</del> <u>20 060</u>	FIXED	!
NIG/105/32	MOD	<u>20 060</u> - 21 000	FIXED	
			MARITIME MOBILE	

 $\underline{\text{Reasons}}$  : To provide for world-wide maritime service.

kHz 22 720 - 23 200

		Region 1	Region 2 Region 3
NIG/105/33	MOD	22 720 - 23 200	FIXED
			<u>3517A</u>
NIG/105/34	ADD ·	3517A	In Nigeria this band is also used for radiosondes.
			kHz

kHz 25 110 - 25 600

NIG/105/35	MOD	25 110 - <del>25</del> - <del>6</del> 00 <u>25 200</u>	25 200 FIXED	
			MOBILE-except-aeronautical-mobile	
			RADIO ASTRONOMY	
NIG/105/36	MOD	<u>25 200</u> - 25 600	FIXED	
			MOBILE except aeronautical mobile	

 $\underline{\text{Reasons}}$  : To provide for world-wide radio astronomy service.

MHz 27.5 - 28

NIG/105/37	NIG/105/37 MOD (WW)	27.5 - 28	27.5 - 28 (NOC)
		METEOROLOGICAL AIDS	METEOROLOGICAL AIDS
		FIXED	FIXED
		MOBILE	MOBILE
		3524/227	

MHz 30.01 - 37.75

NIG/105/38	MOD	30.01 - 37.75	RADIO ASTRONOMY
			FIXED
			MOBILE

Reasons : Required for world-wide use.

NIG/105/39 SUP 3524/227 No longer required.

MHz 75.2 - 100

		Region 1.
NIG/105/40	MOD	75.2 - 87.5
		FIXED
		MOBILE except aeronautical mobile
		MOD 3562/263
NIG/105/41	MOD	87.5 - <del>100</del> <u>88</u>
		BROADCASTING
		FIXED
		MOBILE except aeronautical mobile
		3562/263
NIG/105/42	MOD	88 - 100
		BROADCASTING

 $\underline{\text{Reasons}}$ : To provide more band for fixed and mobile except aeronautical mobile services.

Pro mem.: Consequential changes to other footnotes as required.

NIG/105/43 MOD 3562/263 In Nigeria, Sierra Leone and Gambia, the band 86 - 87.5 88 is also allocated to the broadcasting service.

MHz 100 - 108

		Region 1	Region 2	Region 3
NIG/105/44	NIG/105/44 MOD 100 - 108		100 - 108 (NOC)	
	(,	MOBILE-except aeronautical-mobile-(R)	BROADCASTING	
		BROADCASTING		
		3568/269 3569/270 3570/271	3554/255 3555/256 3557/2	58 3566/267 3571/272

Reasons: Extending FM broadcasting for tropical zone.

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NIG/105/45 SUP 3568/269.

NIG/105/46 SUP 3569/270

NOC 3570/271

MHz 132 - 136

Region 1 Region 2 Region 3

NIG/105/47 MOD 132 - 136 AERONAUTICAL MOBILE (R)

3573/273A 3574/274 3575/274B 3575/274B 3577/275

NIG/105/48 SUP 3575/274A

Obsolete.

NIG/105/49 SUP 3577/275

Obsolete.

Reasons: To meet the requirement of aeronautical mobile service after 1 January 1976.

MHz 138 - 143.6

NIG/105/50 MOD

138 - 143.6

AERONAUTICAL MOBILE (OR)

FIXED

3577/275

Reasons: To provide additional fixed service for Region 1.

Pro mem.: Consequential changes to other footnotes as required.

MHz .174 - 235

NIG/105/51 N

NOC | 174 - 216

BROADCASTING

3599/291 3600/292 3601/293 3602/294

NIG/105/52 MOD

216 - 223

AERONAUTICAL RADIONAVICATION

BROADCASTING

3605/297 3606/298 3607/299 3608/300

3609/301

MHz 174 - 235 (cont.)

Region 1 NIG/105/53 MOD 223 - <del>235</del> 230 AERONAUTICAL RADIONAVIGATION Fixed Mobile BROADCASTING 3607/299 3608/300 3609/301 NIG/105/54 MOD 230 - 235 AERONAUTICAL RADIONAVIGATION Fixed Mobile

Reasons: Aeronautical radionavigation to vacate the 216 - 223 MHz band in compliance with Recommendation No. 1 of the African VHF/UHF Plan 1963.

 $\,$  Band 223 - 230 MHz is to be exclusively allocated to broadcasting service while 230 - 235 MHz is to be exclusively allocated to aeronautical service.

NIG/105/55 SUP 3605/297 NIG/105/56 SUP 3606/298 NIG/105/57 SUP 3607/299 NIG/105/58 SUP 3608/300 NIG/105/59 SUP 3609/301

> MHz 942 - 960

NIG/105/60 MOD

Region 1	Region 2	Region 3			
942 - 960	942 - 960 (NOC)	942 - 960 (NOC)			
FIXED	FIXED	FIXED			
BROADCASTING		MOBILE			
·		BROADCASTING			
3654/329 3659/33± 3662/333 3669/339A	3669/339A	3667/338 3668/339 3669/339A			

Reasons: To make the band exclusive to satellite broadcasting (sound).

Pro mem.: Consequential changes to footnotes as required.

MHz 1 429 - 1 525

NIG/105/61 MOD

Region 1

1 429 - 1 525

FIXED

MOBILE except
aeronautical mobile

BROADCASTING-SATELLITE

Reasons: To provide broadcasting-satellite service for developing countries.

MHz 1 660 - 1 670

NIG/105/62 MOD

Region 1	Region 2	Region 3
1 660 - 1 670	METEOROLOGICAL-AIDS	
	RADIO ASTRONOMY	
	3696/353A 3697/354 3698/3	54A 3699/354B

Reasons: To provide separate band for radio astronomy.

MHz. 2 500 - 2 655

NIG/105/63 MOD

2 500 **-** 2 **5**50 2 500 - 2 535 (NOC) FIXED 3721/364C FIXED 3721/364C MOBILE except FIXED-SATELLITE aeronautical mobile (Space-to-Earth) BROADCASTING-SATELLITE MOBILE except aeronautical mobile 3715/361B BROADCASTING-SATELLITE 3715/361B FIXED-SATELLITE 3714/361A 3723/364E 3724/364F (Space-to-Earth) 2 535 - 2 550 (NOC) FIXED 3721/364C MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3714/361A 3716/362 3724/364F 3714/361A 3724/364F

MHz 2-500 - 2 655 (cont.)

	Region 1	Region 2	Region 3				
NOC	2 550 - 2 655	FIXED 3721/364C					
		MOBILE except aeronautical	mobile				
		BROADCASTING-SATELLITE 371	5/361в				
		3716/362 3717/363 3718/3	64 3724/367F				

Reasons: To provide down-link for fixed-satellite service.

MHz 2 655 - 2 700

NIG/105/64	MOD	2 655 - 2 690	2 655 - 2 690 (NOC)
		FIXED 3721/364C 3722/364D	FIXED 3721/364C 3722/364D
		MOBILE except aeronautical mobile	FIXED-SATELLITE (Earth-to-space)
			MOBILE except aeronautical mobile
		BROADCASTING-SATELLITE 3715/361B 3726/364H	BROADCASTING-SATELLITE 3715/361B 3726/364H
		FIXED-SATELLITE	
		3717/363 3718/364 3724/364F 3725/364G	3723/364E 3724/364F 3725/364G
NIG/105/65	MOD	2 690 - 2 700	RADIO ASTRONOMY
		•	Earth exploration (space research)
			3531/233B 3717/363 3719/364A 3720/364B

Reasons : To provide up-link for fixed-satellite service and to provide facilities for space research and earth exploration-satellite service.

MHz 3 300 - 3 400

NIG/105/66	MOD (WW)	3. <b>3</b> 00 - 3 400	3. 300 - 3 400
	(ww)	RADIOLOCATION	RADIOLOCATION
		AMATEUR	Amateur
			AMATEUR
		3733/370 3734/371	3739/376

Reasons : To provide for world-wide amateur service.

MHz 3 400 - 3 600

NIG/105/67 MOD

Region 1	Region 2	Region 3
3 400 - 3 600	3 400 - 3 500	
FIXED	FIXED-SATELLITE (Space-to-Earth)	
FIXED-SATELLITE   (Space-to-Earth)	RADIOLOCATION ·	
MOBILE	Amateur	
Radiolocation	AMATEUR	
AMATEUR		

Reasons: To provide for world-wide amateur service.

MHz 4 990 - 5 000

NIG/105/68 MOD (WW)

•	4 990 - 5 000	4 990 - 5 000 (NOC)	4 990 - 5 000
	F <del>IXED</del>	RADIO ASTRONOMY	RADIO ASTRONOMY
	MOBILE		FIXED
	RADIO ASTRONOMY		MOBILE
	3531/233B	3749/383A	3531/383A

Reasons: To provide a realistic band for radio astronomy.

GHZ 15.7 - 17.7

NIG/105/69 MOD NIG/105/70 MOD

15.7 - <del>17.</del> 7 <u>16.7</u>	RADIOLOCATION
<u> 16.7</u> - 17.7	RADIOLOCATION
	SPACE RESEARCH
	EARTH EXPLORATION-SATELLITE

 $\underline{\text{Reasons}}:$  To provide facilities for space research and earth  $\underline{\text{exploration-satellite}}$  service.

GHz 48 - 50

Reasons : To provide for amateur service.

GHz 105 - 130

NIG/105/72 MOD 105 - 130 INTER-SATELLITE

RADIO ASTRONOMY

SPACE RESEARCH

EARTH EXPLORATION-SATELLITE

 $\overline{\text{Reasons}}$ : To provide additional service for radio astronomy, space research and exploration-satellite.

GHz 152 - 170

NIG/105/73	MOD	152 - <del>170</del> <u>158</u>	(Not-allocated)
·			AMATEUR-SATELLITE
			RADIOLOCATION
NIG/105/74	MOD	<u>158</u> - 170 .	(Not allocated)

Reasons: To provide for amateur satellite and radiolocation services.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 2 to
Document No. 106-E
19 October 1979
Original: English

COMMITTEE 5

# Republic of Kenya

PROPOSAL CONCERNING ARTICLE N7/5 - SECTION IV

The Republic of Kenya proposes the following addition in the frequency band 273~MHz-328.6~MHz on primary basis and modification to footnote 3622/310:

MHz 273 - 328.6

KEN/106/114 MOD (Add.2)

Region 1	Region 2	Region 3					
273 - 328.6	FIXED						
	MOBILE, except aeronautical mobile						
	RADIO ASTRONOMY						
	MOD 3622/310 3618/308A 3	623 <del>/310A</del>					

KEN/106/115 MOD (Add.2)

3622/310 Radio astronomy observations in the band 322 MHz - 328.6 MHz are carried out in a number of countries under national arrangements.

Administrations should are urged bear-in-mind-the-needs-of radio-astronomy-service-in-using-this-band to take all practical steps to prevent harmful interference to these observations.

Reasons: Due to the importance of the work carried out by the radio astronomy in this band, this service should be accorded the protection it deserves.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to
Document No. 106-E
15 October 1979
Original: English

COMMITTEE 5

# Republic of Kenya

# PROPOSALS CONCERNING ARTICLE N7/5

In view of current and planned use of some frequencies in the Table of Allocations the Republic of Kenya proposes the following, for Region 1, in the bands listed below:

KEN/106/50 (Add.1)	NOC	Allocations	appearing	in	box		525	-		535	kHz		-	
KEN/106/51 (Add.1)	NOC	"		11			535	-	1	605	kHz			
KEN/106/52 (Add.1)	NOC	11		11		2	300	-	2	498	kHz			
KEN/106/53 (Add.1)	NOC	11		11		2	850	-	3	025	kHz			
KEN/106/54 (Add.1)	NOC	11		11		3	200	-	3	230	kHz			
KEN/106/55 (Add.1)	NOC			11 .		3	230	-	3	400	kHz			
KEN/106/56 (Add.1)	NOC			11		3	400	-	3	500	kHz			
KEN/106/57 (Add.1)	NOC	<b>"</b>		II .		3	950	<del>-</del>	4	000	kHz			
KEN/106/58 (Add.1)	NOC	, <b>"</b>		11	•	4	063	-	4	438	kHz			
KEN/106/59 (Add.1)	NOC	11	,	##		14	650	-	4	700	kHz			
KEN/106/60 (Add.1)	NOC	11		11		4	750	-	4	850	kHz			
KEN/106/61 (Add.1)	NOC	<b>!!</b> :		11		4	850	-	4	995	kHz			
KEN/106/62 (Add.1)	NOC	. "		11		5	005	-	5	060	kHz			
KEN/106/63 (Add. 1)	NOC	. 11		11		5	480	_	5	680	kHz			
KEN/106/64 (Add.1)	NOC	11	÷	11		5	950	-	6	200	kHz			
KEN/106/65 (Add.1)	NOC			"		6	200	-	6	525	kHz			
KEN/106/66 (Add.1)	NOC	**		11		6	525	-	6	685	kHz			
KEN/106/67 (Add.1)	MOD	11				7	100	-	7	300	kHz	(SUP	212	2)
KEN/106/68 (Add.1)	NOC	. "		"		8	195	-	8	815	kHz			



KEN/106/69 (Add.1)	NOC	Allocations	appearing	in	box	8	815	-	8	965	, kHz
KEN/106/70 (Add.1)	NOC	**		11		9	500	_	9	<b>77</b> 5	kHz
KEN/106/71 (Add.1)	NOC	<b>11</b>		Ħ		10	005	-	10	100	kHz
KEN/106/72 (Add.1)	NOC			**		11	275	-	11	400	kHz
KEN/106/73 (Add.1)	NOC	11		11	*	11	700	_	11	975	kHz
KEN/106/7 <sup>1</sup> 4 (Add.1)	NOC			11 -		12	330	-	13	200	kHz
KEN/106/75 (Add.1)	NOC	. #		11		13	260	-	13	360	kHz
KEN/106/76 (Add.1)	NOC	"		**		14	350	-	14	990	kHz
KEN/106/77 (Add.1)	NOC			**		15	100	-	15	450	kHz
KEN/106/78 (Add.1)	NOC	<b>!!</b>		**		15	450	-	15	762	kHz
KEN/106/79 (Add.1)	NOC	n ·		"		15	768	-	16	460	kHz
KEN/106/80 (Add.1)	NOC	11		**		16	460	-	17	360	kHz
KEN/106/81 (Add.1)	NOC			11		17	360	-	17	700	kHz
KEN/106/82 (Add.1)	NOC	11				17	700	-	17	900	kHz
KEN/106/83 (Add.1)	NOC	11 .		**		17	900	-	17	970	kHz
KEN/106/84 (Add.1)	NOC	11		11		18	068	-	19	990	kHz
KEN/106/85 (Add.1)	NOC	TT .		**		21	450		21	<b>7</b> 50	kHz
KEN/106/86 (Add.1)	NOC	11		"	•	22	000	_	22	720	kHz
KEN/106/87 (Add.1)	NOC	11		11		22	720	-	23	200	kHz
KEN/106/88 (Add.1)	NOC -	11		11		23	350	_	24	990	kHz
KEN/106/89 (Add.1)	NOC	<b>11</b>		11		25	010	-	25	070	kHz
KEN/106/90 (Add.1)	NOC	11		**		25	600	-	26	100	kHz
KEN/106/91 (Add.1)	NOC			**		1	·1	-		47	MHz
KEN/106/92 (Add.1)	NOC			11		).	17	-		68	MHz
KEN/106/93	NOC			**		8	37.5	_		100	MHz

		•								• · · · · · · · · · · · · · · · · · · ·
KEN/106/94 (Add.1)	NOC	Allocations	appearing	in	pox	108	-	117.975	MHz	
KEN/106/95 (Add.1)	NOC	••		**		174	-	216	MHz	
KEN/106/96 (Add.1)	NOC	11		11		328.6	-	335.4	MHz	
KEN/106/97 (Add.1)	NOC	11		11		582		606	MHz	
KEN/106/98 (Add.1)	NOC	11		11	•	606	-	790	MHz	
KEN/106/99 (Add.1)	NOC	11		11		790	<del>-</del>	890	MHz	
KEN/106/100 (Add.1)	NOC	**		11		890	-	942	$M_{\rm Hz}$	
KEN/106/101 (Add.1)	NOC	**		11		942	-	960	MHz	
KEN/106/102 (Add.1)	NOC	" .		ŧŧ		960	- 1	215	MHz	
KEN/106/103 (Add.1)	NOC	**		**	1	215	- 1	300	MHz	*
KEN/106/104 (Add.1)	NOC	**		11	1	300	- 1	350	MHz	
KEN/106/105 (Add.1)	NOC	**		11	1	350	- 1	400	MHz	
KEN/106/106 (Add.1)	MOD			***	1	429	- 1	525	MHz	(ADD : BROADCASTING-SATELLITE)
KEN/106/107 (Add.1)	NOC	**		**	2	500	- 2	655	MHz	
KEN/106/108 (Add.1)	NOC	**		11	2	655	- 2	690	MHz	
KEN/106/109 (Add.1)	NOC	11		11 	3	600	- 4	200	MHz	
KEN/106/110 (Add.1)	NOC	***		tt	5	925	- 6	425	MHz	
KEN/106/111 (Add.1)	NOC	"		**	6	425	- 7	250 -	MHz	
KEN/106/112 (Add.1)	NOC	**		11		11.7	_	12.5	GHz	
KEN/106/113 (Add.1)	NOC	11		11		14	-	14.3	GHz	en e

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 106-

18 May 1979

Original : Englis

PLENARY MEETING

## Republic of Kenya

PROPOSALS FOR THE WORK OF THE CONFERENCE

## 1.1. GENERAL

The current Table of Frequency Allocations as covered under Article N7/5 of the Radio Regulations has for our purposes been made complex and it is our view that there is need to simplify the text to allow for increased flexibility.

We have instances where exclusive allotments have been made to the Fixed and Land Mobile Services when the two could easily share the same band whilst retaining a Primary status. Secondly we believe that within the short range communication bands i.e. VHF and UHF, Broadcasting Services and Fixed Services can easily be accommodated within similar bands without involving heavy penalty on performance on either services.

#### 1.2. (a) MARITIME MOBILE SERVICES

There appears to exist a move for the creation of more spectrum for maritime-mobile services.

In Kenya our requirements for point-to-point communication and public correspondence by use of HF band as a medium of radiocommunication are expected to continue for a decade or more.

1.2.(b) It is evident that Maritime Mobile Service in the Indian Ocean will, in due course, be replaced by Satellite Communication through the <u>Marisat System</u>. However, we cannot envisage all ships sailing in this area, particularly the small vessels, being in a



position to install Satellite Communication antennas and the associated equipment owing to obvious economic reasons. Hence in order to continue providing communication to such ships by either radiotelephone or radiotelegraph services, the present allocated frequencies in the HF band will have to be retained.

### 1.3. RADIOLOCATION

In recent years, there has been significant increase in the use of Non-Directional Beacons (NDBs) for various purposes, such as general aviation as en-route aids, small air fields and for the convenience of helicopters for oil exploration drilling platforms and pipeline Companies. On larger airports, MF locators also remain indispensable either for the establishment of noise abatement procedures or to mark the starting point for go-around procedures or obstacle clearance in difficult locations.

In Kenya, the radio beacons include those in the aeronautical services, the Kenya Police, Army and Airforce. They occupy a band of frequencies between (218-470 kHz). With the present and expected steady increase in the general aviation operations in the various parts of the country, NDBs will retain their importance and will increase in numbers to such an extent that additional frequency spectrum will be required to fulfill the need for new installations. Recent studies by certain ICAO contracting states indicate that it is quite practical for geographically disparate regions to use different bands within the tuning range capability of existing avionics equipment and still offer compatible international operation. From the propagation standpoint the study considered it desirable to select a new band(s) for NDBs with the lowest possible frequency which presently is of the order of 190 KHz (Or some 200 KHz).

The frequency bands assigned to the Radio Navigation service for Radio Beacons and Locators in Region 1 are smaller than in other Regions due to the breadcasting service in Europe operating in 160-255 KHz band, besides the equal sharing of the 255-285 KHz band between Maritime Mobile, broadcasting and aeronautical navigation services. With increasing power of broadcasting stations (some of the order of a Megawatt ), the provisions No. 3470/177 no longer provide sufficient protection to LF/MF aeronautical radio-navigation facilities. To safeguard safety service from harmful interference, the LF/MF broadcasting Conference (Region 1 and 3) Geneva 1975, endorsed by ICAO Montreal May/June 1978, advanced the following recommendations:-



- a) That equal sharing of 255-285 KHz band between radio broadcasting and aeronautical radionavigation services results in harmful interference for aeronautical radio beacons in certain parts of Region 1.
- b) That aeronautical radionavigation service is a safety service (Radio Regulation 69) and that its efficient protection against harmful interference is indispensable to the safeguarding of human life, consequently the sharing of bands between the aeronautical service and other users should be avoided as far as is practicable.

From a technical point of view, there should be a more stringent standard selectivity curve of airborne radio equipment for determining distance separation criteria; avoidance of the utilisation of radio telephony on radio—beacons for transmission of ATIS data (no utilisation in the aeronautical Mobile Service), promotion of Modulation AI for enroute beacons, utilisation of the 400 Hz + 25Hz instead of the 1020 Hz to reduce transmission bandwidth and the reduction of the enroute radio—beacons with the more versatile use of the VOR/DME systems.

The evolution of more sophisticated and higher precision avionic systems is gradually reducing the role of radio direction-finding activity which occupy the band 405-415 KHz. This indicates that in future this band may safely be re-allocated to radio navigation.

Thus the expansion of the usable spectrum for radiolocations can be accomplished by additional allocations and more efficient utilisation of the spectrum taking into account the respective interests of the services concerned.

#### 1.4. RADIO NAVIGATION

The frequency bands utilised for Radio-Navigation Services particularly in the aeronautical radio service are already very congested and the demands on these bands may double or even treble by the year 2000. Hence an urgent need for revision of these sections of the spectrum with a view to expanding and survey techniques for a more efficient utilisation. The systems involved include Marker Beacons, Compass locators (which are an integral part of the precision Instrument Landing systems), VOR/DME systems, surveillance and approach Radars and HF/VHF Transmitters and receivers for use in the Aeronautical fixed service and Aeronautical mobile services.

#### THE USE OF FREQUENCIES 74.8-75.2 MHz

This is the band assigned to Marker beacons which form parts of the ILS. The expected expansion of more airports to accommodate larger aircraft will lead to the need for precision Landing Systems and hence more installations of the marker beacons. It can then be seen that a need to expand this band will arise quite soon. In view of this earlier suggestion to reduce the guardband to as low as ± 50 KHz would lead to serious interference from adjoining bands particularly from broadasting systems which are alread, posing difficulties even in areas where the guardband is 400 KHz.

Technical efforts should be made to reduce out-of-band radiation from transmitters to avoid interference to adjacent bands, coupled with improved receiver rejection characteristics especially for channels near the edge of adjacent bands and receiver immunity to signals entering other than by way of the antenna. Due to the technical difficulties involved, it would be safer at this stage to maintain and re-enforce RR 5-42/259 of the Radio Regulations.

# THE USE OF FREQUENCIES 117.975 - 136 MHz

The level of activity for the Radio Navigation over this range of frequencies already bears congestion and reliable analyses over the period up to the year 2000 indicate the posssible doubling of this activity, which would place a severe demand on the availability of radio channels in this frequency range. The development of evolutionary techniques such as increased automation would materially assist by greatly reducing communication requirements, however, the practical realisation of these techniques for more countries is still a long way. Though the possibility of an alternative radio spectrum being available over this period cannot be ruled out, it is difficult to identify additional spectrum which is not in conflict with already existing national and international proposals to meet the need for extending the band. In order to meet the challenge a concerted effort should be made in the development of alternative air-traffic control techniques; revolutionary communication methods such a DABS or VHF data link, more spectrum efficient techniques such as the use of single side band (SSB) transmissions - and the use of extended or alternative frequency bands.

# THE 960-1215 MHz BAND

This band is used in the Aeronautical Radio navigation Service for Distance Measuring equipment (DME) and Secondary Surveillance Radar (SSR). The DME co-located with a VOR is a major navigation system which functions as an integral part of the IIS. The extension by ICAO of the period of protection for the IIS from 1985 to 1995 indicates use of this band will remain in force throughout this century.

### THE 1215-1400 MHz BAND

The current frequency allocations for aeronautical radio navigation services lie in 1300-1350 MHz, there is however a general requirement for additional frequency spectrum in the range 1215-1400 MHz due to the increasing tendency to replace existing terminal rador equipment with frequency diversity radars to improve small target detection-which requires a wider band.

#### THE 1535-1660 MHz BAND

The allocation within this band is concerned with space services for both aeronautical and maritime systems. Although the sharing of aeronautical and other satellite services are theoretically feasible the 1978 Montreal ICAO meeting considered it inadvisable to base the aeronautical allocation of joint use of parts of the spectrum since there are sufficient technical and operational disparities between the aeronautical and other services which render joint usage very difficult.

#### 1.5 AERONAUTICAL MOBILE (R)

The Aeronautical Mobile (R) is primarily a safety service and the frequencies in the band are reserved for distress, urgency, medical and safety communications between any aircraft and those Aeronautical Stations primarily concerned with the safety and regularity of flight along national or international air-routes; hence there is a pressing need for continued protection against possible harmful interference and the evolvement of a more efficient utilisation of the spectrum assigned to it.

#### BAND 2850-17970 kHz

The above band according to WARC Geneva 1959 and 1966 is exclusively for the Aeronautical Mobile (R) service. The ICAO Montreal 1978 meeting in pursuit for a more economical use of the band recommended an exclusive use of the single side band (SSB) transmission for all systems in the Aeronautical Mobile (R) by the year 1983 and asked Member Countries to institute a transition programme towards that end.

#### THE 4200-4400 MHz BAND

This band is used by radio altimeters which are vital sensors in the ground proximity warning system. The accuracy and operational requirements of such systems is function of the bandwidth utilised. An International frequency instability and a bandwidth extending the entire 200 MHz is therefore necessary. In view of the status of the radio altimeters in the 420-400 and 1600-1660 MHz bands, there is a need for exclusive use by radio altimeters of the band 4200-4400 MHz.

There are also proposals for permitted use of this band by earth exploration Satellite (ESS) and space research services (SRS). The ICAO Montreal 1978 meeting agreed to this so long as these systems are compatible with aeronautical radio-navigation systems operating in this band since ESS and SRS are passive systems.

However there is concern for the expected proposals to ITU WARC (1979) which would provide for shared operation in the lower 10 MHz of the band between fixed satellite and Aeronautical Radionavigation Services — due to unknown compatibility of these systems in the bands concerned.

#### THE BAND 5000-5250 MHz

The band 5000-5250 MHz is allocated to the worldwide aeronautical radio navigation. However, the use of the band by the aeronatical mobile (R) satellite and aeronautical radionavigation satellite is also permitted.

Due to expected increase in the use of satellite and the intended adoption of the new Time referenced scanning Beam Microwave Landing systems (TRSB-MLS) as the new international standard precision approach and landing guidance system within the same band, a serious re-evaluation of the occupancy of this band need be considered by WARC Geneva 1979.

#### THE BAND 31.8-36 GHz

This band is required for the continued use of various types of radar systems which include airborne precision approach maping radar and aerodrome surface movement of vehicle detection radar, hence the existing allocations should remain as they stand.

#### THE BANDS ABOVE 40 GHz

Though these bands are not extensively used by the aeronautical Mobile (R), there is a great potential for increasing use of satellite in the aeronautical Mobile (R) and Maritime Mobile Services. Hence the future requirements of the aeronautical Mobile (R) and radio-navigation should be considered at WARC Geneva 1979.

#### 1.6. FIXED SERVICE

In the aviation field the major fixed service is the Aeronautical Fixed Telecommunications Network (AFTW). The AFTW serves to connect all users of aeronautical facilities throughout the world in the HF band by communication circuits operated solely for the safety and the regularity of Air Navigation. Hence the review of the HF band and satellite

services should address themselves also to the present and future needs of the Aeronautical Fixed Telecommunication services taking into consideration those of the Maritime fixed and mobile services.

There is no doubt that in Kenya the number of HF international point—to—point services has reduced tremendously due to the presence of Satellite Communication facility, but inspite of this Kenya still operates a good number of HF services to various countries in Africa. Most of these Countries are either constructing or have plans to construct earth stations but owing to varying levels of economic development in this part of the world HF Communication will have to prevail for quite semetime. It is not possible to predict exactly when HF international services will come to an end in developing Countries although there is no doubt it will at one time in favour of satellite communication and other means of telecommunications

In Kenya over 80% of the population live in rural areas and some of them are in the remote areas where the most feasible means of providing communication is by use of HF communication. Coupled with that in areas where the appropriate Administration cannot provide communication private enterprices and Government Institutions (i.e. Meterological, Ministry of Tourism etc) continue to use HF Communications.

It is therefore obvious that our requirements for HF frequencies will remain: for a long time.

#### 1.7. THE GEOSTATIONARY ORBIT

Kenya proposes that all geostationary satellites used for global communications be confined within the ocean space regions and not both within ocean and land space regious along the equatorial orbit. We envisage that the formation of the space organisation may be inevitable so as to control the launching of geostationary satellites over the land space along the equatorial orbit.

Kenya also notes that since the Geostationary orbit is limited in both physical and electrical characteristics, WANC 1979 is urged to note the sovereign rights of equatorial countries over this limited resource.

#### 1.8. BROADCASTING:

1.8. (a) LF BNOADCASTING: In accordance with LF/MF Broadcasting Conference, Geneva 1975 a Recommendation No. 2 was adopted. It was proposed that sharing among the Broadcasting Services, the maritime mobile service and aeronautical radionavigation services should be avoided. This contention has further been supported by EBU (Doc SPB 52, Appendix 1). Taking this into consideration Kenya proposes that WANC 1979 should make exclusive allocation in Region 1 of the whole band 150-255 KHz to the Broadcasting Service.

The LF/MF Broadcasting Conference, Geneva 1975 adopted the principle that carrier frequencies should be integral multiples of the channel spacing. This principle has not been applied to the LF band because parts of it are shared with other services. However if MANC 1979 allocates the LF band exclusively to broadcasting then it will be possible to implement this principle.

Furthermore in order to get an equal spacing between the first and the last carrier frequency and the edges of the frequency band allocated to Broadcasting, the frequency band should be shifted downwards by 1.5 KHz with respect to the present value. Kenya is also of the opinion that despite the noise level existing in the Tropical Area, LF Broadcasting is feasible.

## 1.8. (b) TROPICAL BROADCASTING

The SPM Report notes CCIR Recommendations 214-1 and 215-1 giving conditions for the use of the Broadcasting service and other services in Tropical Zone. This report further recommends that the frequency used must be near as possible to optimum traffic frequency (FOT), the antennae used must have a reduced radiation at low elevation in order to reduce interference and that a more rational channel spacing would reduce interference. (DOCs P/263 from India and P/316 from Asia-Pacific Broadcasting Union)

Kenya proposes no modification to the present allocation. However the power limitations referred to in the SPM Report should be reconsidered at the WARC 1979.

## 1.6. (c) HF BANDS

Kenya notes that from the SPM Reports it would be advantageous in future to use SSB for HF broadcasting in order to improve the utilisation of the frequency spectrum and the reception quality. However as observed some studies are still necessary on the operational aspect of the introduction of SSB, in particular to overcome the difficulties deriving from the existing transmitters and receivers. Therefore it appears difficult for the MARC 1979 to take a firm decision on the introduction of SSB in HF broadcasting and a Recommendation for the introduction of SSB by a future conference seems to be a more practical solution.

As noted in the SPM Report, HF broadcasting bands are heavily overloaded and many out-of-band frequencies are used. Therefore the use of SSB alone cannot represent a solution to this problem and a substantial enlargement of the present bands allocated to broadcasting appears necessary at the MARC 1979.

Furthermore the adoption by NAWC 1979 of a fixed limit for the transmitter power in HF broadcasting can lead to certain advantages but it would be necessary to take into account that many countries have trasmitters with powers exceeding 500 KW.

As indicated by the SPN, sharing between broadcasting and the fixed service is not appropriate and also taking into account the international character of this service, allocation of frequency bands to HF broadcasting should be exclusive and identical in the three Regions.

#### 1.8. (d) VHF BAND FOR BROADCASTING

Taking into account Recommendation No. 14 annexed to the RR, the Recommendation on the extension of Band 11 beyond 100 MHz of the EBU, the fact that many countries in Region 1 use frequencies beyond 100 MHz for Broadcasting, the always increasing use of sound broadcasting in VHF, which represents most efficacious means of ensuring the future development of sound broadcasting, it appears necessary that WARC 1979 allocate the frequency band 68-108 MHz to the broadcasting service taking into consideration that band 100-108 is now allocated to Mobile Services except aeronautical.

# 1.6. (e) SATELLITE SOUND BROADCASTING IN THE REGION OF 1 GHZ BAND

Taking into account the results of SPM and the utility that a low cost satellite sound broadcasting service can have in many countries where facilities for a terrestrial broadcasting network are lacking, it would be pertinent that the MANC 79 makes a frequency allocation for this service.

#### 1.8. (f) SATELLITE SOUND BROADCASTING IN THE 12 CHZ BAND

No change to the present allocations are necessary in conformity with Broadcasting Conference, Geneva 1977 Plan. However the allocations should be on an exclusive basis.

Furthermore the frequency requirements for up Links and for the antenna pointing beacons should be considered by the WARC-1979.

#### 1.9. NAMES OF COUNTRIES

In view of the political changes that have taken place since the publishing of the present Radio Regulations, the respective names of the following countries should be entered:-

Burundi

Zaire

Namibia

Malawi

Angola <del>end</del> Mozambique

These ammendments affect footnotes 176,194,212, 239, 241, 269, 274, 275, 275A, 285, 291, 293, 297, 301, and 304.

2. DETAILED PROPOSALS PERTAINING TO THE TABLE OF FREQUENCY ALLOCATION

In the subsequent paragraphs are presented the detailed proposals in respect of Article N7/5.

2.1

Modify footnotes 126, 127, 128 and 129 as follows:

KEN/106/1

MOD

3416/126

3417/127

Region 1: Australia, India, Pakistan, Africa, The

Middle East, South America including Mexico etc.

KEN/106/2

MOD

(To follow from 126, 128 and 129.)

KEN/106/3

MOD

3418/128

3419/129

Region 2: North America, Canada, Greenland, etc.

KEN/106/4

MOD

Region 3: Europe, USSR, Japan, China etc.

Reasons: 1. The present regional boundaries have no technical basis and a revision is therefore desired.

- 2. The present boundaries are not compatible with climatic conditions for countries within a Region.
- 3. They do not also reflect the economic development status and capabilities of those countries.
- 4. The proposed revised regional boundaries are therefore aimed at lumping together in the same Region, the countries of similar climates and development.

kHz10 - 14

KEN/106/5 MOD

Allocation to Services			
Region 1	Region 2	Region 3	
10 - 14	RADIONAVIGATION		
	Radiolocation		

Reasons: To protect world-wide use of Omega systems for maritime and aeronautical radionavigation.

KEN/106/6

SUP

3462/168

This requirement has not arisen.

kHz 150 - 160

KEN/106/7

MOD

150 - 160	150 - 160 (NOC)
MARITIME-MOBILE 3461/167 3467/174	FIXED
BROADCASTING	MARITIME MOBILE
3468/175	3461/167

Reasons: To allow more spectrum for assignments to countries in the Region 1 which have not yet exploited the use of LF broadcasting e.g. tropical countries.

KEN/106/8

SUP

3467/174

No longer required as above.

kHz 160 - 255

KEN/106/9 NOC

Region 1	Region 2	Region 3
160 - 255	160 - 200	160 - 200
BROADCASTING	FIXED	FIXED
3469/176	3472/179	Aeronautical radionavigation
]		

Reasons: In accordance with LF/MF Broadcasting Conference, Geneva, 1975.

kHz 200 - 285

KEN/106/10 MOD

255 - 285	200 - 285 (NOC)
MARITIME MOBILE 3467/174	AERONAUTICAL RADIONAVIGATION
BROADCASTING	Aeronautical mobile
AERONAUTICAL RADIONAVIGATION	
3469/176 3470/177 3471/178	

Reasons: To eliminate harmful interference from broadcasting stations to aeronautical radionavigation. Arising from ICAO Conference May/June, 1978 (Montreal).

kHz 285 - 315

KEN/106/11 MOD

285 - 315		MARITIME RADIONAVIGATION (Radiobeacons)
	1	Aeronautical-radionavigation
		AERONAUTICAL RADIONAVIGATION

Reasons: To allow flexibility in planning the use of radionavigation services.

kHz 405 - 525

		Region 1	, Region 2	Region 3
KEN/106/12	MOD	405 - 415	405 - 415 (NOC)	405 - 415 (NOC)
		MOBILE-except aeronautical-mobile  AERONAUTICAL RADIONAVIGATION  MARITIME RADIONAVIGATION  (Radio direction finding)  3475/182 3476/183 3477/184	MARITIME RADIONAVIGATION (Radio direction finding)  /AERONAUTICAL RADIONAVIGATION/ Aeronautical mobile	RADIONAVIGATION  Aeronautical mobile  3475/182
KEN/106/13	MOD	415 - 490	MARITIME-MOBILE	
			MOBILE except aeronautical 3478/185 3479/186	mobile
KEN/106/14	MOD	490 - <del>51</del> 0 <u>495</u>	MOBILE-(Distress-and-calli	ng)
			MOBILE except aeronautical	mobile
KEN/106/15	MOD	<u>495 - 505</u>	MOBILE (Distress and calli	ng)
			3480/187	
KEN/106/16	MOD	<u>505</u> - 510	MOBILE (Distress-and-calli	ng)
			MARITIME MOBILE	
			Aeronautical radionavigati	<u>on</u>

kHz 490 - 525 (cont.)

KEN/106/17	NOC

Region l	Region 2	Region 3
510 - 525	510 - 525	510 - 525
MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE
Aeronautical	/AERONAUTICAL RADIONAVIGATION/	Aeronautical mobile
radionavigation	3481/188	Land mobile
3478/185		3482/189

Reasons: (405 - 415) To allow for flexibility for radionavigation.

(415 - 495) To increase needed spectrum for mobile service.

(495 - 505) The state of art today allows better frequency stability and therefore some saving on the spectrum is possible.

(505 - 510) Consequent upon changes proposed.

kHz 3 950 - 4 000

KEN/106/18

MOD

3 950 - 4 000

FIXED

LAND MOBILE

BROADCASTING

kHz 5 005 **-** 5 450

KEN/106/19	MOD
•	
KEN/106/20	MOD

5 005 - 5 060	FIXED
	BROADCASTING 3496/202
	LAND MOBILE
5 060 - 5 250	FIXED
·	LAND MORILE

kHz 5 005 - 5 450 (cont.)

5 250 - 5 430 (NOC)       5 250 - 5 450 (NOC)       5 250 - 5 430 (NOC)         FIXED       FIXED       FIXED         LAND MOBILE       LAND MOBILE       LAND MOBILE	Region l	Region 2	Region 3	
	5 250 - 5 430 (NOC)	5 250 - 5 450 (NOC)	5 250 - 5 430 (NOC)	
LAND MOBILE LAND MOBILE LAND MOBILE	FIXED	FIXED	FIXED	
	LAND MOBILE	LAND MOBILE	LAND MOBILE	

kHz 5 730 **-** 5 950

KEN/106/21 MOD 5 730 - 5 950 FIXED

LAND MOBILE

kHz 6 765 - 7 000

KEN/106/22 MOD 6 765 - 7 000 FIXED

LAND MOBILE

kHz 7 100 - 7 300

KEN/106/23 MOD

7 100 - 7 300

BROADCASTING

3509/212

KEN/106/24

3509/212

SUP

Requirements for broadcasting override the needs for

the amateur service.

kHz 7 300 - 8 195

KEN/106/25 MOD

OD 7 300 - 8 195

FIXED

LAND MOBILE

**k**Hz 9 040 - 9 500

KEN/106/26 MOD

9 040 - 9 500

FIXED

LAND MOBILE 3510A

# kHz 9 755 - 9 995

		Region 1	Region 2	Region 3
KEN/106/27	MOD	9 755 - 9 995	FIXED	
		."	LAND MOBILE	
		Reasons : To allow use of	the band by either fixed or	mobile services.
KEN/106/28	ADD	3510A In A for broadcast transmission	Kenya the meteorological dep	partment uses 9 043 kHz
			kHz 13 360 - 14 000	
KEN/106/29	MOD	13 360 - 14 000	FIXED	
			MOBILE	
			3513/217	
		Reasons : To allow use of	the band by mobile service.	
			kHz 21 870 - 22 000	
KEN/106/30	MOD	21 870 - 22-000 21 924	AERONAUTICAL FIXED	**
			AERONAUTICAL-MOBILE-(R)	• :
KEN/106/31	MOD	21 924 - 22 000	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (R)	
			kHz 23 350 - 24 990	
KEN/106/32	MOD	23 350 - 24 990	FIXED	
· · · · · · · · · · · · · · · · · · ·			LAND MOBILE	
			3518/222 3519/222A <u>3520A</u>	-
		Reasons: Pursuant to Reco	mmendation No. Aer2 - 5.	
KEN/106/33	ADD	3520A In K	denya, the frequency band 23	.6 MHz - 24.9 MHz is also
KEN/106/34	MOD		ude Kenya in these footnote	
KEN/106/35	MOD	3540/242 the	mentioned bands or fixed se	rvice.

MHz 100 - 108

KEN/106/36 MOD

Region 1		Region 2			Region 3		
100 - 108	100 - 1	100 - 108 (NOC)					
MOBILE except aeronautical mobil	e BROADCA	STING					
FIXED							
BROADCASTING							
3568/269 3569/270 3570/271	3554/25	5 3555/256	3557/258	3566/267	3571/272		

Reasons: To allow the use by fixed, mobile and broadcasting services by coordination within countries. Requirements for fixed and broadcasting call for this additional spectrum.

MHz 216 - 223

KEN/106/37 MOD

216 - 223

AERONAUTICAL RADIONAVICATION

BROADCASTING

3605/297 3606/298 3607/299 3608/300 3609/301

Reasons: To cater for increased broadcasting demand. This band is not currently in great demand for aeronautical radionavigation.

MHz 401 - 402

KEN/106/38 MOD

401 - 402	METEOROLOGICAL AIDS				
	SPACE OPERATION (Telemetering) 3630/315A				
	Fixed				
	FIXED				
	Meteorological-satellite (Earth-to-space)				
	Mobile-except-aeronautical-mobile				
	MOBILE except aeronautical mobile				
	3628/314 3629/315 3631/315B 3632/315C 3633/316				

 $\frac{\text{Reasons}}{\text{status}}$ : To allow use of this band by fixed and mobile services on primary

MHz 402 - 406

	·	Region 1	. Region 2 Region 3
KEN/106/39	MOD	402 - 403	METEOROLOGICAL AIDS
			Fixed
			Meteorological-satellite (Earth-to-space)
			Mobile-except-aeronautical-mobile-
	·		3628/314 3629/315 3632/315C 3633/316
KEN/106/40	MOD	403 - 406	METEOROLOGICAL AIDS
			Fixed
			Mobile except aeronautical mobile
			3628/314 3629/315 3633/316

 $\underline{\text{Reasons}}$  : To protect these bands for use by meteorological aids.

MHz 430 - 440

KEN/106/41	MOD	430 - 440
		AMATEUR
		RADIOLOCATION
		3636/318 3640/319 3642/319B 3643/320 3644/320A 3645/321 3646/322 <u>3646A</u>

KEN/106/42 ADD 3646A In Kenya the band 430 - 440 MHz is also used for fixed and land mobile services.

MHz 470 - 582

KEN/106/43 MOD 470 - 582

BROADCASTING

3650A

KEN/106/44 ADD 3650A In Kenya the band 470 - 582 MHz is also used for fixed services.

MHz 4 200 - 4 400

KEN/106/45 NOC

Region 1	Region 2	Region 3		
4 200 - 4 400	AERONAUTICAL RADIONAVIGATIO	N		
	3686/352A 3743/379A 3744/38	31 3745/382 3748/383		

Reasons: The band will continue to be used for radio altimeters in the aeronautical radionavigation service.

Sharing with ESS (Earth exploration-satellite) and SRS (space research services) should be permitted since these are passive systems.

MHz 9 300 - 9 500

KEN/106/46

MOD 9 300 - 9 500

RADIONAVIGATION 3729/367A 3730/367B

Radiolocation

RADIOLOCATION

3776/399

Reasons: MOD (i) To cater for increased requirements for radiolocation.

GHz 11.7 - 12.5

KEN/106/47 MOD

11.7 - 12.5

FIXED

MOBILE-except
aeronautical-mobile

BROADCASTING

SATELLITE

BROADCASTING

3785/405BA

 $\underline{\mathtt{Reasons}}$ : To conform with BC-SAT Conference 1977.

GHz 31.8 - 33

	ļ	Region 1	Region 2	Region 3
KEN/106/48	NOC	31.8 - 32.3	RADIONAVIGATION	
			Space research	
			3807/412B	
KEN/106/49	NOC	32.3 - 33	RADIONAVIGATION	

 $\frac{\text{Reasons}}{\text{radars}}$ : The band will continue to be used for airborne precision approach

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

<u>Document No. 107-E</u> 18 May 1979

Original : English

PLENARY MEETING

#### Republic of Guyana

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER NI

Terminology

ARTICLE N1/1

Terms and Definitions

Section I. General Terms

GUY/107/1 MOD 3002/2 Telecommunication: Any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, visual optical or other electromagnetic systems.

Reasons: To confirm with definition in Annex 2 to the Convention.

GUY/107/2 MOD 3016/20 Facsimile: A system of telecommunication for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent printed form.

Reasons: More appropriate.

Section II. Radio Systems, Services and Stations

GUY/107/3 MOD 3024/21C Space Radiocommunication: Any radiocommunication involving the use of one or more space stations or the use of one-or-more-passive-satellites or other objects in space.

Reasons: Words deleted are superfluous.

GUY/107/4 NOC 3033/21B Earth Station:

Reasons: Most explicit as it stands.

Section III. Terrestrial Radio Systems Services and Stations

GUY/107/5 MOD 3040/28 Broadcasting Service: A radiocommunication service in which the transmissions are intended made available for direct reception in adequate quality by the general public, for whom these transmissions are intended. This service may include sound transmissions, television transmissions or other types of transmissions.

Reasons: The present definition does not pay regard to the receiving end of the system, nor does it lay any minimal standards.

GUY/107/6

NOC 3047/81

Standard Frequency Station:

Reasons: To satisfy possible future requirements.

GUY/107/7

NOC 3048/82

MOD

Time Signal Service ;

Reasons: To satisfy possible future requirements.

Section IV. Space Radio Systems, Services and Stations and Radio Astronomy

GUY/107/8

3101/84ATF Inter Satellite Service: A radiocommunication service providing links between artificial earth satellites, when these links are provided within the service in which the space station is operating.

Reasons: In order to control the use of frequencies for this service.

GUY/107/9

MOD 3103/84AP Broadcasting-Satellite Service: A radiocommunication service in which signals transmitted or re-transmitted by space stations are intended for direct reception by the general public. This service may also include the up-link.

Reasons: In order to reserve a band of frequencies for up-links in this service.

GUY/107/10

NOC 3115/84AGA

Mobile-Satellite Service :

Reasons: Necessary and adequate as stated.

GUY/107/11

NOC

3118/84AGCA

Ship Earth Station:

Reasons: Satisfactory and identifies specific location.

CHAPTER NIII

Frequencies

ARTICLE N5/3

General Rules for the Assignment and Use of Frequencies

GUY/107/12

MOD 3277/113

1. The Members of the Union agree undertake that in assigning (rest without change).

frequencies .... (rest without change).

Reasons: More appropriate.

#### ARTICLE N7/5

#### Frequency Allocations 10 kHz to 275 GHz

# Section I. Regions and Areas

GUY/107/13 SUP 3426/136

Reasons: Outdated due to stage of development of countries concerned.

CHAPTER NIII

ARTICLE N7/5

Section IV. Table of Frequency Allocations 10 kHz - 275 GHz

kHz 160 - 285

GUY/107/14 MOD (WW)\*)

Allocation to Services						
Region 1	Region 2	Region 3				
160 - 255 ( <u>NOC</u> )	160 - 200	160 - 200				
BROADCASTING	F <del>IXED</del>	₽ <del>IXED</del>				
	BROADCASTING	Aeronautical radionavigation				
	3 <del>4</del> 72/179	BROADCASTING				
	200 - <del>285</del> <u>255</u>					
·	AERONAUTICAL-RADIONAVIGATION					
	Aeronautical-mobile					
3469/176	BROADCASTING					

<sup>\*)</sup> Denotes proposals concerning regional allocations which, if adopted, result in world-wide allocations.

# kHz 160 - 285 (cont.)

		Region 1	Region 2	Region 3
GUY/107/15	MOD	255 - 285 (NOC)	<u>255</u> – 285	
		MARITIME MOBILE 3467/174	AERONAUTICAL RADIONAVIGATION	
		BROADCASTING	Aeronautical mobile	
·		AERONAUTICAL RADIONAVIGATION		

 $\underline{\text{Reasons}}$ : To provide an exclusive LF broadcasting band in Regions 2 and 3 to achieve more effective coverage.

GUY/107/16 :

SUP 3472/179

3469/176 3470/177

3471/178

NOC

3467/174, 3469/176, 3470/177, 3471/178

kHz 405 - 490

			· · · · · · · · · · · · · · · · · · ·	
GUY/107/17	NOC	405 - 415	405 - 415	405 - 415
		MOBILE except aeronautical mobile	MARITIME RADIONAVIGATION (radio direction-finding)	RADIONAVIGATION
		AERONAUTICAL RADIONAVIGATION	/AERONAUTICAL RADIONAVIGATION/	Aeronautical mobile
,		MARITIME RADIONAVIGATION (radio direction-finding)	Aeronautical mobile	
		3475/182 3476/183 3477/184	3475/182	3475/182
GUY/107/18	MOD	415 - <del>490</del> <u>450</u>	415 - <del>490</del> <u>450</u>	415 - <del>49</del> 0 <u>450</u>
		MARITIME-MOBILE	MARITIME-MODILE	MARITIME-MOBILE
		MOBILE except aeronautical mobile	MARITIME RADIONAVIGATION (radio-direction finding)	RADIONAVIGATION
		AERONAUTICAL	/AERONAUTICAL	Aeronautical mobile
		RADIONAVIGATION	RADIONAVIGATION/	
		MARITIME RADIONAVIGATION (radio direction-finding)	Aeronautical mobile	

#### kHz 405 - 490 (cont.)

		Region 1	Region	n 2	Region 3
GUY/107/19	MOD	<u>450</u> – 490	MARITIME MOBILE	2	
			3478/185 3479/	/186	

Reasons: In order to maintain regional uniformity and to increase band for shared services.

NOC 3475/182, 3476/183, 3477/184, 3478/185, 3479/186

Pro mem : Consequential changes to other footnotes as required.

kHz 490 - 510

GUY/107/20	MOD	490 <b>- 5</b> ±0 <u>495</u>	MOBILE-(distress-and-ealling)		
			MARITIME MOBILE		
			3479/186		
GUY/107/21	MOD	<u>495</u> - <u>505</u>	MOBILE (distress and calli	ng)	
			3480/187		
GUY/107/22	MOD	<u>505</u> - 510	<u>505</u> - 510	<u>505</u> - 510	
		MOBILE (distress-and-calling)	MOBILE (distress-and-calling)	MOBILE (distress-and-calling)	
		MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE	
		Aeronautical	/AERONAUTICAL	Aeronautical mobile	
		radionavigation	RADIONAVIGATION/ 3481/188	Land mobile	

 $\underline{\text{Reasons}}$ : As a result of changes made to maritime distress calling frequency due to improved frequency stability.

NOC 3480/187

**kHz** 510 - 1 605

GUY/107/23 NOC Allocations appearing in boxes 510 - 1 605 kHz

Page 6

kHz 3 500 - 4 000

Region 2 GUY/107/24 MOD 3 500 - 4-000 3 950 AMATEUR FIXED MOBILE except aeronautical mobile (R) GUY/107/25 MOD 3 950 - 4 000 AMATEUR FIXED MOBILE-except aeronautical-mobile-(R) BROADCASTING

Reasons: To satisfy future HF broadcasting requirements.

Remarks: In view of the present stage reached in our national development it is imperative that there be no change to the present shared allocation of the band 3 500 - 3 950 kHz.

kHz 4 063 - 4 650

		Region l	Region 2		Region 3
GUY/107/26	NOC	4 063 - 4 438	MARITIME MOBILE		
			3503/208 3504/209	3505/2	09A
GUY/107/27	NOC	4 438 - 4 650			4 438 - 4 650
		FIXED			FIXED
	;	MOBILE except aeronautical	mobile (R)		MOBILE except aeronautical mobile

Reasons: Continuing requirements exist for these allocations.

GUY/107/28 NOC 3504/209

kHz 4 850 - 5 480

GUY/107/29 NOC

Region 1	Region 2	Region 3
4 850 - 4 995	FIXED	
	LAND MOBILE	
	BROADCASTING 3496/202	
4 995 - 5 005	STANDARD FREQUENCY	
	3498/203A 3506/210	
5 005 - 5 060	FIXED	
	BROADCASTING 3496/202	
5 060 - 5 250	FIXED	
5 250 - 5 430	5 250 - 5 450	5 250 - 5 430
FIXED	FIXED	FIXED
LAND MOBILE	LAND MOBILE	LAND MOBILE
5 430 - 5 480	5 450 - 5 480	<b>5</b> 430 - 5 480
FIXED	7 470 - 7 400	FIXED
AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (OR)
LAND MOBILE		LAND MOBILE

Reasons: Continuing requirements exist for these allocations.

GUY/107/30 <u>NOC</u> 3496/202

kHz 5 730 - 5 950

GUY/107/31 NOC

5 730 - 5 950

FIXED

Reasons: Continuing requirements exist for this allocation.

kHz 6 765 - 7 000

GUY/107/32 NOC

6 765 - 7 000

FIXED

Reasons: Continuing requirements exist for these allocations.

kHz 7 100 - 8 195

		Region l	Region 2	Region 3
GUY/107/33	MOD (WW)	7 100 - 7 300	7 100 - 7 300	7 100 - 7 300 (NOC)
	(ww)	BROADCASTING	AMATEUR	BROADCASTING
		3509/212	BROADCASTING	
GUY/107/3 <sup>1</sup> 4	NOC	7 300 - 8 195	FIXED ,	
			kHz 9 040 - 9 995	
GUY/107/35	MOD	9 040 - <del>9-500</del> <u>9 300</u>	FIXED	
	·		MOBILE	
GUY/107/36	MOD	9 300 - 9 500	FIXED	
			BROADCASTING	
GUY/107/37	NOC	9 500 - 9 775	BROADCASTING	
GUY/107/38	NOC	9 775 - 9 995	FIXED	

GUY/107/39 SUP 3509/212

 $\frac{\text{Reasons}}{7\ \text{100}}$ : To obviate existing harmful interference within the frequency range

# kHz 13 360 - 14 990

GUY/107/40	MOD	13 360 - <del>1</del> 4- <del>000</del> <u>13 600</u>	FIXED	
			3513/217	
GUY/107/41	MOD	<u>13 600</u> - 14 000	FIXED	
			BROADCASTING	
GUY/107/42	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	

kHz 13 360 - 14 990 (cont.)

		Region 1	Region 2	Region 3
GUY/107/43	MOD	14 250 - 14 350	AMATEUR	
			AMATEUR-SATELLITE	
			3514/218	
GUY/107/44	MOD	14 350 - 14 990	FIXED	
			MOBILE	

 $\underline{\text{Reasons}}$ : To provide additional broadcasting allocations. To provide flexibility in the band.

NOC 3510/213, 3513/217, 3514/218

kHz 15 450 - 17 900

GUY/107/45	MOD	15 450 - <del>16-460</del> <u>15 600</u>	FIXED
			BROADCASTING
GUY/107/46	MOD	<u>15 600</u> - 16 460	FIXED
	NOC	16 460 - 17 360	MARITIME MOBILE 3510/213
GUY/107/47	MOD	17 360 - <del>17-700</del> 17 600	FIXED
GUY/107/48	MOD	<u>17 600</u> - 17 700	FIXED
			BROADCASTING
GUY/107/49	NOC	17 700 - 17 900	BROADCASTING

Reasons: To provide additional broadcasting allocations.

NOC 3510/213

MHz 138 - 143.6

GUY/107/50 NOC

Region 1	Region 2	Region 3
138 - 143.6	138 - 143.6	138 - 143.6
AERONAUTICAL MOBILE (OR)	FIXED	FIXED
	MOBILE	MOBILE
	/RADIOLOCATION/	Space research (Space-to-Earth)
	Space research (Space-to-Earth)	(0)
3577/275 3585/281G 3586/282A 3587/283	3588/283A	3579/278 3580/279A 3589/284

Reasons: Continuing requirements exist for these allocations in Region 2.

MHz 150.05 - 174.00

GUY/107/51 NOC

Allocations appearing in box 150.05 - 174 MHz (Region 2).

Reasons: Continuing requirements exist for these allocations in Region 2.

MHz 890 - 960

GUY/107/52 NOC

Allocations appearing in boxes 890 - 960 MHz.

Reasons: Continuing requirements exist for these allocations.

GUY/107/53 MOD (WW)

MHz 1429 - 1525

1429 - 1525	1429 - 1435	1429 - 1525
FIXED	FIXED	FIXED
MOBILE-except	MOBILE	M⊖B±bE
aeronautical-mobile	BROADCASTING-SATELLITE	BROADCASTING-SATELLITE
BROADCASTING-SATELLITE		
	1435 - 1525	
	MOBILE	
	BROADCASTING-SATELLITE	
	Fixed	
	FIXED	

Reasons : To provide allocations to sound broadcasting-satellite service.

Ref : SPM Document XP/1106-E November 1978.

GHz 11.7 - 12.5

Region 2

11.7 - 12.2

FIXED

FIXED SATELLITE (Space-to-Earth)

MOBILE except aeronautical mobile

BROADCASTING

BROADCASTING-SATELLITE

3786/405BB 3787/405BC

12.2 - 12.5

FIXED

MOBILE except aeronautical mobile

BROADCASTING

BROADCASTING-SATELLITE

3786/405BB

Pro mem : If adopted, consequential change to footnote 3786/405BB.

ARTICLE N8/6

Special Rules for the Assignment and Use of Frequencies

GUY/107/56 NOC 3917/413

GUY/107/54

GUY/107/55 MOD

Reasons: Adequate as stated.

#### CHAPTER NVIII

#### ARTICLE N28

#### Broadcasting Service and Broadcasting-Satellite Service

#### Section I. Broadcasting Service

#### A. General

GUY/107/57 MOD

6215/423 (2) Fn-principle, except in the frequency band 3 900 - 4 000 kHz broadcasting stations using frequencies below 5 060 kHz or above 41 MHz shall not employ power parameters of transmitting systems exceeding that necessary to maintain economically an effective national service of good quality within the frontiers of the country concerned.

Reasons: To introduce more stringent standards on broadcast transmitting systems in the decametric band, with a view to reduce the possibility of harmful interference.

#### B. Broadcasting in the Tropical Zone

GUY/107/58 M

6217/424 2. (1) In these regulations, the expression "Broadcasting in the Tropical Zone" indicates a type of broadcasting for internal national use in countries in the zone defined in Nos. 3425/135 and 3426/136, where it may be shown that because of the difficulty-of-high-atmospheric-noise-level-and-propagation-it is-not-possible-to-provide-economically-a-more-satisfactory-service-by-using-low, medium-or-very-high-frequencies special conditions of propagation and economic reasons it is not possible to provide satisfactory coverage by using frequency bands other than those defined in No. 6218/425.

Reasons: Studies carried out in certain parts of the tropical zone have shown that atmospheric noise is not very high, even though it may be higher than in the temperate zones.

GUY/107/59 NOC 6218/425

Reasons: Existing allocations are required.

GUY/107/60 NOC 6219/426

Reasons: Necessary and adequate as stated.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 108-E 22 May 1979 Original: French

PLENARY MEETING

# Switzerland\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

kHz 3 800 - 4 000

			Allocation to Services
		Region 1	
SUI/108/89	MOD	3 800 <b>-</b> <del>3-900</del> <u>3 850</u>	
		FIXED	
		AERONAUTICAL MOBILE (OR)	
		LAND MOBILE	
SUI/108/90	MOD	<u>3 850</u> - 3 900	
		FIXED	
		BROADCASTING	
		AERONAUTICAL-MOBILE-(OR)	
	•	LAND-MOBILE	
SUI/108/91	MOD	3 900 - 3 950	
		AERONAUTICAL-MOBILE-(OR)	
		BROADCASTING	
SUI/108/92	MOD	3 950 - 4 000 FIXED	
		BROADCASTING	

<sup>\*)</sup> See also Documents Nos. 36 and 76.



kHz 4 750 - 5 060

	1	
		Region 1
SUI/108/93	MOD	4 750 – 4 850
		FIXED
		AERONAUTICAL-MOBILE-(OR)
	-	LAND-MOBILE
	×+ +	BROADCASTING
SUI/108/94	MOD	4 850 - 4 995
		FIXED
		LAND-MOBILE
		BROADCASTING
	NOC	4 995 - 5 005
	·	STANDARD FREQUENCY
		3498/203A 3506/210
SUI/108/95	MOD	5 005 - 5 060
		FIXED
		BROADCASTING

kHz 5 730 - 6 200

SUI/108/96	MOD	5 730 <b>-</b> 5- <del>950</del> <u>5 800</u>
		FIXED
SUI/108/97	MOD	<u>5 800</u> - 5 950
		FIXED
		BROADCASTING
SUI/108/98	NOC	5 950 - 6 200
		BROADCASTING

kHz 7 100 - 8 195

	Region 1
MOD	7 100 - <del>7</del> -3 <del>00</del> <u>7 200</u>
	BROADCASTING
:	AMATEUR
	AMATEUR-SATELLITE
MOD	<u>7 200</u> - 7 300
	BROADCASTING
	3509/212
MOD	7 300 - <del>8-195</del> <u>7 500</u>
	FIXED
	BROADCASTING
MOD	<u>7 500</u> - 8 195
	FIXED
	MOD

kHz 9 040 - 9 995

SUI/108/103	MOD	9 040 <b>- 9-</b> 5 <del>00</del> <u>9 400</u>
	1	FIXED
SUI/108/104	MOD	<u>9 400</u> - 9 500
		FEXED
		BROADCASTING
SUI/108/105	NOC	9 500 - 9 775
		BROADCASTING
SUI/108/106	MOD	9 775 - <del>9-995</del> <u>9 875</u>
		FEXED
		BROADCASTING
SUI/108/107	MOD	<u>9 875</u> - 9 995
		FIXED

kHz 11 400 - 12 330

		Region l
SUI/108/108	MOD	11 400 - <del>11-700</del> <u>11 500</u>
		FIXED
100		3512/216
SUI/108/109	MOD	<u>11 500</u> - 11 700
	:	Fixed
		BROADCASTING
SUI/108/110	NOC	11 700 - 11 975
		BROADCASTING
SUI/108/111	MOD	11 975 - 12-330 12 025
		<del>FIXED</del>
		BROADCASTING
SUI/108/112	MOD	<u>12 025</u> - 12 330
		FIXED

kHz 13 360 - 14 000

SUI/108/113	MOD	13 360 - <del>14-000</del> <u>13 800</u>
		FIXED
SUI/108/114	MOD	<u>13 800</u> - 14 000
		FIXED
		BROADCASTING

kHz 15 100 - 16 460

SUI/108/115 NOC	15 100 - 15 450
معة.	BROADCASTING
SUI/108/116 MOD	15 450 - <del>16-460</del> <u>15 650</u>
•	FIXED
	BROADCASTING
SUI/108/117 MOD	<u>15 650</u> - 16 460
	FIXED

kHz 17 360 - 17 900

		Region 1	
SUI/108/118	MOD	17 360 - <del>17-700</del> <u>17 500</u>	
		FIXED	
SUI/108/119	MOD	<u> 17 500</u> - 17 700	
		F±X <del>ED</del>	
		BROADCASTING	
SUI/108/120	NOC	17 700 - 17 900	
		BROADCASTING	

kHz 21 450 - 21 850

SUI/108/121 NOC 21 450 - 21 750

BROADCASTING

SUI/108/122 MOD 21 750 - 21 850

FIXED

BROADCASTING

#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 109-E 22 May 1979 Original: Spanish

PLENARY MEETING

#### Mexico

#### INTRODUCTION

This document contains only proposals for frequency bands of major interest to Mexico and are made with a view to the development of services now in operation and of new services which, to judge by foreseeable trends, will be established in the near future.

The situation of course differs from country to country as regards the importance of services and the extent to which they are used, and this makes it difficult to reach agreement on the allocation of parts of the spectrum to a particular service. The Conference should, however, avoid allocating the same band to different services in more than one Region, since experience has shown that this leads to interference between Regions, as is the case with the band 7 MHz, in which the broadcasting emissions of one Region cause great interference to the amateur service in another Region, and in both cases the services are primary.

In the circumstances, the proposals for the revision of Article N7/5 submitted by the Mexican Administration attempt to harmonize as far as possible its own interests with those of other countries, particularly those in Region 2, in the light of the information exchanged at regional and bilateral levels at various meetings and by correspondence. It has, however, been found difficult to reduce the bands of certain services, especially the fixed services, for the benefit of other services. In this case, the degree of spectrum occupancy should be taken as a criterion before a band reduction is decided.

It should also be borne in mind that any change in the Table of Frequency Allocations has greater repercussions in countries with a less developed telecommunication equipment industry since, apart from the cost of changing or modifying equipments in operation, it is necessary to spend foreign currency to buy equipment from other countries.

In view of the foregoing, the Mexican Administration considers that changes in the Table should be minimal and should be adopted only after thorough consideration of their implications as well as their benefits for the international community.



kHz 10 - 14

Allocation to Services

Region 1 Region 2 Region 3

10 - 14 RADIONAVIGATION

Radiolocation

MEX/109/1 MOD

<u>Reasons</u>: Maritime and air radionavigation are in continual use and expansion; at the same time, the use of the band for radiolocation is not materializing, and it is therefore desirable to exclude this service to provide better protection for radionavigation on a world basis.

kHz . 90 - 110

MEX/109/2

MOD (WW)\*≸

90 - 110	90 - 110	90 - 110	
Fixed	RADIONAVIGATION	FIXED	
MARITIME-MOBILE 3452/158	Fixed Maritime-mobile-3452/158	MARITIME-MOBILE 3452/158	
RADIONAVIGATION	200210 200210 31,72,72,00	RADIONAVIGATION	
3457/163 3460/166 <del>3461/167</del>	3460/166 3 <del>461/167</del>	3460/166 <del>3461/167</del>	

Reasons: To reserve this band exclusively for radionavigation.

MEX/109/3

MOD

3461/167 Only classes Al or F1, A4 or F4 emissions are authorized in the band 90 110 - 160 kHz for stations of the fixed service and in-the-band 110 - 160 kHz for stations of the maritime mobile service. Exceptionally, class A7J emissions are also authorized in the band 110 - 160 kHz for stations of the maritime mobile service.

<u>Note</u>: SUP 3462/168 in Region 2.

Reasons: This type of communication is not required in this band.

<sup>\*)</sup> This symbol is used when proposals for regional allocations involve world allocations.

kHz 110 - 130

MEX/109/4 MOD

Region 2

110 - 130

FIXED

MARITIME MOBILE

MARITIME RADIONAVIGATION
3456/162

Radiolocation

3458/164 3461/167
3462/168 3464A

MEX/109/5

ADD

3464A In authorizing new assignments in the bands  $110-120~\mathrm{kHz}$  Administrations shall take all practicable steps to protect Loran C receiving stations against harmful interference.

Loran C receiving stations shall be so designed that they cannot easily suffer interference from other services operating in adjacent frequency bands.

kHz 160 - 285

	Region 1	. Region 2	Region 3	
MEX/109/6 MOD	160 - 255 (NOC)	160 - <del>200</del> <u>190</u>	160 - 200 (NOC)	
	BROADCASTING	FIXED	FIXED	
		3472/179	Aeronautical	
MEX/109/7 MOD		<u>190</u> - 200	radionavigation	
		FIXED 3472/179		
		AERONAUTICAL RADIONAVIGATION		
	3469/176			
	255 - 285 (NOC) MARITIME MOBILE 3467/174	200 - 285 (NOC)  AERONAUTICAL RADIONAVIGATION		
	BROADCASTING	Aeronautical mobile		
	AERONAUTICAL RADIONAVIGATION			
	3469/176 3470/177 3471/178			

Reasons: In the band 160 - 200 kHz, the frequencies 160 - 190 kHz are to be used exclusively for the fixed service and the frequencies 190 - 200 kHz are to be shared with the aeronautical radionavigation service, having regard to the increasing requirements of that service.

Note: SUP 3472/179 in Region 2.

Reasons: There is no need to retain this footnote for frequencies 190 - 200 kHz in Region 2.

kHz 490 - 510

		Region 1	Region 2	Region 3
MEX/109/8	MOD	490 <b>-</b> <del>510</del> <u>495</u>	MOBILE (Distress and calling)	
			MARITIME MOBILE 3479/186	
MEX/109/9	MOD	495 - 505	MOBILE (Distress and calling)	3480/187
MEX/109/10	MOD	<u>505</u> - 510	MOBILE-(Distress-and-calling)	3 <del>480/187</del>
	-		MARITIME MOBILE 3479/186	

Reasons: Owing to the increase in frequency stability, a bandwidth of 20 kHz is not needed for international relief operations or calling frequency. The present equipments of rescue vessels may have some difficulty in remaining within a bandwidth of 10 kHz, but this should not be a problem for new equipments. The Conference should exclude ship-to-ship and ship-to-shore (radiotelegraphy) calls, including "digital" selective calls, from two 5 kHz bands.

kHz 510 - 535

MEX/109/11	MOD	510 - 525	
		MOBILE	
		/AERONAUTICAL RADIONAVIGATION/ 3481/188	
		AERONAUTICAL RADIONAVIGATION	
MEX/109/12	MOD	525 - 535	
		MOBILE	
		/BROADCASTING/ 3484/191	
		/AERONAUTICAL- RADIONAVIGATION/	
		BROADCASTING 3484A	
		AERONAUTICAL RADIONAVIGATION 3481/188	

 $\underline{\text{Reasons}}$ : To give the aeronautical radionavigation service primary status in view of the possible reduction of the band 1 605 - 1 800 kHz.

Note: SUP 3481/188 in Region 2.

 $\frac{\text{Reasons}}{\text{Region 2.}}$ : (510 - 525 kHz) There is no need to retain this footnote for

MEX/109/13 ADD 3484A

/Text in preparation./

kHz 1 605 - 2 000

	1 605 - 2 000			
			Region 2	Region 3
MEX/109/14	MOD		1 605 - <del>1</del> -800 <u>1 705</u>	
•			FIXED	
			MOBILE	
	-		AERONAUTICAL RADIONAVIGATION	
		ļ	Radiolocation	
			BROADCASTING	
MEX/109/15	MOD		<u>1 705</u> - 1 800	
			FIXED	
			MOBILE	·
			AERONAUTICAL RADIONAVIGATION	
			BROADCASTING	
			Radiolocation	·
			RADIOLOCATION 3484/191	
			Aeronautical Radionavigation	
MEX/109/16	MOD		1 800 - <del>2-000</del> <u>1 900</u>	
			FIXED	
			MOBILE-except-aeronautical-m	obile
			RADIONAVIGATION	
			AMATEUR	
MEX/109/17	MOD		<u>1 900</u> - 2 000	
			AMATEUR	
			FIXED	·
•			MOBILE except aeronautical m	obile
			RADIONAVIGATION	
			3482/198	

Reasons: (1 605 - 1 705 kHz) Since the use of this band for the fixed, mobile and aeronautical radionavigation services has declined while its use by the broadcasting service has increased, the band allocated to the latter service in Region 2 is enlarged to 535 - 1 705 kHz, with the same conditions of operation, the power values to be fixed by a regional plan for this service.

(1 705 - 1 800 kHz) Owing to the requirements of the low-power broadcasting service (up to 250 W), it is proposed that this service should share this band with the fixed, mobile and radiolocation services, all of them with primary status, and with the aeronautical radionavigation service which is to be placed on a secondary basis.

(1 900 - 2 000 kHz) The fixed, mobile and radionavigation services are retained in this band owing to the need to facilitate sharing between these services; the amateur service is excluded, being given exclusive use of the band 1 800 - 1 900 kHz.

kHz 2 505 - 2 850

		Region 2	Region 3
MEX/109/18	MOD	2 505 <b>-</b> <del>2</del> - <del>625</del> <u>2 575</u>	
		FIXED	
		MOBILE	
MEX/109/19	MOD	2 575 - 2 650	
		FIXED	
		Fixed	
		MOBILE	
		MARITIME MOBILE	
		Land mobile	
MEX/109/20	MOD	<u>2 650</u> – 2 850	,
		FIXED	
		MOBILE	

 $\underline{\text{Reasons}}$ : The country's own requirements call for this band allocation to the services shown.

MEX/109/21 NOC Allocations appearing in boxes 3 500 - 4 000 kHz.

Reasons: The land fixed and mobile services are used on a large scale owing to the telecommunication system infrastructure and the orography of the country.

kHz 4 000 - 4 650

		Region 1	Region 2	Region 3
MEX/109/22	MOD	4 000 - 4 063	FIXED	
			Mobile except aeronautica	l mobile (R)
MEX/109/23	MOD	4 063 - 4 438	MARITIME MOBILE	
•			3503/208 MOD 3504/209 35	505/209A
MEX /109/24	MOD	4 438 - 4 650		4 438 – 4 650
		FIXED		FIXED
		Mobile except aeronautical	mobile (R)	MOBILE except aeronautical mobile
		3504/209		<u>3504/209</u>

kHz 4 750 - 4 850

MEX/109/25	MOD	4 750 - 4 850	4 750 - 4 850
		FIXED	FIXED
		AERONAUTICAL MOBILE (OR)	BROADCASTING 3496/202
	÷	LAND MOBILE	Mobile except aeronautical mobile (R)
		BROADCASTING 3496/202	

Reasons: The mobile service should be included on a secondary basis because of existing requirements, particularly in daytime.

MEX/109/26 MOD

3504/209 On condition that harmful interference is not caused to the maritime mobile service, the frequencies between 4 063 and 4-438-kHz - 4 500 kHz and 16 360 - 16 460 kHz, may be used exceptionally by fixed stations communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 100 watts; however, in Regions 2 and 3, between-4-238-and-4-368-kHz, a mean power not exceeding 500 250 watts may be used by such fixed stations.

#### kHz 5 060 - 5 250

 Region 1
 Region 2
 Region 3

 MEX/109/27
 MOD
 5 060 - 5 250
 FIXED

 Mobile except aeronautical mobile
 Mobile except aeronautical mobile

 $\overline{\text{Reasons}}$ : The mobile service should be included on a secondary basis because of existing requirements, particularly in daytime.

kHz 5 730 - 5 950

MEX/109/28 MOD 5 730 - 5 950 FIXED

Mobile except aeronautical mobile

 $\underline{\text{Reasons}}$ : The mobile service should be included on a secondary basis because of existing requirements, particularly in daytime.

kHz 7 100 - 7 300

MEX/109/29	) MOD (WW)	7 100 - 7-300 7 200	7 100 - <del>7-300</del> <u>7 200</u> ·	7 100 - 7-300 <u>7 200</u>
		BROADCASTING	AMATEUR	BROADCASTING
		AMATEUR	·	AMATEUR
		3509/242 3509A	3509A	3509A
	MOD	<u>7 200</u> - 7 300	<u>7 200</u> - 7 300	<u>7 200</u> - 7 300
	(MM)	BROADCASTING	AMATEUR	BROADCASTING
		3509/212	BROADCASTING	

Reasons: (7 100 - 7 200 kHz) This will allow the band to be used efficiently by the amateur service in the three Regions.

(7 200 - 7 300 kHz) This will allow the band to be used efficiently by the broadcasting service in the three Regions.

MEX/109/31

ADD

The bands 7 190 - 7 200 kHz, 10 190 - 10 200 kHz, 14 340 - 14 350 kHz, 21 440 - 21 450 kHz and 25 200 - 25 210 kHz, are allocated to the amateur service on a world priority basis for use by stations covering the site of a natural disaster. Such priority shall be accorded solely for communications by stations operating at the site in question and during the period of a declared natural disaster.

kHz 10 100 - 11 175

•		· Region 1	Region 2	Region 3
MEX/109/32	MOD	10 100 - 11-175 10 200	FIXED	
			AMATEUR 3509A	
MEX/109/33	MOD	10 200 - 10 700	FIXED	
MEX/109/34	MOD	10 700 - 11 175	FIXED	
			Mobile except aeronautical	mobile (R)

#### kHz 11 975 - 13 200

MEX/109/35	MOD	11 975 - <del>12-330</del> <u>12 200</u>	FIXED
MEX/109/36	MOD	12 200 - 12 330	FIXED
	į		MARITIME MOBILE
MEX/109/37	NOC	12 330 - 13 200	MARITIME MOBILE
			3510/213

 $\underline{\text{Reasons}}$ : (10 100 - 10 200 kHz) Owing to incompatibility of the services in question, this band should be allocated to the amateur service in the three Regions.

 $(10\ 700\ -\ 11\ 175\ kHz)$  The mobile service should be included on a secondary basis owing to existing needs, particularly during daytime.

(12 200 - 13 200 kHz) To widen the band allocated to the maritime mobile service in order to cover its requirements.

kHz 13 360 - 14 350

		Region 1	Region 2	Region 3
MEX/109/38	MOD	13 360 - <del>44</del> -000 <u>13 900</u>	FIXED	
		:	3513/217	
MEX/109/39	MOD	<u>13 900</u> - 14 000	FIXED	
•			RADIO ASTRONOMY	•
· .	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
MEX/109/40	MOD	14 250 - 14 350	AMATEUR	
			3509A 3514/218	

 $\underline{\text{Reasons}}$  : To cover the requirements of the radio astronomy service as stated by the CCIR (Report 224-4).

kHz 15 768 - 17 900

MEX/109/41	MOD	15 768 - <del>16-460</del> <u>16 360</u>	FIXED
MEX/109/42	MOD	<u>16 360</u> - 16 460	FIXED
			MARITIME MOBILE
			3504/209
	NOC	16 460 - 17 360	MARITIME MOBILE
			3510/213
MEX/109/43	MOD	17 360 <b>-</b> <del>1</del> 7-700 <u>17 600</u>	FIXED

## kHz 15 768 - 17 900 (cont.)

		Region 1	Region 2	Region 3
MEX/109/44	MOD	<u>17 600</u> - 17 700	FIXED	
			BROADCASTING	
MEX/109/45	NOC	17 700 - 17 900	BROADCASTING	·

Reasons: (16 360 - 16 460 kHz) To widen the band allocated to the maritime mobile service in order to cover its requirements.

 $(17\ 600\ -\ 17\ 900\ kHz)$  To cover the requirements of the broadcasting service in the three Regions.

kHz 18 068 - 21 450

MEX/109/46	MOD	18 068 - <del>19</del> -990 <u>18 168</u>	FEXED
			AMATEUR
MEX/109/47	MOD	<u>18 168</u> - 19 990	FIXED
	NOC	19 990 - 20 010	· STANDARD FREQUENCY
		,	3495/201A 3498/203A 3516/220
MEX/109/48	MOD	20 010 - <del>21</del> -000 <u>20 950</u>	FIXED
MEX/109/49	MOD	20 950 - 21 000	FIXED
			AMATEUR
			AMATEUR-SATELLITE
MEX/109/50	MOD	21 000 - 21 450	AMATEUR
			AMATEUR-SATELLITE
			<u>3509A</u>

Reasons: (18 068 - 18 168 kHz) To provide facilities for the amateur service.

(20  $950 - 21\ 000\ kHz$ ) To provide an additional part of the spectrum for the amateur service and to make the allocation of the band uniform.

## kHz 21 870 - 22 000

		Region 1	Region 2	Region 3
MEX/109/51	MOD	21 870 - <del>22-00</del> 0 <u>21 924</u>	AERONAUTICAL FIXED	
			AERONAUTICAL-MOBILE-(R)	•
MEX/109/52	MOD	<u>21 924</u> - 22 000	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (R)	

Reasons: Agreement adopted at the 1978 Aeronautical Conference.

kHz . 25 110 - 25 600

MEX/109/53	MOD	25 110 <b>- <del>25</del>-6</b> 00 <u>25 210</u>	FIXED
			MOBILE-except-aeronautical-mobile
	!		AMATEUR
			AMATEUR-SATELLITE
			3509A
MEX/109/54	MOD	<u>25 210</u> - 25 600	FIXED
			MOBILE except aeronautical mobile

Reasons: (25 110 - 25 210 kHz) To meet the requirements of the amateur service.

MHz 30.01 - 38.25

MEX/109/55	MOD	30,01 - 37,75	<u>37.5</u>	FIXED	3525/228	3526/229	3527/230	3528/231	
				MOBILE	1		,		
:				3530/2	33A				

MHz 30.01 - 38.25 (cont.)

		Region l	Region 2 Region 3
MEX/109/56	MOD	<u>37.5</u> - 37.75	FIXED 3525/228 3526/229 3528/231
			MOBILE
			Radio astronomy
•			3531/233B
MEX/109/57	MOD	37.75 - <del>38.25</del> <u>38</u>	FIXED 3525/228 3526/229 3528/231
			MOBILE
			RADIO ASTRONOMY
			MOD <u>3531/233B</u>
MEX/109/58	MOD	<u>38</u> - 38.25	FIXED 3525/228 3526/229 3528/231
			MOBILE
			RADIO ASTRONOMY
			Radio-astronomy
			3531/233B

 $\underline{\text{Reasons}}$ : (30.01 - 37.5 MHz) The band allocated to the fixed and mobile services is reduced in order to cover the requirements of the radio astronomy service in the band 37.5 - 37.75 MHz.

 $(38 - 38.25 \ \text{MHz})$  To allow radio astronomy to develop on a primary basis.

#### MEX/109/59 MOD

Replace the present text by the following: In making assignments to stations of other services to which the bands 37.75 - 38.25-MHz 37.5 - 38 MHz, 150.05 - 153-MHz, 406.1 - 410-MHz, 2-690 - 2-700-MHz and 4-700 - 5-000-MHz 4 950 - 4 990 MHz are allocated, administrations-are-urged-to governments shall take all practicable steps to protect radio astronomy observations from harmful interference.

 $\underline{\text{Note}}$ : This footnote is deleted in boxes 150.05 - 153 MHz (Region 1), 406.1 - 410 MHz and 2 690 - 2 700 MHz.

MHz 117.975 - 138

		Region 1	Region 2	Region 3
MEX/109/60	MOD	117.975 - 132	AERONAUTICAL MOBILE (R)	
			3495/201A 3572/273 3573/2	73A <u>3573A</u>
MEX/109/61	MOD	132 - 136	AERONAUTICAL MOBILE (R)	
	•		3573/273A 3574/274 <del>3575/2</del>	74A 3576/274B 3577/275
MEX/109/62	MOD	136 - 137	SPACE-RESEARCH-(Space-to-E	arth)
			AERONAUTICAL MOBILE (R)	•
			3581/281A 3582/281AA <u>3582A</u>	3582B
MEX/109/63	MOD	137 - 138	SPACE OPERATION (Telemeter	ing and tracking)
			METEOROLOGICAL-SATELLITE	
			SPACE RESEARCH (Space-to-E	arth)
			3578/275A 3580/279A <u>3582A</u>	3583/281C 3584/281E
MEX/100/6)	מת	3573A Spa	se system techniques may be	

MEX/109/64 ADD 3573A Space system techniques may be used to receive emissions from emergency poisition-indicating radiobeacon stations at frequencies

121.5 MHz, 156.75 MHz and 243 MHz.

Note: Add this footnote in boxes 156 - 174 MHz (Region 1), 150.05 - 174 MHz (Region 2), 150.05 - 170 MHz (Region 3) and 235 - 267 MHz.

MEX/109/65 SUP 3575/274A

Reasons : In accordance with the provisions of the Radio Regulations, this

footnote is deleted.

MEX/109/66 SUP 3576/274B

Reasons: This footnote is deleted.

SUP 3581/281A MEX/109/67

MEX/109/68 ADD The bands 136 - 137 MHz and 137 - 138 MHz are allocated to the aeronautical mobile (R) service for use from 1 January 1990 onwards.

MEX/109/69 ADD

3582B Until 1 January 1990, the band 136 - 137 MHz will also be allocated to the space research service (space-to-Earth). From 1 January 1990 onwards no further stations will be authorized for this service. The stations authorized prior to that date may continue to operate on a secondary basis.

 $\overline{\text{Reasons}}$ : To rearrange the channels of the aeronautical mobile (R) service for air traffic purposes. The indications are that space operations tend to use higher frequencies and the present use of the band 136 - 138 MHz for space purposes is somewhat limited.

MHz 220 - 225

MEX/109/70 MOD

Region 2
220 - 225
AMATEUR
RADIOLOCATION
MOBILE except aeronautical mobile

Reasons: It is proposed to include the mobile service on a primary basis, having regard to its requirements.

MHz 420 - 460

		Region 1	Region 2	Region 3
MEX/109/71	MOD	420 - 430 (NOC)	420 - <del>450</del> <u>430</u>	
		FIXED	RADIOLOCATION	
		MOBILE except aeronautical mobile	Amateur	
		Radiolocation	MOBILE except aeronautical	mobile
		Radiologation	FIXED	
		3636/318 3640/319	3636/318 3647/323 3648/3	24
MEX/109/72	MOD	430 - 440	<u>430</u> - <u>440</u>	
		AMATEUR	RADIOLOCATION	
	RADIOLOCATION	Amateur		
	3636/318 3640/319 3642/319B 3643/320 MOD 3644/320A 3645/321 3646/322	3636/318 3642/319B MOD 36	44/320A 3647/323 3648/324	

MHz 420 - 460 (cont.)

	Region 1	Region 2	Region 3
MEX/109/73 MOD	440 - 450 (NOC)	440 - 450	
	FIXED	RADIOLOCATION	
	MOBILE except aeronautical mobile	FIXED	
	Radiolocation	MOBILE except aeronautical	<u>mobile</u>
	3636/318 3640/319	Amateur	·
	3641/319A	3636/318 3641/319A 3647/3	23 3648/324
NOC	450 - 460	FIXED	
		MOBILE 3638/318B 3639/31	3c
		3636/318 3641/319A	

Reasons: (420 - 430 MHz) The fixed and mobile services should be included on a primary basis in view of their requirements. Similarly, footnotes 3641/319A, 3642/319B and 3644/320A should be deleted since they do not relate to the band with which we are concerned.

 $(440-450\ \text{MHz})$  The fixed and mobile services should be included on a primary basis in view of their requirements. Similarly, footnotes 3642/319B and 3644/320A should be deleted since they do not relate to the band with which we are concerned.

MHz 470 - 890

MEX/109/74	MOD	470 - <del>890</del> <u>512</u>
		BROADCASTING
		FIXED
		MOBILE
		3661A
MEX/109/75	MOD	<u>512 - 608</u>
		BROADCASTING
		3655/329A

MHz 470 - 890 (cont.)

Region 2

608 - 614

BROADCASTING

Broadcasting

RADIO ASTRONOMY

3660/332

614 - 806

BROADCASTING

3661/332A

806 - 890

BROADCASTING

FIXED

MOBILE

MEX/109/76

MEX/109/77

MEX/109/78

MOD

MOD

MOD

 $\underline{\text{Reasons}}$ : (470 - 512 MHz and 806 - 890 MHz) The fixed and mobile services should be included on a primary basis in view of their requirements.

 $(608-614\ \mathrm{MHz})$  The band  $608-614\ \mathrm{MHz}$  is also used by the radio astronomy service.

3661A

MEX/109/79 MOD

Replace the present text by the following: In the bands 435 - 438 MHz, 1 250 - 1 260 MHz, 2 390 - 2 400 MHz and 5 650 - 5 670 MHz the amateur-satellite service may be authorized, on condition that no harmful interference shall be caused to other services operating in accordance with the Table. Administrations authorizing such use shall ensure that any harmful interference caused by emissions from an amateur-satellite is immediately eliminated in accordance with the provisions of No. 6362/1567A.

MEX/109/80 ADD

3661A In the bands 490 - 512 MHz and 806 - 890 MHz, the operation of the fixed and mobile services shall be subject to agreement between the administrations of neighbouring countries and to coordination in advance. The broadcasting service shall always be protected by the fixed and mobile services.

Reasons: The bands 490 - 512 MHz and 806 - 890 MHz are to be shared by the broadcasting, fixed and mobile services in order to meet the needs of the fixed and mobile services, the broadcasting service being protected.

Page 18

MHz 890 - 942

Region 2 890 - 942 902 MEX/109/81 MOD FIXED RADIOLOCATION 3669/339A MEX/109/82 MOD <u>902 - 928</u> FIXED RADIOLOCATION Amateur 3669/339A 3670/340 MEX/109/83 MOD 928 - 942 FIXED RADIOLOCATION 3669/339A

 $\underline{\text{Reasons}}$ : We ask for the amateur service to be included in the band 902 - 928 MHz on a secondary basis, having regard to present requirements.

MHz 1 215 - 1 300

Region 1 Region 2 Region 3

MEX/109/84 MOD 1 215 - 1 300 RADIOLOCATION

Amateur

3644/320A 3672/342 3673/343 3674/344 3675/345

MEX/109/85

Not used

MHz 1 435 - 1 525

MEX/109/86 MOD

Region 2		
1 435 - 1 525		
MOBILE		
FIXED		
Fixed		

 $\overline{\text{Reasons}}$ : In view of the need to protect the fixed service and the extent to which it is used, it should be upgraded to primary status.

MHz 2 300 - 2 450

MEX/109/87 MOD

Region 1	Region 2	Region 3	
2 300 - 2 450	2 300 - 2 450		
FIXED	RADIOLOCATION		
Amateur	Amateur		
Mobile	Fixed		
Radiolocation	Mobile		
26h /2004 2700 /257	FIXED		
3644/320A 3709/357 3710/358 3711/359	<u>3644/320A</u> 3709/357 3712/3	60	

 $\underline{\text{Reasons}}$ : In view of the need to protect the fixed service and the extent to which it is used, it should be upgraded to primary status.

MHz 4 700 - 5 000

MEX/109/88 MOD

4 700 - 4-990 <u>4 950</u> FIXED

MOBILE

3531/233B 3697/354 3746/382A

MHz 4 700 - 5 000 (cont.)

		Region l	Region 2	Region 3
MEX/109/89	MOD	<u>4 950</u> – 4 990	FIXED	
	•		MOBILE	
			Radio astronomy	
	•		MOD 3531/233B 3747/382B	·
MEX/109/90	MOD	4 990 - 5 000 (NOC)	4 990 - 5 000	4 990 - 5 000
	(WW)	FIXED	FIXED	FIXED
		MOBILE	MOBILE	MOBILE
		RADIO ASTRONOMY	RADIO ASTRONOMY	RADIO ASTRONOMY
		3531/233B	3749/383A	3531/233B

 $\underline{\text{Reasons}}$ : (4 950 - 4 990 MHz) The band is divided to make room for radio astronomy, enabling that service to expand.

 $(4\ 990\ -\ 5\ 000\ MHz)$  Including the fixed and mobile services on a primary basis in order to maintain allocations in similar form in the three regions.

MHz 5 650 - 5 670

MEX/109/91 MOD

5 650 - 5 670	RADIOLOCATION
	Amateur
	<u>3644/320A</u> 3756/388 3757/389

MHz 5 725 - 5 850

MEX/109/92 MO

MOD (WW)

5 725 - 5 850 (NOC)	5 725 - 5 850
FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)
	RADIOLOCATION
RADIOLOCATION	Amateur
Amateur	
3697/354 3756/388 3759/390 3760/391 3761/391A	3757/389 3760/391 3761/391A

Reasons: For study and future application.

MEX/109/93

MOD

3761/391A Radio astronomy observations are being carried out in the bands 5 750 - 5 770 MHz and 36.458 - 36.488-GHz in a number of countries under national arrangements. Administrations are urged to take all practicable steps to protect radio astronomy observations in-these-bands from harmful inteference

MHz 5 850 - 5 925

	Region 1	Region 2	Region 3
MEX/109/94 MOD	5 850 - 5 925 (NOC)	5 850 - 5 925	5 850 - 5 925 (NOC)
	FIXED	RADIOLOCATION	FIXED
	FIXED-SATELLITE (Earth-to-space) MOBILE	Amateur  FIXED-SATELLITE  (Earth-to-space)	FIXED-SATELLITE (Earth-to-space) MOBILE
		MOBILE	Radiolocation
		FIXED	
	3760/391	3760/391	3760/391

 $\underline{\text{Reasons}}$ : To include the fixed and mobile services on a primary basis and maintain allocations in similar form in the three Regions.

MHz 8 850 - 9 300

		<del></del>	·····
MEX/109/95	MOD	8 850 - 9 000	RADIOLOCATION
			MARITIME RADIONAVIGATION
			3774/397 3775/398 <u>3774A</u>
,	NOC	9 000 - 9 200	AERONAUTICAL RADIONAVIGATION 3676/346
			Radiolocation
			3774/397
MEX/109/96	MOD	9 200 - 9 300	RADIOLOCATION
			MARITIME RADIONAVIGATION
			3774/397 3775/398 <u>3774A</u>

Reasons: (8 850 - 9 000 MHz) In view of the requirements of the service, the addition of maritime radionavigation is proposed.

(9 200 - 9 300 MHz) In view of the requirements of the service, the addition of maritime radionavigation is proposed.

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MEX/109/97

ADD 3

3774A . In the bands  $8\ 850\ -\ 9\ 000\ MHz$  and  $9\ 200\ -\ 9\ 300\ MHz$ , the maritime radionavigation service is restricted to the use of ground-based radar equipments.

MHz 9 500 - 9 800

MEX/109/98 MOD

Region 1	Region 2	Region 3
9 500 - 9 800	RADIOLOCATION	
	RADIONAVIGATION	
	.3775/398	

 $\overline{\text{Reasons}}$ : The band is proposed for radionavigation in general, in view of the needs of that service.

GHz 10.7 - 12.5

MEX/109/99	MOD	10.7 - 10.95	FIXED
			MOBILE
			FIXED-SATELLITE (Space-to-Earth)
	NOC	10.95 - 11.2	10.95 - 11.2
		FIXED	FIXED
		FIXED-SATELLITE	FIXED-SATELLITE (Space-to-Earth)
		(Space-to-Earth) (Earth-to-space)	MOBILE
	•	MOBILE	,
MEX/109/100	MOD	11.2 - 11.45	FIXED
			MOBILE
·			FIXED-SATELLITE (Space-to-Earth)
	NOC	11.45 - 11.7	FIXED
			FIXED-SATELLITE (Space-to-Earth)
			MOBILE

GHz 10.7 - 12.5 (cont.)

		Region 1	Region 2	Region 3		
MEX/109/101 M	4OD	11.7 - 12.5 (NOC)	11.7 - 12.2	11.7 - 12.2 (NOC)		
		FIXED	F±XED	FIXED		
٠,		MOBILE except aeronautical mobile	FIXED-SATELLITE . (Space-to-Earth)	MOBILE except aeronautical mobile		
		BROADCASTING	MOBILE-except aeronautical-mobile	BROADCASTING		
		BROADCASTING-SATELLITE	BROADCASTING	BROADCASTING-SATELLITE		
			BROADCASTING-SATELLITE			
			<del>3786/495BB</del> 3787/407BC	3785/405BA		
MEX/109/102 M	1OD		12.2 - 12.5			
			FIXED			
			MOBILE except aeronautical	. mobile		
			BROADCASTING			
			BROADCASTING-SATELLITE			
	. [	3785/405BA	<u>3787A</u> <u>3789A</u>			

MEX/109/103 SUP 3786/405BB

MEX/109/104 ADD

3787A The use of the band 12.2 - 12.5 GHz in Region 2 by the broadcasting-satellite service shall be limited to domestic systems and shall be subject to agreement between the administrations concerned and those having services operating in conformity with the Table, which may be affected (see Articles Nll and Nl3/9A and Resolution Spa2 - 3).

MEX/109/105 ADD

3789A No new satellite or land radiocommunication systems shall be introduced in the band 12.2 - 12.5 GHz in Region 2 until after the Regional Broadcasting-Satellite Administrative Conference.

 $\frac{\text{Reasons}}{\text{services}}$ : 3786/405BB is deleted in the interests of consistency with the services excluded from the band 11.7 - 12.2 GHz.

The changes in the allocation of the band 11.7 - 12.5 GHz and the addition of the footnotes 3787A and 3789A are intended to ensure greater flexibility for the Conference which is to draw up a plan for the broadcasting-satellite service for Region 2 in 1983.

GHz 15.35 - 15.4

MEX/109/106 MOD

Region 1	Region 2	Region 3			
15.35 - 15.4	RADIO ASTRONOMY				
	EARTH EXPLORATION-SATELLITE (Passive sensor)				
	SPACE RESEARCH (Passive sensor)				
	3799/409C				

Reasons: For study and future application.

GHz 36 - 40

MEX/109/107 MOD

36 - 40 FIXED

MOBILE

3761/391A 3810/412E

INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 110-E
16 August 1979

PLENARY MEETING

Peru

(Concerns the French text only)



## INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 110-E 18 May 1979 Original: Spanish.

PLENARY MEETING

## Republic of Peru

PROPOSALS FOR THE WORK OF THE CONFERENCE

LIMA - 1979

## Introduction

This document discusses the proposals for Chapters NI, NII, NIII, NV and NVI.



#### CHAPTER I

Terminology

ARTICLE N1/1

Terms and Definitions

#### Section I. General terms

PRU/110/1

MOD 3005/7 Radio Waves (or Hertzian Waves): Electromagnetic waves

of temporarily limited to frequencies lower than 3 000 GHz, propagated in space

without-artificial guide and not transmitted from transmitter to receiver by an

artificial medium such as a waveguide or a wire.

Reasons : To indicate that the frequency limit is not final and to explain the concept of artificial medium.

PRU/110/2

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

Reasons: To bring the definition up to date.

Section II. Radio Systems, Services and Stations

PRU/110/3

- MOD 3033/21B Earth Station: A station located either on the Earth's surface or within the major portion of the Earth's atmosphere intended for communication:
  - with one or more space stations : or
  - with one or more stations of the same kind by means of one or more passive satellites or other objects in space.

Reasons: Satellites may be passive or active.

Section III. Terrestrial Radio Systems,
Services and Stations

PRU/110/4

MOD 3042/76 Meteorological Aids Service: An radiocommunication Earth exploration service used for meteorological, including hydrological, observations and exploration.

Reasons: To emphasize the frequency requirements for the use of sensors (active or passive) in the Earth exploration-satellite service.

PRU/110/5

MOD 3046/80

Replace the present text by the following: Standard Frequency and Time Signal Service: A radiocommunication service for scientific, technical and other purposes, providing the transmission of specified frequencies and time signals of stated high precision, intended for general reception.

Reasons: Generally both services are provided by one and the same station.

PRU/110/6

MOD 3047/81 Standard Frequency and Time Signal Station: A station in

the standard frequency and time signal service.

Reasons: Follows from MOD 3046/80

PRU/110/7

3048/82 SUP

Reasons: Follows from MOD 3046/80

Section IV. Space Radio Systems, Services and Stations and Radio Astronomy

PRU/110/8

3102/84AG MOD

Fixed-Satellite Service: A radiocommunication service:

between earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the inter-satellite service :

- for connection between one or more earth stations at specified fixed points and satellites used for a service other than the fixed-satellite service (for example, the mobile-satellite service, broadcasting-satellite-service, etc.).
- for Earth-to-space links between one or more earth stations at specified fixed points and satellites for use in the broadcasting-satellite service.

Reasons: To define the up-links of the broadcasting-satellite service as well as the down-links in the fixed-satellite service.

PRU/110/9

MOD 3109/84ATB

Standard Frequency and Time Signal Satellite Service: A radiocommunication service using space stations on earth satellites for the same purposes as those of the standard frequency and time signal service.

Reasons: Follows from MOD 3046/80

PRU/110/10

SUP 3110/84ATC

Reasons: Follows from MOD 3109/84ATB

PRU/110/11

ADDMobile Earth Station: An earth station in the mobilesatellite service initially for use in motion and during stops at unspecified points.

Reasons: To explain the conditions in which these stations may be operated.

#### Section VI. Technical characteristics

PRU/110/12	ADD.	3136A	Carrier	Frequer	ncy: An	electromagne	etic wave a	ayailable for
		modulation and	characterized b	by its f	frequency	, phase and	amplitude.	

PRU/110/13 ADD 3136B Modulation: The process by which some parameter of one wave is varied in accordance with some parameter of another wave.

Reasons: As these terms are frequently used in the Regulations, they should be defined.

PRU/110/14 MOD 3138/89 Assigned Frequency Band: The frequency band the centre of which coincides with the frequency assigned to the station and the width of which equals the necessary bandwidth plus twice the absolute value of the frequency tolerance.

Reasons: To avoid redundant definitions and to explain that the assigned frequency band is the basic unit.

PRU/110/15 ADD 3140A Emission: Electromagnetic energy emanating from a source in a radio system.

Reasons: To define a term frequently used in the Regulations.

PRU/110/16 ADD 3141A Interference: The effect of undesired energy produced by an emission, radiation or induction, or a combination of these, on reception in a radio communication system, and resulting in a deterioration or loss of information which might be obtained in full in the absence of the undesired energy.

Reasons: Follows from MOD 3142/93.

PRU/110/17 MOD 3142/93 Harmful Interference: Any interfering emission, radiation or-induction which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with these Regulations.

Reasons: Follows from ADD 3141A.

PRU/110/18 MOD 3146/97 Carrier Power of a Radio Transmitter: The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle under conditions of no modulation. This definition does not apply to pulse modulated emissions.

#### CHAPTER NII

#### Technical Provisions

#### ARTICLE N3

#### Designation of Emissions

DDtt /3 7 0 /3 0	CIID	3209/104	+ ~	2016/111
PRU/110/19	SUP	32097104	τo	3210/111

Reasons: To bring the provisions into line with CCIR Recommendation No. 507.

PRU/110/20 ADD 3217 1. Emissions are designated according to their necessary bandwidth and their classification. Whenever the full designation of an emission is required, the classification for that emission shall be preceded by an indication of the necessary bandwidth.

#### Section I. Necessary bandwidth

PRU/110/21 ADD 3218 2. The necessary bandwidth shall be expressed by three numerals, and one letter which shall occupy the position of the decimal point, as described below. The first numeral shall not be a zero.

#### The necessary bandwidth

between 1 Hz and 999 Hz shall be expressed in Hz

(symbol H),

between 1 kHz and 999 kHz shall be expressed in kHz

(symbol K),

between 1 MHz and 999 MHz shall be expressed in MHz

(symbol M),

between 1 GHz and 999 GHz shall be expressed in GHz

(symbol G).

## Examples

Necess	ary l	pandwidt	h				Symbol
2	5	Hz				4 - 4	25H0
40	0	Hz					400Н
2	2.4	kHz					2K40
. (	6 .	kHz	* .				6коо
1/2	2.5	kHz			•		12K5
- 30	6	kHz			,		36ко.
180	0 .	kHz			•		180K
	1.25	MHz					1M25
(	6.25	MHz					6M25
2'	7	MHz					27MO
	5.6	GHz	:				5G60

ADD

3219

PRU/110/22

and examples of the designation of emissions are given in Appendix No. 5. Section II. Classification PRU/110/23 ADD3220 Emissions are classified and symbolized according to the following basic characteristics. Modulation used only for short periods for incidental purposes may be ignored. Basic characteristics: 1. Type of modulation of the main carrier. Nature of signal(s) modulating the main carrier. Type of information to be transmitted. PRU/110/24 ADD 3221 First symbol - Type of modulation of the main carrier\*). 4.1 Emission of an unmodulated carrier. 4.2 Emission in which the main carrier is amplitudemodulated (including cases where sub-carriers are angle-modulated). 4.2.1 Double-sideband A 4.2.2 Single-sideband, full carrier H 4.2.3 Single-sideband, reduced or variable level carrier R 4.2.4 Single-sideband, suppressed carrier J 4.2.5 Independent sideband В 4.2.6 Vestigial sideband C 4.3 Emission in which the main carrier is angle-modulated. 4.3.1 Frequency modulation F 4.3.2 Phase modulation

The necessary bandwidths for various classes of emission

angle-modulated either simultaneously or in a pre-established sequence.

4.4 Emission in which the main carrier is amplitude- and

<sup>\*)</sup> This classification assumes that no change in the basic notification procedure is made. Should a change occur where the indication of the use of the upper or lower sideband is lost, the method may require revision with respect to the first symbol.

•		;	4.5 Emissi	on of pu	lses*).		
		•	4.5.1	Unmodul	ated sequence	of pulses	P
·			4.5.2	A seque	nce of pulses		•
				4.5.2.1	Modulated in	amplitude	K
				4.5.2.2	Modulated in	width/duration	L
•			•	4.5.2.3	Modulated in	position/phase	М
				4.5.2.4		carrier is angle- ring the period of the	e Q
				4.5.2.5		ombination of the is produced by other	V
		the main carrier mo	odulated,	either s	imultaneously	which an emission cor or in a pre-establish following modes : ampl	hed
•			4.7 Cases	not othe:	rwise covered.		X
PRU/110/25	ADD	3222 5. carrier.	Second	symbol ·	- Nature of si	ignal(s) modulating th	ne main
			5.1 No mod	ulating	signal		0
		information without				quantized or digital arrier**).	ı
		information with the				quantized or digital ter**).	2
			5.4 A sing	le channe	el containing	analogue information	3
	,		5.5 Two or informa		annels contair	ning quantized or digi	ital 7
		-	5.6 Two or	more cha	annels contair	ning analogue informat	tion 8
		quantized or digita containing analogue	al informat	tion, to		more channels containe or more channels	ining 9
		,	5.8 Cases 1	not other	rwise covered		Х
•							

<sup>\*)</sup> Emissions, where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g. pulse code modulation), should be designated under § 5.2 or 5.3.

<sup>\*\*)</sup> This excludes time-division multiplex.

PRU/110/26	ADD	3223 6.	Third symbol - Type of information to be transmitted*).	
			6.1 No information transmitted	N
			6.2 Telegraphy - for aural reception	A
			6.3 Telegraphy - for automatic reception	В
			6.4 Facsimile	С
,			6.5 Data transmission, telemetry, telecommand	D
• .			6.6 Telephony (including sound broadcasting)	E
•			6.7 Television (yideo)	F
•			6.8 Combination of the above	W
			6.9 Cases not otherwise covered	х
			dditional characteristics	
PRU/110/27	ADD	3224 an emission, symbo	If administrations wish to describe further details of als in the following paragraphs shall be used:	
		·	4. Details of signal(s)	
			5. Nature of multiplexing	•
PRU/110/28	ADD	3225	Fourth symbol - Details of signal(s)	
		number and/or dura	7.1 Two-condition code with elements of differing tion.	A
		number and duration	7.2 Two-condition code with elements of the same on without error-correction.	В
		number and duration	7.3 Two-condition code with elements of the same on with error-correction.	С
·		•	7.4 Four-condition code in which each condition lelement (of one or more bits).	D
<u>.</u>			7.5 Multi-condition code in which each condition l element (of one or more bits).	E
			7.6 Multi-condition code in which each condition or ditions represents a character.	F
·			7.7 Sound of broadcasting quality - monophonic.	G.
		quadraphonic.	7.8 Sound of broadcasting quality - stereophonic or	Н
			7.9 Sound of commercial quality (excluding categories raphs 7.10 and 7.11).	J

<sup>\*)</sup> In this context the word "information" does not include information of a constant, unvarying nature such as that provided by standard frequency emissions, continuous wave and pulse radars, etc.

		frequency invers	7.10 Sound of commercial quality with the use of ion or band-splitting.	K
· .		frequency-module	7.11 Sound of commercial quality with separate ted signals to control the level of demodulated	L
	,		7.12 Monochrome television.	М
			7.13 Colour television.	N
			7.14 Combination of the above.	W
			7.15 Cases not otherwise covered.	X
PRU/110/29	ADD	3226 8.	Fifth symbol - Nature of multiplexing	
			8.1 None.	N
	V.		8.2 Frequency-division multiplex.	F
			8.3 Time-division multiplex.	T
		and time-divisio	8.4 Combination of frequency-division multiplex n multiplex.	W
			8.5 Other types of multiplexing.	X
PRU/110/30	ADD	3227 9. tabulated below. documents.	The classification of typical emissions is Other examples will be found in the relevant CCIR	

Reasons: Examples based on CCIR Recommendation 507.

e we.		Description	Radio Regulations Art. 2 Symbol	Symbols proposed in this method	
	•			§§ 4, 5, 6	55 7, 8
I.	No Mod	dulating signal			
٧	1.	Standard frequency emission without time signals	AO or FO	NON	
	2.	CW radar	AO or FO	NON	<del></del>
	,3.	Pulse radar	PO	PON	 : : :
	4.	Chirp radar (unmodulated sequence of pulses in which the carrier is angle-modulated during the period of the pulse)	PO	QON	
II.	quant: witho	gle channel containing ized or digital information ut the use of a modulating arrier			
	Α.	Emission amplitude- modulated		1.5 (45) 1. (44) 3. (4)	
	A.1	Morse telegraphy for aural reception	Al	AlA	AN
	A.2	Morse telegraphy for automatic reception	Al	AlB	AN
	A.3	Telemetry using code with elements of the same number and duration, without error-correction	Al	AlD	BN

	Description	Radio Regulations Art. 2 Symbol	Symbols proposed in this method	
	Describeron		55 4, 5, 6	55 7, 8
В.	Emission frequency-modulated			
B.1	Morse telegraphy with frequency-shift keying for automatic reception	Fl	F1B	AN
B.2	Frequency-shift keying teleprinter; 5-unit code without error correction	Fl	F1B	BN
В.3	Narrow-band direct-printing telegraph system in maritime mobile service	Fl	FlB	CN
В.4	Facsimile, quantized (weather chart)	Fμ	FlC	AN
B.5	Data transmission in quantized form	Fl	FlD	BN
C.	Emission of pulses	·		
C.1	A sequence of pulses modulated in width (e.g. telemetry signals)	PlG	LID	BN
quanti	gle channel containing ized or digital information the use of a modulating arrier			
Α.	Emission amplitude- modulated	·		
A.1	Double sideband			<u> </u>
A.1.1	Morse telegraphy for aural reception using on-off keying of modulated carrier	A2	A2A	AN

Description		Radio Regulations Art. 2	Symbols proposed in this method	
	peser routou		§§ 4, 5, 6	55 7, 8
A.1.2	Morse telegraphy for automatic reception using on-off keying of modulating sub-carrier	A2	<b>A</b> 2B	AN
A.2	Single-sideband, full carrier			
A.2.1	Standard frequency emission with time signals	А2Н	H2X	XN
A.2.2	Selective calling signal using sequential single frequency code	А2Н	Н2В	FN
A.3	Single-sideband, suppressed carrier			
A.3.1	High-speed Morse telegraphy, on-off keying of modulating sub-carrier	A2J	J2B	AN
A.3.2	Two-tone telegraphy system using a modulating sub-carrier, with error-correction	A2J	J2B	CN
A.3.3	Telegraphy, using a multi- condition code in which each condition or combination of conditions			
	represents a character	А7Ј	J2B	FN

Description		Radio Regulations Art. 2	Symbols proposed in this method	
	Description		§§ 4, 5, 6	55 7, 8
	tle channel containing tue information			
Α.	Emission amplitude- modulated			
A.1	Double-sideband			
A.1.1	Sound broadcasting	АЗ	A3E	GN.
A.1.2	Telephony with privacy	A3	A3E	KN
A.1.3	Telephony without privacy	A3	A3E	
A.1.4	Analogue facsimile	<b>A</b> 4	A3C	
A.2	Single-sideband, full carrier	•	. * .	
A.2.1	Telephony of commercial quality with privacy	АЗН	нзе	KN
A.3	Single-sideband, reduced carrier		·	
A.3.1	Sound of broadcasting quality	АЗА	R3E	GN
A.4	Single-sideband, suppressed carrier	. 🖟	: :	
A.4.1	Telephony with separate frequency-modulated signals to control the level of demodulated speech signal			,
	(Lincompex)	АЗЈ	J3E	LN

Description		Radio Regulations	Symbols proposed in this method	
•	Jesef 10010ti	Art. 2 Symbol	§§ 4, 5, 6	55 7, 8
A.4.2	Analogue facsimile (frequency modulation of			
· .	an audio frequency sub- carrier which modulates the main carrier)	A4J	J3C	
A.5	Vestigial sideband			
A.5.1	Monochrome television (video)	A5C	C3F	MN
A.5.2	Colour television (video)	A5C	C3F	NN
В.	Emission frequency-modulated			
B.1	Sound broadcasting	F3	F3E	GN
B.2	Telephony with privacy	F3	F3E	KN
B.3	Analogue facsimile	F4	F3C	
В.4	Colour television (video)	<b>F</b> 5	<b>F</b> 3F	NN
C.	Emission of pulses			
C.1	A sequence of pulses, modulated in amplitude			
C.1.1	Telephony without privacy, (order wire, non-commercial quality)	P3D	K3E	XN
C.2	A sequence of pulses modulated in phase or position			
-		,		

	Description		Radio Regulations	Symbols proposed in this method		
			Art. 2 Symbol	§§ 4, 5, 6	55 7, 8	
	C.2.1	Analogue data transmission	PlF	M3D		
٧.		more channels containing zed or digital information				
	Α.	Emission amplitude- modulated				
٠.	A.1	Single-sideband, reduced carrier, multichannel voice frequency telegraphy with error-correction, in which some channels are time-division multiplexed	A7A	R7B	CW ;	
	A.2	Independent sidebands with quantized facsimile in one sideband and multichannel voice-frequency telegraphy with error-correction and time-division multiplex in the other sideband	А9В	вүш	ww	
	В.	Emission angle-modulated				
	B.1	Frequency modulation				
	B.1.1	Four-frequency diplex	F6	F7B	DX	
	B.2	Phase modulation				

Description		Radio Regulations	Symbols proposed in this method		
	Descributon		Art. 2 Symbol	55 4, 5, 6	95 7, 8
	B.2.1	Digital radio-relay system in which the baseband is constituted by pulse-code modulated telephony in time-division multiplex and modulates the main carrier in quadrature	•		
		phase-shift keying more channels containing	F3	G7E	DT
	analog	ue information			
	Α.	Emission amplitude- modulated			
	A.1	Single-sideband, full carrier, several telephone channels in frequency-division multiplex	АЗН	н8Е	JF
	A.2	Single sideband, suppressed-carrier, telephony of commercial quality with privacy	АЗЈ	J8E	KF.
	A.3	Independent sidebands	, ,		
	A.3.1	Sound of broadcasting quality	АЗВ	B8E	GF
	A.3.2	Telephony of commercial quality with privacy	АЗВ	B8E	KF
	A.3.3	Two analogue facsimile signals	A4B	в8с	XF

	τ	Description	Radio Regulations	Symbols proposed in this method		
	. • • • • • • • • • • • • • • • • • • •		Art. 2 Symbol	§§ 4, 5, 6	\$\$ 7,8	
	A.3.4	Telephony with separate frequency-modulated signals to control the level of demodulated		÷0.7		
	В.	speech signal (Lincompex)  Emission frequency modulated	A3B	в8Е	LF	
	B.1	Stereophonic sound broadcasting	. F3	F8E	нг	
	B.2	Telephony of commercial quality	F3	F8E	JF	
	B.3	FDM-FM radio-relay system, multichannel telephony (in which the base-band is constituted by frequency-division multiplex and modulates the main carrier in frequency)	F3	F8E	JF	
	в.4	Colour television with four sound channels	<b>F</b> 9	F8W	WF	
VII.	more c or dig with o	ite systems with one or hannels containing quantized ital information together ne or more channels ning analogue information				
	Α.	Emission amplitude- modulated				

	Description	Radio Regulations	Symbols proposed in this method	
•	)	Art. 2 Symbol	55 4, 5, 6	55 7, 8
A.1	Double-sideband emission of VOR with voice (consisting of the main carrier modulated by: - a 30 Hz sub-carrier,			
	<ul> <li>a carrier resulting from a 9 960 Hz tone frequency modulated by a 30 Hz tone,</li> <li>a telephone channel,</li> </ul>			
	- a 1 020 Hz keyed tone for continual Morse identification)	<b>A</b> 9	A9W	WF
A.2	Independent sideband emission with several telegraph channels with error-correction together with several telephone channels with privacy	АЭВ	вэ₩	WF
B. B.1	Emission frequency modulated  Several telegraph channels using frequency-shift keying without error-correction together with several telephone channels	F9	F9W	WF

## EXAMPLES OF COMPLETE DESIGNATIONS OF EMISSIONS INCLUDING THE NECESSARY BANDWIDTHS\*

1.	Morse telegraphy for	aural reception,	25 words per minute	100H AlA AN
2.	Amplitude modulated,	double sideband,	telephony, without privacy	6коо дзе
3.	Frequency modulated,	sound broadcastin	ng	180K F3E GN

Section IV. Table of Frequency Allocations - 10 kHz to 275 GHz

NOC 3450

kHz 10 - 70

			Allocation to Services		
		Region 1	Region 2	Region 3	
PRU/110/31	MOD	Below 10	(Not allocated)		
			MOD 3451/157		
PRU/110/32	MOD	10 - 14	RADIONAVIGATION		
			Radiolocation		
PRU/110/33	MOD	14 - 19.95	FIXED <u>3455A</u>		
			MARITIME MOBILE 3452/158		
			3453/159		
	NOC	19.95 - 20.05	STANDARD FREQUENCY 3454/160		
			3453/159		
PRU/110/34	MOD	20.05 - 70	FIXED <u>3455A</u>		

Reasons: Radiolocation is excluded, because the band has actually not been used for it and because the OMEGA world navigation system must be protected.

MARITIME MOBILE 3452/158

3455/161

PRU/110/35 MOD 3451/157 Administrations authorizing the use of frequencies below 10 kHz for-special-national-purposes shall ensure that no harmful interference is caused thereby to the services to which the bands above 10 kHz are allocated (see also Article N16/14 No. 5003/699).

3453/159

<sup>\*)</sup> Bandwidths taken from examples in Appendix 5 of the Radio Regulations.

PRU/110/36

ADD 3455A In Peru the fixed service is excluded from this band.

Reasons: Most of the fixed links are used for radiotelephony; the low frequencies are used mainly for radiotelegraphy in the mobile service.

NOC 3452/158 to 3455/161

kHz `

70 - 90

PRU/110/37

Region 2 70. - 90 FIXED MARITIME MOBILE 3452/158 MARITIME RADIONAVIGATION 3456/162 Radiolocation

3458/164 <u>3459A</u>

PRU/110/38

ADD

3459A When authorizing new assignments in the band 70 - 90 kHz, administrations shall take effective steps to protect LORGAN-C receiving stations from harmful interference; these stations shall be so designed as not to be sensitive to interference from stations of other services operating in adjacent frequencies.

 $\underline{\mathtt{Reasons}}$  : The LORAN-C system has recently suffered interference from other systems operating in adjacent frequencies; since the band 90 - 110 kHz will be allocated exclusively to radionavigation, additional protection is provided.

NOC 3456/162 to 3459/165

> kHz90 - 110

PRU/110/39

MOD (WW)\*

	Region 1	Region 2	Region 3
(،	90 - 110	90 - 110	90 - 110
<b>*</b> /	F±X <del>ED</del>	RADIONAVIGATION	FIXED
	MARITIME-MOBILE 3452/158	Fixed	MARITIME-MOBILE 3452/158
	RADIONAVIGATION	Maritime-mobile 3452/158	RADIONAVIGATION
•	3457/163 3460/166 <del>3461/167</del>	3460/166 <del>3461/167</del>	3460/166 <del>3461/167</del>

Reasons: The band 90 - 110 kHz will be allocated exclusively to radionavigation.

This symbol is used where proposals for regional allocations entail allocations on a world basis.

NOC 3460/166

PRU/110/40

MOD 3461/167

3461/167 Only classes Al or Fl, A4 or F4 emissions are authorized in the band  $90 \ \underline{110} - 160 \ \text{kHz}$  for stations of the fixed service and  $\underline{\text{in-the-band}}$   $\underline{110} - 160 \ \text{kHz}$  for stations of the maritime mobile service. Exceptionally, class A7J emissions are also authorized  $\underline{\text{in-the-band-ll0}} - \underline{160} - \underline{\text{kHz}}$  for stations of the maritime mobile service.

kHz 110 - 130

	1 1 1	Region 1	Region 2	Region 3
PRU/110/41	MOD	110 - 112	110 - 130	110 - 130
		FIXED	FIXED	FIXED
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
	•	RADIONAVIGATION 3456/162	MARITIME RADIONAVIGATION	RADIONAVIGATION 3456/162
		3457/163 3467/167 <del>3462/168</del>	3456/162 Radiolocation	
	•	112 - 115 (NOC)		į.
		RADIONAVIGATION 3456/162		
	-	3457/163		
PRU/110/42	MOD	115 - 126		
		FIXED		
		MARITIME MOBILE	·	
		RADIONAVIGATION 3456/162	•	
		3457/163 3461/167 <del>3462/168</del> 3463/169		
*		126 - 129 (NOC)		
		RADIONAVIGATION 3456/162		
		3457/163		·
PRU/110/43	MOD	129 - 130		
	" . ·	FIXED		
		MARITIME MOBILE	·	
		RADIONAVIGATION 3456/162	• '	
		3457/163 <del>3462/168</del> 3461/167	3458/164 3461/167 <del>3462/168</del>	3461/167 <del>3462/168</del> 3464/170

PRU/110/44

3462/168 SUP

> Reasons: There have been no frequency requirements for this type of communication in this band.

3463/169 to 3468/175

kHz ' 415 - 490

Region 2 Region 1 Region 3 PRU/110/45 MOD 415 - 490 MARITIME MOBILE 3480A 3478/185 3479/186 NOC 3475/182 to 3480/187 PRU/110/46 ADD 3480A In the band 450 - 460 kHz, frequencies shall be assigned only in cases where no harmful interference is caused to the intermediate frequency of AM sound broadcasting receivers. 510 - 535 510 - 525 PRU/110/47 MOD MOBILE /AERONAUTICAL RADIONAVIGATION/ 3481/188 3484A PRU/110/48 525 - 535 MOD MOBILE /BROADCASTING/ 3484/191 /AERONAUTICAL RADIONAVIGATION/ 3481/188

3484A

PRU/110/49

ADD 3484A

In Peru the band 510 - 535 kHz is allocated exclusively to the maritime mobile service.

NOC

3481/188 to 3492/198

### kHz 2 000 - 2 170

			Region 2	Region 3
PRU/110/50	MOD		2.000 - 2 065	
		•	FIXED	
			MOBILE	
			<u>3495A</u>	
			2 065 - 2 107 (NOC)	
<b>V</b>	-		MARITIME MOBILE	
			3493/200	
PRU/110/51	MOD		2 107 - 2 170	
			FIXED	
		•	MOBILE 3495A	
PRU/110/52	ADD	3495A In F 2 194 - 2 495 kHz, 2 505 - to the aeronautical mobile	Peru the bands 2 000 - 2 06 - 2 850 kHz, 3 155 - 3 200 e service.	5 kHz, 2 107 - 2 170 kHz, kHz will not be allocated
	NOC	3493/200 to 3495/201A		
			kHz 2 194 – 2 850	
PRU/110/53	MOD		2 194 - 2 300	
			FIXED	
			MOBILE <u>3495A</u>	
PRU/110/54	MOD		2 300 - 2 495	
			FIXED	
			MOBILE 3495A	
		· ·	BROADCASTING 3496/202	
. •			2 495 - 2 505 (NOC)	
			STANDARD FREQUENCY	
			3497/203 3498/203A	
PRU/110/55	MOD		2 505 - 2 625	
		;	FIXED	
			MOBILE <u>3495A</u>	
PRU/110/56	MOD		2 625 - 2 850	
		. •	FIXED	
	-		MOBILE 3495A	

NOC 3496/202 to 3499/205.

service.

kHz 2 850 - 3 400

		Region 1	Region 2 Region 3
		2 850 - 3 025	AERONAUTICAL MOBILE (R)
			3495/201A 3500/205A
PRU/110/57	MOD	3 025 - 3 155	AERONAUTICAL MOBILE (OR)
FRU/110/)	MOD	3 02) - 3 1))	
			34998
PRU/110/58	MOD	3 155 - 3 200	FIXED
			MOBILE except aeronautical mobile (R)
			3495A
PRU/110/59	MOD	3 200 - 3 230	FIXED
•			MOBILE except aeronautical mobile (R)
			BROADCASTING 3496/202
			<u>3499A</u>
PRU/110/60	MOD	3 230 - 3 400	FIXED
			MOBILE except aeronautical mobile
			BROADCASTING 3496/202
	•		<u>3499A</u>
PRU/110/61	ADD		Peru the bands 3 200 - 3 400 kHz, 4 750 - 4 850 kHz, - 5 060 kHz will be allocated exclusively to
PRU/110/62	ADD	by fixed stations communic	Peru this band may be used for the land fixed service cating within the national territory on the express

condition that no harmful interference is caused to the aeronautical mobile

Reasons: The hilly, wooded nature of the ground in Peru calls for short links.

kHz 3 500 - 4 000

		Region 1	Region 2	Region 3
PRU/110/63	MOD (WW)	3 500 <b>-</b> 3-800 <u>3 750</u>	3·500 - 4-000 <u>3 750</u>	3 500 <b>- 3-</b> 9 <del>00</del> <u>3 750</u>
	( ww )	AMATEUR	AMATEUR	AMATEUR
		FIXED	F <del>IXED</del>	F <del>IXED</del>
•		MOBILE-except aeronautical-mobile	MOBILE-except aeronautical-mobile-(R)	MOBILE
PRU/110/64	MOD	<u>3 750</u> - 3 800	<u>3 750</u> - 4 000	<u>3 750</u> - 3 900
		AMAPEUR	AMATEUR	AMATEUR .
		FIXED	FIXED .	FIXED
		MOBILE-except aeronautical-mobile	MOBILE except aeronautical mobile (R)	MOBILE
•		AERONAUTICAL MOBILE (OR)		
		LAND MOBILE		
		3 800 - 3 900 (NOC)		
		FIXED	·	
		AERONAUTICAL MOBILE (OR)	·	
		LAND MOBILE		
			er en	

Reasons: To allocate the band 3 500 - 3 750 kHz to the amateur service in the three Regions on a uniform basis.

NOC 3500/205A to 3502/207

kHz 4 750 - 4 850

PRU/110/65 MOD

4 750 - 4 850

FIXED

BROADCASTING 3496/202

3499A

NOC 3503/208 to 3504/209

kHz 4 850 - 5 060

			4 850 - 5 060	
		Region 1	Region 2	Region 3
PRU/110/66	MOD	4 850 - 4 995	FIXED	
			LAND MOBILE	
			BROADCASTING 3496/202 349	<u>9A</u>
	NOC	4 995 - 5 005	STANDARD FREQUENCY	
			3498/203A 3506/210	
PRU/110/67	MOD	5 005 - 5 060	FIXED	
			BROADCASTING 3496/202 349	<u>9A</u>
	NOC	3505/209A to 3514/218		
			kHz	
		parameter 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	7 100 - 7 300	
PRU/110/68	MOD	7 100 - 7 300	7 100 <b>-</b> 7 <del>-300</del> <u>7 250</u>	7 100 - 7 300
		BROADCASTING	AMATEUR	BROADCASTING
•			<u>7 250</u> - 7 300	
			AMATEUR	
	-		BROADCASTING	
•			kHz 17 360 - 17 900	
PRU/110/69	MOD <sup>-</sup>	17 360 - <del>17-700</del> <u>17 600</u>	FIXED	
PRU/110/70	MOD	<u>17 600</u> - 17 700	FIXED	
·			BROADCASTING	
PRU/110/71	NOC	17 700 - 17 900	BROADCASTING	
		Réasons : To reduce conges	stion in the broadcasting sp	ectrum.
÷			kHz 21 870 – 22 000	
PRU/110/72	MOD	21 870 - <del>22</del> -000 <u>21 924</u>	AERONAUTICAL FIXED	
			AERONAUTICAL-MOBILE-(R)	
PRU/110/73	MOD	21 924 - 22 000	AERONAUTICAL-FIXED	
~			AERONAUTICAL MOBILE (R)	

 $\frac{\text{Reasons}}{\text{service}}$ : To provide an exclusive allocation for the aeronautical mobile (R) service in accordance with the decisions of WARC-78 Aer 2.

NOC 3517/221B to 3523/226

MHz30.01 - 38.25

		Region 1	Region 2	Region 3
PRU/110/74	MOD	30.01 - <del>37.75</del> <u>37.50</u>	FIXED 3525/228 3526/229	3527/230 3528/231
			MOBILE	·
			3530/233A	
PRU/110/75	MOD	<u>37.50</u> - 37.75	FIXED 3525/228 3526/229	3527/230 3528/231
			MOBILE	
			RADIO ASTRONOMY	
PRU/110/76	MOD	37.75 - 38.25	FIXED	
			MOBILE	
•			Radio-astronomy	
			RADIO ASTRONOMY	

Reasons: In view of the provisions of No. 3531/233B, the radio astronomy service in the band 37.50 - 38.25 should be given primary status.

NOC 3524/227 to 3539/241

> MHz47 - 68

		47 - 68 (NOC)	50 - 54 (NOC)	
	BROADCASTING		AMATEUR	
			3542/244 3543/245 3544/2	246 3545/247
PRU/110/77	MOD		54 - 68	54 - 68
÷			FIXED 3525/228 3535/237	FIXED 3525/228 3528/231 3535/237
			MOBILE	MOBILE
		3536/238 3537/239	BROADCASTING 3540A	BROADCASTING
		3539/241 3540/242 3541/243		3544/246

PRU/110/78 ADD 3540A

In Region 2, the band 54 - 72 MHz should be reserved exclusively for television broadcasting.

Reasons: To provide more spectrum in Region 2 through the exclusive allocation of this band for broadcasting.

NOC 3540/242 to 3545/247 Page 28

MHz 68 - 73

Reasons: Same as for ADD 3540A.

NOC 3546/248 to 3558/259

MHz

		75.4 - 100
PRU/110/81	MOD	75.4 - <del>88</del> <u>76</u>
	•	FIXED
		MOBILE
	•	BROADCASTING
PRU/110/82	MOD	<u>76</u> – 88
		FIXED
		MOBILE
		BROADCASTING
		<u>3567A</u>
PRU/110/83	MOD	88 - 100
		BROADCASTING
		<u>3567B</u>

PRU/110/84

ADD

3567A

In Region 2, the band 76 - 88 MHz is allocated to

television broadcasting.

PRU/110/85

ADD 3567B

The band 88 - 108 MHz is allocated to frequency modulation

sound broadcasting.

NOC 3559/260 to 3567/268

MHz 100 - 108

	Region 2	Region 3
MOD	100 - 108	
	BROADCASTING 3554/255 3555 3567B 3571/272	/256 3557/258 3566/267

NOC 3568/269 to 3589/284

PRU/110/86

MHz 150.05 - 174

			150.05 - 174	
		Region 1	Region 2	Region 3
PRU/110/87	MOD		150.05 - <del>174</del> <u>156.7625</u>	150.05 - <del>170</del> <u>156.7625</u>
			FIXED	FIXED
			MOBILE	MOBILE
PRU/110/88	NOC	154 - 156		
		FIXED		
	-	MOBILE except aeronautical mobile (R)		
		3590/285		
PRU/110/89	MOD	156 - <del>174</del> <u>156.7625</u>		
		FIXED		
		MOBILE except aeronautical mobile (R)		
		3590/285	3595/287	
PRU/110/90	MOD (WW)	<u> 156.7625</u> - <u>156.8375</u>	<u>156.7625</u> - <u>156.8375</u>	<u> 156.7625</u> - <u>156.8375</u>
	(ww)	FIXED	FIXED	FIXED .
		MOBILE-except aeronautical-mobile	MOBILE	MOBILE
		MARITIME MOBILE (Distress, safety and calling)	MARITIME MOBILE (Distress, safety and calling)	MARITIME MOBILE (Distress, safety and calling)
		MOD 3595/287	MOD 3595/287	MOD 3595/287
PRU/110/91	MOD	156.8375 - 174	<u> 156.8375</u> - 174	<u> 156.8375</u> - 170
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	MOBILE
				3495/201A MOD 3595/287 3598/290
				170 - 174 (NOC)
				FIXED
	•		2520 (0224 MOD 2525 (205	MOBILE
			3530/233A MOD 3595/287	BROADCASTING

Page 30

PRU/110/92 MOD

3595/287 Since the frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service administrations-shall-ensure-that-a-guard-band-on-each side-of-the-frequency-156.8-MHz-is-provided. The band 156.7625 - 156.8375 MHz shall be established as the exclusive guard band for the frequency 156.8 MHz. The conditions for the use of this frequency are contained in Article N35/35.

(Remaining paragraphs without change.)

 $\underline{\text{Reasons}}$ : To provide definitively a guard band on each side of the frequency 156.8 MHz.

NOC 3590/285 to 3594/286A; 3596/288 to 3598/290.

MHz 174 - 216

PRU/110/93 MOD

Region 2	Region 3		
174 - 216	174 - 216 (NOC)		
Fixed	FIXED		
MOBILE	MOBILE		
BROADCASTING	BROADCASTING		
3602/294 <u>3617A</u>	3602/294 3603/295 3604/296		

PRU/110/94

ADD 3617A

3617A In Region 2, the band 174 - 216 MHz is allocated exclusively to the television broadcasting service.

NOC 3599/291 to 3628/314

MHz 401 - 402

PRU/110/95

	Region 1	Region 2	Region 3
(MOD)	401 - 402	METEOROLOGICAL AIDS	
		SPACE OPERATION (Telemetering)	
·		Fixed	
		Meteorological-satellite (Earth-to-space)	
		Mobile except aeronautical mobile	
		3628/314 3629/315 3631/	315B 3632/315C 3633/316

Reasons: To align the Spanish text with the other languages.

NOC 3629/315 to 3635/317B

#### MHz420 - 450

		<b>4</b>	Region 2	Region 3
PRU/110/96	MOD		420 ÷ <b>4</b> 50 <u>430</u> .	420 - 450 (NOC)
			RADIOLOCATION	RADIOLOCATION
			Amateur	Amateur
			Radiolocation	
			FIXED	
			MOBILE except aeronautical mobile	
			MOD 3636/318	
RU/110/97	MOD		<u>430</u> - <u>440</u>	
			RADIOLOCATION	
			Amateur	
			AMATEUR	
		·	<del>3636/318</del> 3642/319B 3644/320A	
PRU/110/98	MOD		<u>440</u> – 450	
			RADIOLOCATION	
			Amateur	
			Radiolocation	
1			FIXED	
			MOBILE except aeronautical mobile	3636/318 3641/319A 3444/320A 3647/323
			MOD 3636/318 3641/319A	3448/324

Reasons: To provide frequencies for future microwave networks in order to meet rural telephony requirements throughout Peru.

PRU/110/99

3636/318

MOD

Radio altimeters may also be used until-31-December-1974 in the band 420 - 460 MHz However, after-this-date; they may be authorized to continue-to-operate on a secondary basis except in the U.S.S.R. where they will continue to operate on a primary basis.

3637/318A to 3640/319, 3643/320, 3645/321, 3646/322, 3649/324A, 3650/324B to NOC 3816/412K

#### CHAPTER NVI

#### Administrative provisions for stations

ARTICLE N22/18

Licences

PRU/110/100 MOD 5225/729

Concerns Spanish text only.

ARTICLE N23

Identification of stations

Section I. General provisions

PRU/110/101 MOD

Fourth and fifth lines, read: .... shall be transmitted at least hourly, preferably within the period from ten minutes before to ten minutes after the hour (GMT), UTC unless to do so would cause unreasonable interruption ....

Reasons: To take account of CCIR Recommendation No. 535.

#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 111-E 23 May 1979

Original : English

PLENARY MEETING

### Papua New Guinea\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

Technical Characteristics

(Article N4/12 and Appendices 3 and 4)

Point 2.1 of the Agenda

#### Introduction to Article N4/12

This document is mainly concerned with frequency tolerances (Appendix 3) and spurious emissions (Appendix 4). The only change proposed for Article N4/12 is consequential to proposed changes to Appendix 4.

#### ARTICLE N4/12

#### Technical Characteristics

PNG/111/375 MOD

3247/672 (2) Transmitting stations shall conform to the telerances maximum spurious emission power levels specified fer-spurious-emissions in Appendix 4.

Reasons; In Appendix 4 the words 'tolerance'
'limit' and 'level' are used to mean the same thing.
In the proposed changes to Appendix 4 it is intended
that the words should be standardized to 'level'.

#### Introduction to Appendix 3

1. In general, this Administration accepts the recommendations in Section 8.1 of the CCIR SPM Report regarding the Table of Frequency Tolerances (Appendix 3). In particular, Papua New Guinea accepts the recommendations for the changes in tolerance limits in the Table and for the introductory paragraphs to the Table (with some minor changes which are basically editorial or consequential to proposed changes in Article N7/5). The format of the proposed Table is as per Table 8.1 of the SPM Report, thus allowing the possibility of varying the format of the present Table.



<sup>\*)</sup> See also Documents Nos. 39A and 39B.

- 2. In the band 100 to 470 MHz the SPM refers to the '160 MHz band', the '300 MHz band' and the '450 MHz band' for base stations and land mobile stations. Papua New Guinea proposes clarification of these bands by replacing them with specific band limits.
- 3. The footnotes to the Table as recommended by the SPM have generally been accepted by this Administration with the following exceptions:
  - a. SPM footnote 14 has not been included in the proposed Table as it is not in a form suitable as a Regulation and the SPM has not provided guidance that would enable the formulation of an alternative footnote.
  - b. SPM footnote 13 is not written in a form suitable to be incorporated as a Regulation and does not provide details on a tolerance that would be suitable for the equipment. A suitable tolerance is therefore proposed for consideration by the WARC.
  - c. Many SPM footnotes refer to 'ppm' rather than 'parts in 10' as referred to in paragraph 1 of the introduction to the Table as being the units of frequency tolerance. In these cases 'ppm' is proposed to be replaced with 'parts in 10'.

PNG/111/376 MOD

#### APPENDIX 3

MOD (Title)

Table of Frequency Tolerances -\*

Reason: The asterisk in the title is proposed to be deleted as it is proposed to include the footnote at the bottom of the page as paragraph 4 of the introduction to the Table.

MOD 1. <u>Unless otherwise indicated, frequency</u>
Frequency tolerance is-defined-in-Article-1-and
is expressed in parts in 10<sup>6</sup> or,-in-some-cases-in-Herts.

Reason: Proposed adoption of the text in Section 8.1 of the CCIR SPM Report.

MOD 2. The power shown for the various categories of stations is the mean power as-defined in-Article-1.

Reason: Deletion of superfluous text as proposed in Section 8.1 of the CCIR SPM Report.

ADD 3. Frequency tolerances for aircraft and space stations do not include frequency shifts due to Doppler effects.

Reason: Proposed adoption of paragraph 3 in Table 8.1 of the CCIR SPM Report.

MOD (The asterisked footnote at the bottom of page AP3-1)

4. Certain services may need tighter
more stringent tolerances for technical and
operational reasons.

Reason: Relocation of the asterisked footnote as an introductory paragraph to the Table with the wording changed as per paragraph 4 in Table 8.1 of the CCIR SPM Report.

Note: The format of the following Table is as per Table 8.1 of the CCIR SPM Report. The Tolerances in the second column are intended to apply as for column 3 of the present Table. Papua New Guinea has no proposals at the present time regarding the method of implementing the proposed revised Table and reserves the right to present proposals on this matter at a later time.

MOD	Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Frequency Tolerances
	Band: 10 to <u>/</u> 526.5_7 kHz 1. Fixed Stations - 10 to 50 kHz - 50 to <u>/</u> 526.5_7 kHz	100 50
•	<ul><li>2. Land Stations</li><li>a) Coast Stations</li><li>b) Aeronautical Stations</li></ul>	100 1)
	<ul> <li>3. Mobile Stations</li> <li>a) Ship Stations</li> <li>b) Ship's Emergency     Transmitters</li> <li>c) Survival Craft Stations</li> </ul>	200 k) 500 one)
	d) Aircraft Stations d. Radiodetermination Stations 5. Broadcasting Stations	100 100 10 Hz
	Band: / 526.5 7 to / 1606.5 7kHz.  Broadcasting Stations	10 Hz b)

Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Frequency Tolerances
Band: /1606.5 7 to 4000 kHz	
1. Fixed Stations - power 200 W or less - power above 200 W	100 2) 3) 50 2) 3)
2. Land Stations - power 200 W or less - power above 200 W	100 1) r) 2) 50 1) r) 2)
3. Mobile Stations a) Ship Stations b) Survival Craft Stations bA) Emergency Position-	40 Hz 4) 100
Indicating Radiobeacons c) Aircraft Stations d) Land Mobile Stations	100 100 r) 50 5)
4. Radiodetermination Stations - power 200 W or less - power above 200 W	20 6) 10 6)
5. Broadcasting Stations	10 Hz 17)
Band: 4 to 29.7 MHz	
1. Fixed Stations a) Single-sideband and	
<pre>independent sideband   emissions b) Class F1 emissions</pre>	20 Hz 10 Hz
c) Other classes of emissions - power 500 W or less - power above 500 W	20 10
2. Land Stations a) Coast Stations b) Aeronautical Stations	20 Hz 1) 20)
-power 500 W or less -power above 500 W c) Base Stations	100 r) 50 r) 20 2)

Frequency Bands	Frequency
(lower limit exclusive, upper limit inclusive) and	Tolerances
Categories of Stations	
3. Mobile Stations	
a) Ship Stations 1) Class A1 emissions	10
2) Emissions other than class A1	50 Hz k) 7)
b) Survival Craft Stations c) Aircraft Stations	50 100 r)
d) Land Mobile Stations	40 8)
4. Broadcasting Stations	10 Hz 15) 17)
5. Space Stations	20
6. Earth Stations	20
	·
Band: 29.7 to 100 MHz	
1. Fixed Stations -power 50 W or less -power above 50 W	30 20
2. Land Stations	20
3. Mobile Stations	20 9)
4. Radiodetermination Stations	50
5. Broadcasting Stations (other than television)	2000 Hz 18)
6. Broadcasting Stations (television, sound and vision)	500 Hz 16) 19)
7. Space Stations	20
8. Earth Stations	20
Band: 100 to 470 MHz	
1. Fixed Stations	
- power 50 W or less - power above 50 W	20 10) 10
2. Land Stations a) Coast Stations	10
b) Aeronautical Stations	20 11)

Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Frequency Tolerances
c) Base Stations - in the band 100 to	10 12) 7 12) 5 12)
Survival Craft Stations - in the band 156 to 174 MHz - outside the band 156 to 174 MHz b) Aircraft Stations c) Land Mobile Stations - in the band 100 to	10 50 o) 30 11) 10 12) 13) 7 12) 13) 5 12) 13)
4. Radiodetermination Stations	50 e)
5. Broadcasting Stations (other than television)	2000 Hz 18)
6. Broadcasting Stations (television, sound and vision)	500 Hz 16) 19)
7. Space Stations	20
8. Earth Stations	20
Band: 470 to 2450 MHz  1. Fixed Stations - power 100 W or less - power above 100 W  2. Land Stations  3. Mobile Stations	100 50 20 20

Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Frequency Tolerances
4. Radiodetermination Stations	500 e)
5. Broadcasting Stations (other than television)	100
6. Broadcasting Stations (television, sound and vision) in the band 470 to / 890_7 MHz	500 Hz 16) 19)
7. Space Stations	20
8. Earth Stations	20
Band: 2450 to 10500 MHz	
1. Fixed Stations - power 100 W or less - power above 100 W	200 50
2. Land Stations	100
3. Mobile Stations	100
4. Radiodetermination Stations	1250 e)
5. Space Stations	50
6. Earth Stations	50
Band: 10.5 to / 40 7 GHz	
1. Fixed Stations	300
2. Radiodetermination Stations	5000 e)
3. Broadcasting Stations	100
4. Space Stations	100
5. Earth Stations	100

Reason: See Introduction to this document,
paragraphs 1 to 3.

MOD (Title) Notes referring to the Table of Frequency Tolerances

 MOD b) In the-area countries covered by..... (remainder without change).

Reason: To limit the effect of this note to countries covered by the agreement.

- e) Where specific frequencies are not assigned to radar stations, the bandwidth occupied by the emissions of such stations shall be maintained wholly within the band allocated to the service and the indicated tolerance does not apply.
- MOD k) For ship station transmitters used for direct-printing telegraphy or for data transmissions, the tolerance is 40 Hz. This-telerance-is-applicable teleguipment-installed-after-1-January-1976-and-teleguipment-after-1-January-1985---Fer-equipment installed-before-2-January-1976-the-telerance-is-100-Hz (with-a-maximum-deviation-of-40-Hz-fer-short-periods of-the-order-of-15-minutes).

Reason: No longer applicable.

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

Reason: No longer applicable.

- NOC o) For transmitters used by on-board communication stations a tolerance of 5 ppm shall apply.
- MOD p)

  Applicable-from-1-June-1977.-However-in

  In the A1 Morse working frequency bands a frequency tolerance of 200 parts in 10 may be applicable to existing transmitters after-1-June-1977, provided that the emissions are contained within the band in question.

Reason: To delete an obsolete date.

MOD r) For single-sideband tranmitters operating in the frequency bands / 1606.5 7 4606 - 4000 kHz and 4 -29.7 MHz (remainder without change).

Reason: Consequential to proposed changes in Article N7/5.

ADD (one) If the emergency transmitter is used as the reserve transmitter for the main transmitter, the tolerance for ship stations applies.

Reason: Proposed adoption of note (one) to Table 8.1 of the CCIR SPM Report.

ADD 2) For single-sideband radiotelephone transmitters the tolerance is 20 Hz.

Reason: Proposed adoption of Note (2) to Table 8.1 of the CCIR SPM Report.

ADD 3) For radiotelegraphy transmitters with frequency shift keying the tolerance is 10 Hz.

Reason: Proposed adoption of Note (3) to Table 8.1 of the CCIR SPM Report.

ADD 4) For A1 emissions the tolerance is 50 parts in  $10^6$ .

Reason: Proposed adoption of Note 4 to Table 8.1 of the CCIR SPM Report with 'pnm' replaced with 'parts in 10<sup>6</sup>' to conform with paragraph 1 of the introduction to Appendix 3.

ADD 5) For transmitters used for single-sideband radiotelephony or for frequency shift keying radiotelegraphy the tolerance is 40 Hz.

Reason: Proposed adoption of Note 5 to Table 8.1 of the CCIR SPM Report.

ADD 6) For radiobeacon transmitters in the band /1606.5 7 - 1800 kHz the tolerance is 50 parts in  $10^6$ .

Reason: Proposed adoption of Note 5 to Table 8.1 of the CCIR SPM Report with 'ppm' replaced by 'parts in 106' to conform with paragraph 1 of the introduction to the Appendix. The frequency in square brackets is consequential to proposed changes in Article N7/5.

ADD 7) For ship station transmitters in the band  $/26\ 100\ -\ 28\ 000\ /\ RHz$  on board small craft, with an output power not exceeding 5 watts operating in near coastal waters and utilizing A3 or F3 emissions the frequency tolerance is 40 parts in 10  $^6$ .

Reason: Proposed adoption of Note (7) to Table 8.1 of the CCIR SPM Report with 'around 27 120 kHz' replaced with proposed specific frequency limits, and with 'ppm' replaced with 'parts in 106' to accord with paragraph 1 of the introduction to Appendix 3.

ADD 8) The tolerance is 50 Hz for single-sideband radiotelephone transmitters, except for those transmitters operating in the band <u>/</u> 26 100 - 28 000\_7 kHz, and not exceeding a peak envelope power of 615 watts, for which the basic tolerance of 40 parts in 10 applies.

Reason: Proposed adoption of Note (8) to Table 8.1 of the CCIR SPM Report with 'around 27 120 KHz' replaced with proposed specific frequency limits, and with 'ppm' replaced with 'parts in 10' to accord with paragraph 1 of the introduction to Appendix 3.

ADD 9) For non-vehicular mounted portable equipment with a mean transmitter power ont exceeding 5 watts the tolerance is 40 parts in 10°.

<u>Reason</u>: Proposed adoption of Note (9) to Table 8.1 of the CCIR SPM Report with 'ppm' replaced with 'parts in 10<sup>6</sup>' to accord with paragraph 1 of the introduction to Appendix 3.

ADD 10) For multi-hop radio-relay systems employing direct frequency conversion the tolerance is 30 parts in  $10^6$ .

Reason: Proposed adoption of Note (10) to Table 8.1 of the CCIR SPM Report with 'ppm' replaced with 'parts in  $10^6$ ' to accord with paragraph 1 of the introduction to Appendix 3.

ADD 11) For a channel spacing of 50 kHz the tolerance is 50 parts in 10  $^{\circ}$ 

Reason: Proposed adoption of Note (11) to Table 8.1 of the CCIR SPM Report with 'ppm' replaced with 'parts in 10°' to accord with paragraph 1 of the introduction to Appendix 3.

ADD 12) These tolerances apply to channel spacings of 20, 25 and 30 kHz.

Reason: Proposed adoption of Note (12) to
Table 8.1 of the CCIR SPM Report.

ADD 13) For non-vehicular mounted portable transmitters with a mean power not exceeding 5 watts the tolerance is / 20 / parts in 106.

Reason: Note (13) to Table 8.1 of the CCIR SPM Report is written in the form of a comment. This Administration proposes a re-phrased version of the Note which includes a proposed reduced tolerance for the consideration of the Conference.

SUP 14)

Reason: This Administration does not intend to adopt Note (14) to Table 8.1 of the CCIR SPM Report as it is not in a form suitable as a Radio Regulation.

ADD 15) It is suggested that Administrations avoid carrier frequency differences of a few Hertz, which cause degradations similar to periodic fading. This can be avoided if the frequency tolerance were 0.1 Hz, a tolerance which would also be suitable for single-sideband emissions.

Reason: Proposed adoption of Note (15) to Table 8.1 of the CCIR SPM Report.

- ADD 16) In the case of television stations of:
  - 50 watts or less in the band 29.7 100 MHz
  - 100 watts or less in the band 100 960 MHz

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

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

- 5 kHz in the band 100 470 MHz
- 10 kHz in the band 470 960 MHz

Reason: Proposed adoption of Note (16) to Table 8.1 of the CCIR SPM Report.

ADD 17) For transmitters with an output power of 10 kW or less the tolerance is 20 parts in  $10^5$  and 15 parts in  $10^6$  in the band / 1 606.5 / - 4 000 kHz and 4 - 29.7 MHz respectively.

Reason: Proposed adoption of Note (17) to Table 8.1 of the CCIR SPM Report. The frequency in square brackets is consequential to changes in Article N7/5. The expression 'ppm' in the SPM Note has been replaced with 'parts in  $10^6$ '. The wording of the Note could be phrased more simply than the present SPM cumbersome wording, however.

ADD 18) For transmitters of 50 watts or less operating at frequencies less than 108 MHz a tolerance of 3 000 Hz applies.

Reason: Proposed adoption of Note (18) to Table 8.1 of the CCIR SPM Report.

ADD 19) For transmitters for system M(NTSC) the tolerance is 1 000 Hz. However, for low power transmitters using this system Note (16) applies.

Reason: Proposed adoption of Note (19) to Table 8.1 of the CCIR SPM Report.

ADD 20) For A1 emissions the tolerance is 10 parts in 10<sup>6</sup>.

Reason: Proposed adoption of Note (20) to Table 8.1 of the CCIR SPM Report with 'ppm' replaced with 'parts in 106' to accord with paragraph 1 of the introduction to Appendix 3.

#### Introduction to Appendix 4

- 1. The figures adopted by the SPM in Table 8.2.2 are in general supported by this Administration, however there appears to be some considerable scope for editorial improvements at least in the English text. The use of the word 'tolerance' as applying to a power level not to be exceeded seems inappropriate, as does the word 'fundamental' in reference to the assigned occupied band of a transmitter.
- 2. As the SPM Notes to the Table did not align with the existing Appendix 4 footnotes, cross referencing is carried out by referring to SPM Notes with the prefix 'SPM'.
- 3. With Note 8 to the Table 8.2.2 it has been noticed that CCIR Recommendation 329-3 refers such a provision to the band 235 960 MHz, but the SPM refers it to all bands below 960 MHz with the exception of stations of 25 watts or less in the band 30 235 MHz.
- 4. It is also noted that the SPM did not include footnote 4 to the existing Appendix 4 Table and therefore gave no indication into the future requirement or otherwise of this footnote.

PNG/111/377 MOD

#### APPENDIX 4

MOD (Title)

Table of Telerances-fer-the
Levels-ef Maximum Permissable
Spurious Emission
Power Levels Supplied by a
Transmitter to the Antenna
Transmission Line.

Reasons: To bring the title into line with the proposed text for this Appendix, and to incorporate paragraph 1 of the preamble into the title for purposes of clarity.

ADD (Sub-title)

Preamble

Reasons: To provide a reference to the introductory paragraphs to the Table.

SUP 1.

Reasons: The sense of this paragraph is proposed to be incorporated into the title to the Appendix for purposes of clarity.

MOD 2. Furthermore, -spurious Spurious ..... (remainder without change).

Reasons: Consequential to SUP preamble paragraph 1 above for editorial purposes.

- ADD 2A. For the purposes of this Appendix the spurious emission power level shall be defined as the maximum power in any  $\sqrt{4}$   $\sqrt{7}$  kHz band outside the assigned occupied band.
  - Reasons: 1. Paragraph (a) of Section 8.2.2 of the CCIR SPM Report draws the attention of the WARC to the desirability of specifying the levels in the Table in terms of 'spectral density as power content in a convenient bandwidth such as 4 kHz'.
  - 2. It is the accepted practice in relation to interference concerning space services to express interference in terms of a power level in a 4 kHz band.
  - 3. Question 19/2 of the CCIR
    14th Plenary Assembly indicates a need for
    study into the spurious emissions radiated
    from, and received by, stations in the space
    services. It would therefore appear appropriate
    to define what is meant by the power level of
    a spurious emission in such a form that a
    common basis could be used for all services.
  - 4. Note 11 to Table 8.2.2 of the CCIR SPM Report required that the bandwidth of measuring equipment be sufficiently wide to accept all significant components of the spurious emission concerned. As this is not always practicable, the identification of the maximum spurious component of the transmitter and the measurement of this component in its 4 kHz band would appear to be a more feasible technique.
- MOD 3. These telerances levels shall not, however, apply to emergency position indicating radio beacon stations, emergency locator transmitters, ship's emergency transmitters ex, lifeboat transmitters, survival craft stations or maritime transmitters used in emergency situations.
  - Reasons:
    1. In the Appendix the words
    'tolerances' 'levels' and 'limits' are used
    to mean the same thing. It is proposed, as a
    consequence of defining 'spurious emission power
    level', to use the word 'level' throughout the
    text for conformity.
  - 2. Note 2 to Table 8.2.2 of the CCIR SPM Report in fact applies to the entire Table and therefore should be incorporated into the relevant paragraph of the preamble.
  - 3. It would appear that a typographical error has occurred in Note 2 to Table 8.2.2 of the CCIR SPM Report with 'radar beacon' being used instead of 'radio beacon' as found in DOC P1080E to the CCIR SPM. The text of the latter document has been used as the basis for this proposed amendment.

MOD 4. For technical or operational reasons, specific services may demand telerances tighter lower levels than those specified in the Table. The values applied to these services shall be those agreed upon by the appropriate service conference. Lower levels also can be fixed by specific agreement between administrations concerned. In this regard where the stated levels do not give adequate protection for radio-astronomy stations and for earth stations, lower levels may be required in each individual case in the light of the geographical position of the stations concerned.

Reasons: As notes 1 and 9 of Table 8.2.2 of the CCIR SPM Report are an amplification of substance of paragraph 4 within the existing preamble, it would appear appropriate to incorporate the sense of these notes into an amended paragraph 4.

MOD 5. The final date by which all equipment shall meet the telerances levels specified in Column B is 4st-January-1970

/ Nevertheless, all administrations recognize the urgent need to implement Column B telerances levels for all equipment at the earliest possible dates date and will endeavour to ensure that the necessary changes are made to all transmitters under their jurisdiction well before this date and-wherever-possible-by 1st-January-1966.

Reasons:
1. The WARC may wish to set a date for changeover to the new spurious emission power levels.

2. Such a change does not appear to warrant the urgency as in the original text.

3. The word 'date' is shown in singular to reflect current English usage.

MOD 6. No telerance—is levels are specified for transmitters operating on fundamental assigned frequencies above 235
960 MHz. The values to be observed for such stations shall be those shown in appropriate CCIR Recommendations. Until suitable Recommendations have been adopted, the lowest possible values achievable shall be employed. For these transmitters the—levels—of—spurious—emissions—shall—be—as—low—as—practicable—

Reasons: 1. To reflect the CCIR SPM endorsement of CCIR Report 329-3 as given in paragraph (a) of Section 8.2.1 of the CCIR SPM Report.

2. To incorporate CCIR SPM findings for stations operating above 960 MHz as given in Table 8.2.2 of the CCIR SPM Report.

ADD 6A. The stated power level shown in the Table is expressed in absolute power levels and in terms of decibels lower than the transmitter power within the assigned occupied band. The form of power measurement shall be mean power or peak envelope power depending on the class of emission used.

Reasons: With developments in various classes of emissions it is not always possible to express the power of a transmitter in terms of mean power. Note 10 to Table 8.2.2 of the CCIR SPM Report draws the attention of the WARC to the above problem, An alternative may be to define the transmitter power in terms of the notifiable power to allow the International Frequency List to be consulted in times of monitoring of spurious emissions.

MOD Delete the Table on page AP4-2, being the Table of Appendix 4 in order to facilitate the replacement by a new Table in line with CCIR SPM Report Table 8.2.2, and replace with the following:

Assigned Occupied Band (lower limit exclusive, upper limit inclusive)	The spurious emission power level supplied to the antenna transmission line shall not exceed either the stated absolute power level nor the stated relative power level given in Columns A or B.		
	A	В	
	Maximum spurious emission power levels applicable to transmitters now in use and to those installed before7.	Maximum spurious emission power levels applicable to new transmitters installed after	
below 30 MHz	40 decibels or 50 milliwatts (SPM Notes 3,4&5)	40 decibels or 50 milliwatts (SPM Notes 3,4,5 & 8)	
30 MHz - 235 MHz			
- power exceeding 25 watts	60 decibels or 1 milliwatt	60 decibels or 1 milliwatt	
- power less than	(Note A)	(SPM Notes 6 and 8)	
or equal to 25 watts	40 decibels or 25 microwatts (Note A)	40 decibels or 25 microwatts (Note B)	

235 MHz - 960 MHz - power exceeding 25 watts	60 decibels or 20 "milliwatts
-power less than or equal to 25 watts	(SPM Notes 7 and 8)  40 decibels or 25 microwatts (SPM Note 8)

Reasons:

1. The proposed heading to the first column refers to the 'assigned occupied band' rather than 'fundamental frequency band' in the current Table as the term 'fundamental' is somewhat obsolete.

2. It is proposed that the band limits should be clearly defined as in the Table of Appendix 3. A lower frequency limit to the Table has been proposed to conform with the lower limit of the Table of Frequency Allocations (Article N7/5). For frequencies above 960 MHz and below 10 kHz refer to MOD 6 in the preamble.

3. The proposed heading to both columns A and B allows the values in the Table to be expressed simply without lengthy prose.

4. The maximum permissable spurious emission power levels shown in the Table are those shown in the Table 8.2.2 of the CCIR SPM Report with superfluous wording removed. The definitions for the maximum permissable levels are proposed to be located in the preamble and in the heading to the Table.

#### Introduction to Notes to the Table

- 1. In carrying out its review of the findings of the CCIR SPM, this Administration found that the numbering of the Notes to the Table used by the SPM aligned in part with Recommendation 329-3 of the CCIR 14th Plenary Assembly, but did not align with the numbering in the existing Appendix 4 Notes to the Table.
- 2. The numbering used in the proposals following are as per the CCIR SPM Report (page 8.8) to facilitate the work of the Conference. To allow differentiation, the notes are labelled SPM Note 1 to SPM Note 11, while Notes A and B refer to this Administration's comments on the Table.

SUP SPM Note 1

Reasons: This note refers to the entire Table and is associated in a sense with SPM Note 9 and to the existing Appendix 4 introductory paragraph 4. It is therefore considered appropriate to modify paragraph 4 of the preamble to incorporate the new matters of substance raised in SPM Notes 1 and 9.

SUP SPM Note 2

Reasons: This note refers to additions in matters of substance to the existing paragraph 3 of this Appendix. It therefore appears appropriate to incorporate it in a modified paragraph 3 (see MOD SPM Note 5).

MOD SPM Note 3 (existing footnote 1 refers)

For transmitters having an output power greater than 50 kilowatts which can operate on two or more frequencies covering a frequency range approaching an octave or more, it-may-net-always-be practicable-te-achieve-a-suppression greater-than-60-decibels a reduction below 50 milliwatts is not mandatory, but a maximum relative level of 60 decibels shall be provided and every effort should be made to keep within the 50 milliwatts specified level.

Reasons: 1. This Administration considers that the existing footnote 1 to the Table is in a form more appropriate for regulatory purposes than the SPM Note 3.

2. The wording 'specified level' instead of 'limit' and 'maximum relative level' instead of 'minimum attenuation' is suggested for reasons of conformity.

MOD SPM Note 4 (existing footnote 2 refers)

For some hand portable equipment or power less than 5 watts, it-may-not-be practicable-to-achieve-a-suppression-of-40 dB-in-which-case-a-suppression-of-30-db-should apply the relative stated power level shall be 30 decibels, but every effort should be made comply with a relative level of 40 decibels.

Reasons: To phrase SPM Note 4 into a regulation form. The words 'attenuate' and 'suppress' used in the existing footnote 2 are appropriate to equipment design rather than spurious emission power levels.

MOD SPM Note 5 (existing footnote 3 refers).

Delete existing text and replace with the following:

For mobile transmitters, the relative power level shall be at least 40 decibels without exceeding the 200 milliwatt absolute power level, but every effort should be made to comply with an absolute power level of 50 milliwatts.

Reasons: To rephrase SPM note 5 in a form suitable for regulatory purposes.

MOD SPM Note 6 Delete existing text and replace with the following:

Administrations may adopt an absolute power level of 10 milliwatts provided that harmful interference is not caused.

Reasons: To rephrase SPM note 6 in a form suitable for regulatory purposes.

MOD SPM Note 7 Where several transmitters feed a common antenna or closely spaced antennae on adjacent frequencies, it-may not-always-be-possible-to-achieve-this degree-of-attenuation administrations may adopt a maximum absolute power level of / 50 / milliwatts for spurious emissions, the frequencies of which are close to the occupied band.

Reasons: 1. To rephrase SPM Note 7 in form suitable for regulatory purposes.

2. The value of 50 milliwatts is suggested as an appropriate spurious emission power level as there does not appear to be any relevant CCIR text to base a figure.

MOD SPM Note 8 Delete existing text and replace with the following:

Radiodetermination stations should conform to the lowest practicable spurious emission power level until the CCIR Recommendations on measurement techniques are accepted.

<u>Reasons</u>: To rephrase SPM Note 8 in a form suitable for regulatory purposes.

SUP SPM Note 9

Reasons: See SUP SPM Note 1

SUP SPM Note 10

Reasons: This note refers to the entire Table and therefore it would be more appropriate for it to be included in the preamble. A new preamble paragraph 6A is proposed accordingly.

SUP SPM Note 11

Reasons: The relevance of this note in all cases is questioned and discussed under the proposal for a new preamble paragraph 2A.

Note A In reviewing the CCIR SPM Report it has been noted that footnote 4 to the existing Table in Appendix 4 has been omitted. As this footnote is currently in force, it should probably appear at least in Column A, however in the absence of further information this Admininistration would like to draw the attention of the Conference to this omission without comment.

Note B It has been noted that SPM Note 8 is not included in Column B in the band 30 - 235 MHz for transmitters of power less than or equal to 25 watts in Table 8.2.2 of the SPM Report. This Administration would like to draw the attention of the Conference to this omission without comment.

(Note: It is not intended that Notes A and B above should be proposals for additions to Appendix 4; rather they are comments by this Administration on the review of the text of the SPM Report).

#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 112-E 14 May 1979

Original: English

PLENARY MEETING

#### Inter-Governmental Maritime Consultative Organization

The International Conference on Maritime Search and Rescue, 1979, which was held in Hamburg from 9 to 27 April 1979 under the auspices of IMCO, adopted Resolution 5 concerning Frequencies for Maritime Search and Rescue.

This Resolution (see Annex) is addressed to the World Administrative Radio Conference, 1979.

U.I.T. GENEVE

Annex : 1

#### ANNEX

#### CONFERENCE RESOLUTION 5

#### Frequencies for Maritime Search and Rescue

The International Conference on Maritime Search and Rescue (Hamburg, 1979),

noting that the World Administrative Radio Conference, 1979, will decide on measures which could have a far reaching effect on the frequency spectrum,

bearing in mind that the frequencies used in the present maritime distress system do not make adequate provision for ships in distress at a distance of more than approximately 150 miles from the coast,

recognizing that all maritime radiocommunications, whether making use of distress or public correspondence frequencies, can have distress and safety implications,

urges the World Administrative Radio Conference, 1979

- a) to allocate one frequency, to be reserved exclusively for distress and safety purposes, in each of the 4, 6, 8, 12 and 16 MHz maritime mobile bands using A3J class of emission for use in all ITU Regions and to include guard bands on each side of these frequencies; the use of digital selective calling should be permitted on these frequencies; and
- b) to recognize that all telecommunications to and from ships at sea may comprise elements of importance to search and rescue, and to support proposals for adequate frequency allocations to the maritime mobile service.

shall close the study.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

<u>Document No. 113-E</u> 28 May 1979

PLENARY MEETING

#### Israel

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

ISR/113/1	MOD	3002/2 Telecommunication: Any transmission emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, visual, optical or other electromagnetic systems.
	•	Reasons: To correspond with the definition in the Convention.
ISR/113/2	MOD	3062/60A Radar beacon (racon): In the maritime radionavigation service, a receiver-transmitter device which, when triggered by a surface etc.
		Reasons: To make the term more general (the word maritime has been inserted by the 1974 maritime conference - because of lack of authority).
ISR/113/3	MOD	3450/156 In the Table of Frequency Allocations - change kHz to MHz for entries between 3 and 27.5 MHz.
		Reasons: In accordance with Radio Regulation No. 3183/112.
ISR/113/4	MOD	In a case where, as a result of a study, the Board submits to one or more administrations suggestions or recommendations for the solution of a problem, and where no answer has been received from one or more of these administrations within a period of thirty days, the Board shall

Reasons: To reduce uncertainty as to an administration's position concerning the Board's suggestions or recommendations.

requesting administration which failed to answer within this period, the Board

consider that the suggestions or recommendations concerned are unacceptable acceptable to the administrations which did not answer. If it was the



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 2 to
Document No. 114-E
6 November 1979
Original: Spanish

COMMITTEE 5

#### Spain

Page 1, proposal E/114/9

The text of the provision proposed under No. ADD 6324A should be replaced by the following:

"Stations using tropospheric scatter propagation may be operated only by agreement between the Administration concerned and those having services, operating in conformity with these Regulations, which may be affected."



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 114-E
16 July 1979

Original : Spanish

PLENARY MEETING

#### Spain

1. Page 17, proposal E/114/87 (Box 1 700 - 1 710 MHz) read :

Region 1

E/114/87 MOD 1 700 - 1 710

FIXED

SPACE RESEARCH (Space-to-Earth)

METEOROLOGICAL-SATELLITE (Space-to-Earth)

Mobile except aeronautical mobile

3701/354D 3708A

 $\overline{\text{Reasons}}$ : To extend the allocation to include the meteorological-satellite service on a basis of sharing with other services.

2. Page 20, proposals E/114/103 and 105 (Box 2 690 - 2 700 MHz) read :

E/114/103 MOD (Corr.1)

Region 1	Region 2	Region 3	
2 690 - 2 700	RADIO ASTRONOMY		
	SPACE RESEARCH (Passive)		
	EARTH EXPLORATION-SATELLIT	E (Passive)	
	3531/233B 3717/363 3719/3	64A <del>3720/364</del> B	

Reasons: To permit the use of this band by passive sensors.

E/114/105 SUP (Corr.1)

3720/364B

Reasons: Inclusion of a new provision in the Radio Regulations (proposed in ADD 6324A) concerning the frequency band which tropospheric scatter systems have to use.

U.I.T. GENÈVE

#### 3. Page 11, ADD the following new proposals:

kHz 4 000 - 4 438

	,	Region 1	Region 2	Region 3
E/114/44A (Corr. 1)	MOD	4 000 - 4 063	FEXED	
<b>,</b>			MARITIME MOBILE	
E/114/44B (Corr.1)	MOD	4 063 - 4 438	MARITIME MOBILE	
(0011.1)			3503/208 <del>3504/209</del> MOD 35	05/209A

Region 3 south of latitude 25° N, see No. 6643/1351E.

 $\underline{\mathtt{Reasons}}$ : To use the spectrum more efficiently in accordance with existing requirements.

E/114/44C SUP (Corr.1)

3504/209

Reasons: To provide greater protection for the maritime mobile service.

E/114/44D MOD (Corr.1)

3505/209A For the use of carrier frequency 4-136.3 kHz-(as-from 1-January-1978-to-be-replaced-by-carrier-frequency 4 125 kHz) in the zone of Regions 1 and 2 south of latitude 15° N, including Mexico, and in the zone of

Reasons: The date has expired.

4. Page 15, ADD the following new proposals:

MHz 68 - 74.8

E/114/78A 68 - 74-8 <u>73</u> MOD (Corr. 1) FIXED MOBILE except aeronautical mobile <u>Fixed</u> 3545/248 3547/249 3548/250 3549/251 E/114/78B MOD 73 - 74.6 (Corr.1) FEXED MOBILE except aeronautical mobile Fixed RADIO ASTRONOMY

3549/251 3550/252

MHz 68 - 74.8 (cont.)

E/114/78C MOD (Corr.1)

Region 1

74.6 - 74.8

FIXED

MOBILE except aeronautical mobile

Fixed

3549/251 3550/252

 $\underline{\text{Reasons}}$ : The low fixed service requirements may be met with secondary allocations.

To permit radio astronomy observations with very long baseline interferometers.

#### 5. Page 16, ADD the following new proposals:

MHz 150.05 - 174

E/114/81A 150.05 - 151 MOD (Corr.1) FIXED MOBILE except aeronautical mobile (R) RADIO ASTRONOMY 3531/233B 3590/285 3594/286A E/114/81B 151 - 153 MOD (Corr.1) FIXED MOBILE except aeronautical mobile (R) RADIO ASTRONOMY /METEOROLOGICAL-AIDS/ 3531/233B 3590/285

3594/286A

MHz 150.05 - 174 (cont.)

		Region 1
E/114/81C (Corr.1)	MOD	153 - 154
		FIXED
		MOBILE except aeronautical mobile <del>(R)</del>
		/METEOROLOGICAL-AIDS/
		3590/285
E/114/81D (Corr.1)	MOD	154 - 156
(0011.1)		FIXED
		MOBILE except aeronautical mobile <del>(R)</del>
		3590/285
E/114/81E (Corr.1)	NOC	156 - 174
(COPP.1)		FIXED
		MOBILE except aeronautical mobile
		3495/201A 3590/285 3595/287 3596/288

Reasons: To meet requirements.

#### 6. Page 17, ADD the following new proposals:

MHz 1 535 - 1 542.5

		Region 1	Region 2	Region 3
E/114/86A	MOD	1 535 - 1 542.5	MARITIME MOBILE-SATELLITE	
(Corr.1)			3685/352 3688/352D 3689/3	52E <u>3689A</u>
7/12 1/0 (D	4.77	2(004		. (7)

E/114/86B ADD 3689A The aeronautical mobile-satellite (R) service may also (Corr.1) use the sub-band 1 540 - 1 542.5 MHz on an experimental basis.

 $\underline{\text{Reasons}}$ : To permit the experimentation of systems and equipment in the maritime mobile and aeronautical mobile-satellite services.

#### 7. Page 21, ADD the following new proposals:

MHz 6 425 - 7 250

E/114/111A MOD (Corr.1)

Region 1	Region 2	Region 3
6 425 - 7 250	FIXED	
	MOBILE	
	3743/379A 3762/392AA MOD	3763/392в 3767/393

E/114/111B MOD (Corr.1)

3763/392B The band 7 145 - 7-235 7 190 MHz may be used for Earth-to-space transmissions in the Earth exploration-satellite and space research services (near-Earth) and the band 7 190 - 7 235 MHz may be used for Earth-to-space transmissions in the space research service (deep-space), subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected.

Reasons: The high performance parameters of the deep-space research network (high antenna gain, high transmitter power and receiver sensitivity, etc.) exclude the simultaneous use of the same band by low orbit satellites and deep-space exploration sensors.

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 114-E
4 June 1979

Original : Spanish

PLENARY MEETING

Spain \*

PROPOSALS FOR THE WORK OF THE CONFERENCE

Proposal on the Limitation of Frequency Bands for Systems using Tropospheric Scatter

CHAPTER NVIII

Provisions relating to Groups of Services and to specific Services and Stations

ARTICLE N29

Fixed Service

SECTION I. General

E/114/9

ADD

Every effort shall be made to ensure that the frequencies assigned to stations using tropospheric scatter propagation are in the band 1 700 - 2 300 MHz. Such stations may only be operated by agreement between the administration concerned and those having services, operating in conformity with these Regulations, which may be affected.

Reasons: Recommendation No. Spa2 - 2 of the Space Conference, 1971, aiming at more efficient use of the spectrum as regards compatibility of installations, concludes by inviting the Administrative Council to arrange that a future WARC consider which frequency bands of the fixed service should preferably be used by new tropospheric scatter systems.

Recent studies by the CCIR, taking transmission characteristics and economic aspects into account, have concluded that the frequency band around 2 GHz is the most suitable for these systems.

At the same time, if a specific band were assigned for the systems, the other bands of the fixed service could be used by radio relay systems.



<sup>\*)</sup> See also Documents Nos. 31, 70 and 94.

#### CONTRIBUTION TO ITEM 2.2 OF THE CONFERENCE AGENDA

### General Principles for the Assignment of Frequencies to Multiple-Function Systems

The Radio Regulations in their present version allocate the frequency spectrum among the various radiocommunication services on the basis of several factors; characteristics of the services, operational needs, propagation mechanisms in the various bands, interference criteria and technical characteristics of the equipments and components making up radio systems, etc.

In general, efficient utilization of the spectrum calls for the application of criteria for the sharing of frequency bands among the largest possible number of services capable of co-existing without unacceptable interference.

Obviously, a knowledge of multiplexing techniques, encoding, processing of signals, modulation, etc., determines the provisions for the allocation of bands to the various services.

In very simple terms, the present Radio Regulations may be said to consider time sharing as an aspect relating to operation but not as a transmission technique, although its application has been possible under the existing Regulations. The question arises whether the new time-division multiplexing techniques and the new modulation methods do not make it advisable to apply new principles in the allocation of bands, in the assignment of frequencies and ultimately in the management of the spectrum with a view to its optimal use.

Radio systems of the digital type based on time-division multiplex technique are becoming ever more common. In this context the idea should be accepted that one and the same carrier can be a medium of information for different radiocommunication services (multiple-function systems).

It may not be necessary to use time division, since even in the case of frequency-division multiplexing the possibility of transmitting information for different services by means of sub-carriers exists.

Indubitably, however, the area in which most difficulties may arise for administrations is the problem, in frequency management, of handling composite signals whose structure results from the fact that they contain information relating to different services, since the CCIR has so far not studied this subject.

In view of the foregoing, the Spanish Administration proposes the draft Recommendation below.

E/114/10

DRAFT RECOMMENDATION No.

FOR THE CCIR

Relating to Multiple-Function Systems

The World Administrative Radio Conference, 1979,

#### considering

- a) that radiocommunication systems using digital techniques suitable for time-division multiplexing are becoming ever more numerous,
- b) that in this type of system a carrier may be used for different radiocommunication services (multiple-function systems),
- c) that even in systems based on analogue techniques it would be possible to use the carrier for different radiocommunication services,
- d) that these multiple-function systems may contribute greatly to the more effective use of the frequency spectrum,
- e) that the present use of the frequency spectrum is based on the allocation of frequency bands to radiocommunication services as laid down in Article N7/5 of the Radio Regulations,
- f) that the application of the present criteria of frequency spectrum management to such multiple-function systems might create difficulties for administrations;

recommends that the CCIR establish technical crtieria on which frequency spectrum management for multiple-function systems would have to be based.

#### ARTICLE N7/5

#### Table of Frequency Allocations

kHz 255 - 285

			Allocation to Services
		Region 1	
E/114/11	MOD	255 <b>-</b> 285	
		MARITIME-MOBILE 3467/174	
		BROADCASTING	
		AERONAUTICAL RADIONAVIGATION	
		3469/176 <del>3470/177</del> 3471/178	

E/114/12 SUP 3470/177

 $\underline{\text{Reasons}}$ : In conformity with the recommendations of the Broadcasting Conference, Geneva, 1975.

kHz 415 - 525

E/114/13	MOD	415 - <del>490</del> <u>445</u>
		MARITIME-MODILE
		AERONAUTICAL RADIONAVIGATION
		<del>3478/185</del> <del>3479/186</del>
E/114/14	MOD	<u>445</u> – 490
		MARITIME MOBILE
		3478/185 3479/186
E/114/15	MOD	490 - <del>510</del> <u>495</u>
		MODILE-(Distress and-calling)
		MARITIME MOBILE
E/114/16	MOD	<u>495</u> - <u>505</u>
		MOBILE (Distress and calling)
		3480/187

kHz 415 - 525 (cont.)

		Region 1
E/114/17	MOD	<u>505</u> - 510
		MODIBE-(Distress and-calling)
		MARITIME MOBILE 3479/186
E/114/18	NOC	510 - 525
		MARITIME MOBILE 3479/186
		Aeronautical radionavigation
		3478/185

 $\underline{\text{Reasons}}$ : Owing to improved equipments, the guardband for the distress and calling frequency in radiotelegraphy (500 kHz) for the maritime mobile service may be reduced.

The aeronautical radionavigation service is to be compensated for the transfer of the LF band to broadcasting.

kHz 525 - 1 605

E/114/19	MOD	525 - <del>535</del> <u>526.5</u>
		BROADCASTING
		MARITIME MOBILE 3479/186
		Aeronautical radionavigation
		3483/190
E/114/20	MOD	<u>526.5</u> - 535
		BROADCASTING
		3483/190
E/114/21	NOC	535 - 1 605
		BROADCASTING

kHz 1 605 - 2 170

		Region 1
E/114/22	MOD	1 605 - 2-000 1 606.5
		FIXED
		MOBILE-except aeronautical-mobile
		BROADCASTING
		3485/192 <del>3487/193</del> <del>3490/195A</del>
E/114/23	MOD	<u>1 606.5</u> - <u>1 790</u>
		FIXED
		MOBILE-except aeronautical-mobile
		MARITIME MOBILE
		Fixed
		Land mobile
		3485/192 3486/420 3487/193 3488/194 3490/195A
E/114/24	MOD	1 790 - 1 800
		FIXED
		MOBILE-except aeronautical-mobile
		RADIOLOCATION
		3485/192 3487/193 3488/194 3490/195A

kHz 1 605 - 2 170 (cont.)

		Region 1
E/114/25	MOD	1 800 - 1 820
•		FEXED
		MOBILE except aeronautical mobile
		AMATEUR
		3487/193 3488/194 3490/195A
E/114/26	MOD	<u> 1 820 - 1 990</u>
		FIXED
		MOBILE-exeept aeronautical-mobile
		MARITIME MOBILE
		<u>Fixed</u>
		Land mobile
		3487/193 3488/194 3489/195 3490/195A
E/114/27	MOD	<u>1 990</u> - 2 000
		FIXED
		MOBILE-except aeronautical-mobile
		RADIOLOCATION
		3487/193 3488/194 3489/195 3490/195A
E/114/28	MOD	2 000 - 2 045
		FIXED
		MOBILE-except aeronautical-mobile
		MARITIME MOBILE
		Fixed
		Land mobile
		3487/193 3490/195A

kHz 1 605 - 2 170 (cont.)

· ·		Region 1
E/114/29	MOD	2 045 - 2 065
		METEOROLOGICAL-AIDS
	-	FIXED
		MOBILE-except aeronautical-mobile
		MARITIME MOBILE
		<u>Fixed</u>
		Land mobile
		3487/193 3490/195A
E/114/30	MOD	2 065 - 2 170
		FIXED
.'		MOBILE except aeronautical mobile (R)
		MARITIME MOBILE
•		<u>Fixed</u>
		Land mobile
		<del>3487/193</del> 3490/195A
•		

E/114/31 SUP 3487/193
E/114/32 SUP 3488/194
E/114/33 SUP 3489/195
E/114/34 SUP 3490/195A

 $\underline{\text{Reasons}}$  : To provide several narrow sub-bands for radiolocation systems.

To obtain an allocation for the amateur service on a world basis.

To meet the growing needs of the maritime mobile service and facilitate planning in that service.

To improve the position of the channels at the edge of the band in the Broadcasting Plan, Geneva, 1975.

kHz 2 170 - 2 194

	Region 1
D	2 170 - <del>2-194</del> <u>2 176</u>
	MOBILE-(Distress-and calling)
	MARITIME MOBILE
	<u>Fixed</u>
	Land mobile
	3494/201 3495/201A
D	<u> 2 176 - 2 188</u>
	MOBILE (Distress and calling)
	3494/201 3495/201A
	<u>2 188</u> – 2 194
	MOBILE-(Distress-and calling)
	MARITIME MOBILE
	Fixed
	Land mobile
	3494/201

 $\underline{\text{Note}}$ : The guardband will not be reduced before 1982 (when double-sideband emissions have to be discontinued).

E/114/38 MOD

3494/201 The frequency 2 182 kHz is the international distress and calling frequency for radiotelephony. The conditions for the use of the band 2-170-2-194  $2 \cdot 176-2 \cdot 188$  kHz are prescribed in Article N35/35.

 $\underline{\text{Reasons}}$ : Owing to improved equipments, the guardband can be reduced without affecting the distress and calling service.

kHz 2 194 – 2 850

		Region 1
E/114/39	MOD	2 194 - 2 300
		FIXED
		MOBILE-except aeronautical-mobile-(R)
		MARITIME MOBILE
	. •	<u>Fixed</u>
		Land mobile
		3487/193 3490/195A
E/114/40	MOD	2 300 - 2 498
		FIXED
		MOBILE-except aeronautical-mobile-(R)
		BROADCASTING 3496/202
		MARITIME MOBILE
		<u>Fixed</u>
		Land mobile
		3487/193 3490/195A
E/114/41	NOC	2 498 - 2 502
		STANDARD FREQUENCY
		3497/203 3498/203A
E/114/42	MOD	2 502 - 2 625
		FIXED
		MOBILE-except aeronautical-mobile-(R)
		MARITIME MOBILE
		<u>Fixed</u>
		Land mobile
		3487/193 3490/195A

kHz 2 194 - 2 850 (cont.)

		Region 1
E/114/43	MOD	2 625 - 2650
		MARITIME MOBILE
		MARITIME-RADIONAVIGATION
		<u>Fixed</u>
		Land mobile
		3468/175 3490/195A
E/114/44	MOD	2 650 - 2 850
		FIXED
		MOBILE-except aeronautical-mobile-(R)
		MARITIME MOBILE
		Fixed
		Land mobile
		3490/195A 3499/205

 $\overline{\text{Reasons}}$ : To meet the growing needs of the maritime mobile service and facilitate planning in that service.

kHz 5 730 - 6 200

		Region 1	Region 2	Region 3
E/114/45	MOD	5 730 - <del>5-950</del> <u>5 740</u>	FIXED	
E/114/46	MOD	<u>5 740</u> - 5 950	FIXED	
			BROADCASTING	
E/114/47	NOC	5 950 - 6 200	BROADCASTING	

 $\underline{\text{Reasons}}$ : To use the spectrum more efficiently in accordance with existing requirements.

kHz 7 100 - 8 815

	1	Region l	Region 2	Region 2
E/114/48	MOD (WW)*)	7 100 - 7 300	7 100 - 7 300	7 100 - 7 300
	( w w ) ·· /	BROADCASTING	AMATEUR	BROADCASTING
		3509/212	BROADCASTING	
E/114/49	MOD	7 300 - <del>8</del> - <del>195</del> <u>7 500</u>	FIXED	
			BROADCASTING	
E/114/50	MOD	<u>7 500 - 8 100</u>	FIXED	
E/114/51	MOD	<u>8 100</u> - 8 195	FIXED	
			MARITIME MOBILE	
E/114/52	NOC	8 195 - 8 815	MARITIME MOBILE	,
			3495/201A 3510/213	

 $\underline{\text{Reasons}}$  : To use the spectrum more efficiently in accordance with existing requirements.

kHz 9 040 - 9 995

E/114/53	MOD	9 040 - <del>9-500</del> <u>9 400</u>	FIXED
E/114/54	MOD	<u>9 400</u> - 9 500	FIXED
			BROADCASTING
E/114/55	NOC	9 500 - 9 775	BROADCASTING
E/114/56	MOD	9 775 <b>- 9-995</b> <u>9 900</u>	FIXED
			BROADCASTING
E/114/57	MOD	<u>9 900</u> – 9 995	FIXED

 $\underline{\text{Reasons}}$ : To use the spectrum more efficiently in accordance with existing requirements.

<sup>\*)</sup> This symbol is used when proposals for regional allocations entail allocations on a world basis.

kHz 11 400 - 13 200

		Region 1	Region 2	Region 3
E/114/58	MOD	11 400 - <del>11-700</del> <u>11 500</u>	FIXED	
			3512/216	
E/114/59	MOD	11 500 - 11 700	FIXED	
			BROADCASTING	
E/114/60	NOC	11 700 - 11 975	BROADCASTING	
E/114/61	MOD	11 975 - <del>12-330</del> <u>12 025</u>	FIXED	
			BROADCASTING	
E/114/62	MOD	12 025 - 12 200	FIXED	,
E/114/63	MOD	<u>12 200</u> - 12 330	FIXED	
			MARITIME MOBILE	
E/114/64	NOC	12 330 - 13 200	MARITIME MOBILE	
			3510/213	

 $\underline{\text{Reasons}}$  : To use the spectrum more efficiently in accordance with existing requirements.

kHz 15 100 - 17 360

E/114/65	NOC	15 100 - 15 450	BROADCASTING
E/114/66	MOD	15 450 - <del>16</del> -460 <u>15 700</u>	FIXED
			BROADCASTING
E/114/67	MOD	15 700 - 16 250	FIXED
E/114/68	MOD	<u>16 250</u> - 16 460	FIXED
			MARITIME MOBILE
E/114/69	NOC	16 460 - 17 360	MARITIME MOBILE
			3510/213

 $\underline{\text{Reasons}}$  : To use the spectrum more efficiently in accordance with existing requirements.

kHz 22 000 - 23 200

		Region l	Region 2	Region 3
E/114/70	NOC	22 000 - 22 720	MARITIME MOBILE	
E/114/71	MOD	22 720 - <del>23-200</del> <u>22 920</u>	FIXED	
			MARITIME MOBILE	
E/114/72	MOD	<u>22 920</u> - 23 200	FIXED	

 $\underline{\text{Reasons}}$ : To use the spectrum more efficiently in accordance with existing requirements.

kHz 25 010 - 25 070

E/114/73		25 010 - 25 070	FIXED
	•		MOBILE-except-aeronautical-mobile
			MARITIME MOBILE

kHz 26 100 - 27 500

E/114/74	MOD	26 100 - <del>27-500</del> <u>26 174.1</u>	FIXED	
			MOBILE-except-aeronautical-mobile	
			MARITIME MOBILE	
E/114/75	MOD	<u>26 174.1</u> - 27 500	FIXED	
			MOBILE except aeronautical mobile	
			3522/225 3523/226	

Reasons: Application of Recommendation Mar2 - 8 (WARC, Geneva, 1974).

MHz 41 - 68

E/114/76 MOD

41 - 47

BROADCASTING

Fixed 3525/228 3535/237

Mobile

LAND MOBILE

3534/236A 3536/238 3537/239 MOD 3538/240 <del>3539/241</del>

Reasons: To meet requirements.

E/114/77

MOD

3538/240

In Spain, France, Monaco and the United Kingdom, the band 41 - 47 MHz is allocated to the broadcasting service.

Reasons: In Spain, the broadcasting service does not use this band because the land mobile service has to be protected against sporadic interference from broadcasting.

> MHz41 - 68 (cont.)

E/114/78 NOC Region 1

47 - 68

BROADCASTING

3536/238 3537/239 3539/241 3540/242

3541/243

Reasons: It is essential for Spain that this band should be reserved exclusively for broadcasting.

> MHz100 - 108

E/114/79 MOD (WW)

Region 1	Region 2	Region 3			
100 - 108	100 - 108				
MOBILE-except aeronautical-mobile-(R)	BROADCASTING				
BROADCASTING					
3568/269 3569/270 3 <b>57</b> 0/271	   3554/255   3555/256   3557/	258 3566/267 3571/272			

Reasons: Increased requirements of the broadcasting service and allocation of a band to this service on a world basis, so that receivers can be standardized.

> MHz146 - 149.9

MOD E/114/80

146 - 149.9

FIXED

MOBILE except aeronautical mobile (R)

3590/285 MOD 3591/285A

#### Document No. 114-E Page 16

E/114/81

MOD 3

3591/285A The band 148 - 149.9 MHz may be authorized for space telecommand the space operation service (Earth-to-space), subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected. The bandwidth of an individual transmission shall not exceed  $\pm 15$ -kHz 25 kHz.

Reasons: To extend the use of the band 148 - 149.9 MHz to the entire space operation service (Earth-to-space), which requires a greater bandwidth for transmission.

MHz 174 - 235

E/114/82

NOC

Region 1

174 - 216

BROADCASTING

3599/291 3600/292 3601/293 3602/294

<u>Reasons</u>: It is essential for Spain that this band should be reserved exclusively for broadcasting.

E/114/83

MOD

216 - 223

AERONAUTICAL RADIONAVICATION

BROADCASTING

3605/297 3606/298 3607/299 3608/300 3609/301

Reasons: To give official status to a situation which has existed for some time.

E/114/84

MOD

223 - 235

AERONAUTICAL RADIONAVIGATION

Fixed

Mobile

FIXED

MOBILE

/AERONAUTICAL

RADIONAVIGATION/

3607/299 3608/300 3609/301 3610/302

3611/303 3612/304

3613/305

 $\underline{\text{Reasons}}$ : To change the existing situation for the benefit of the fixed and mobile services.

MHz 401 - 402

		Region 1	Region 2	Region 3
E/114/85	MOD	401 - 402	METEOROLOGICAL AIDS	
			SPACE OPERATION (Telemeter	<del>ing)</del> <del>3630/315A</del>
			Fixed	
			Meteorological-satellite (Earth-to-space)	
			Mobile except aeronautical	mobile
			3628/314 3629/315 3631/3 3633/316	15B 3632/315C

E/114/86 SUP 3630/315A

 $\underline{\text{Reasons}}$  : To allow space operations of a type other than telemetering. Footnote 3630/315A thus becomes redundant.

MHz 1 700 - 1 790

E/114/87	MOD	1 700 - 1 710
		FIXED
		SPACE RESEARCH (Space-to-Earth)
		Mobile
		3701/354D <u>3708A</u>
E/114/88	MOD	1 710 - 1 770
		FIXED
		Mobile
		3695/352K 3702/356 <u>3708A</u>
E/114/89	MOD	1 770 - 1 790
		FIXED
		Meteorological-satellite 3704/356AA
		Mobile
		3702/356 <u>3708A</u>

E/114/90 ADD 3708A In Spain systems employing tropospheric scatter use the

band 1 700 - 2 300 MHz.

Reasons: To indicate this use of the band in Spain in view of the increasing number of space services in the band.

MHz 1 790 - 2 300

		Region l	Region 2	Region 3
E/114/91	MOD	1 790 - 2 290	1 790 - 2 290	
		FIXED	FIXED	·
		Mobile	MOBILE	
		3702/356 <del>3705/356AB</del> <del>3706/356ABA 3707/356AC</del> <u>3707A 3707B 3707C</u> <u>3708A</u>	3703/356A 3705/356AB 3706/ 3707A 3707B 3707C	356ABA
E/114/92	MOD	2 290 - 2 300		
		FIXED		
		SPACE RESEARCH (Space-to-Earth)		
		Mobile		
		3708/356C <u>3708A</u>		

E/114/93 SUP 3703/356A

E/114/94 SUP 3705/356AB

E/114/95 SUP 3706/356ABA

E/114/96 SUP 3707/356AC

Reasons: The allocations covered by these footnotes are maintained in the footnotes proposed below.

E/114/97 ADD

3707A The band 2 025 - 2 110 MHz may also be used for Earth-to-space transmissions in the space research, space operation and Earth exploration-satellite services, subject to agreement between the administrations concerned and those having services, operating in conformity with the Table, which may be affected, account being taken of the future development of such services.

E/114/98 The band 2 110 - 2 120 MHz may also be used for ADD 3707B Earth-to-space transmissions in the space research (deep space) service,

services.

subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected,

account being taken of the future development of such services.

E/114/99 The band 2 200 - 2 290 MHz may also be used for ADD 3707C space-to-Earth transmissions in the space research and space operation services, subject to agreement between the administrations concerned and those having

services, operating in accordance with the Table, which may be affected, account being taken of the future development of such services.

Reasons: These three new footnotes are intended to bring about the allocation, on a world basis, of the frequency bands 2 025 - 2 120 and 2 200 - 2 290 MHz to the space research, space operation and Earth exploration-satellite services, in order to achieve maximum flexibility in the development of these space

> MHz2 500 - 2 700

Region 1 Region 2 Region 3 E/114/100 2 500 - 2 550 MOD 2 500 - 2 535 FIXED 3721/3640 FIXED 3721/364e MOBILE except FIXED-SATELLITE (Space-to-Earth) aeronautical mobile MOBILE except aeronautical mobile BROADCASTING-SATELLITE BROADCASTING-SATELLITE 3715/361B 3715/361B 3714/361A 3723/364E 3724/364F 2 535 - 2 550 FIXED 3721/364€ MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3714/361A 3716/362 3724/364F 3714/361A 3724/364F E/114/101 2 550 - 2 655 MOD FIXED 3721/3646 MOBILE except aeronautical mobile BROADCASTING-SATELLITE 3715/361B 3716/362 3717/363 <del>3718/364</del> 3724/364F

MHz 2 500 - 2 700 (cont.)

		Region 1	Region 2	Region 3
E/114/102	MOD	2 655 - 2 690	2 655 - 2 690	
		FIXED 3721/3646 3722/364D	FIXED 3721/3646 3722/364D	
		MOBILE except	FIXED-SATELLITE (Earth-to-	space)
		aeronautical mobile	MOBILE except aeronautical	mobile
		BROADCASTING-SATELLITE 3715/361B 3726/364H	BROADCASTING-SATELLITE 37	15/361В 3726/364н
		3717/363 <del>3718/364</del> 3724/364F 3725/364G	3723/364E 3724/364F 3725/3	64g
E/114/103	MOD	2 690 - 2 700	RADIO ASTRONOMY	
	•		3531/233B 3717/363 3719/3	64A <del>3720/364</del> B
- ( ) ( )		0/()		

E/114/104 SUP 3718/364
E/114/105 SUP 3720/364B
E/114/106 SUP 3721/364C
E/114/107 SUP 3722/364D

Reasons: Inclusion of a new provision in the Radio Regulations (proposed in ADD 6324A) concerning the frequency band which tropospheric scatter systems have to use.

MHz 4 700 - 5 000

E/114/108	MOD	4 700 - <del>4</del> -990 <u>4 950</u>	FIXED
			MOBILE
			<del>3531/233B</del> 3697/354 MOD 3746/382A <del>3747/382B</del>
E/114/109	MOD	<u>4 950</u> - 4 990	FIXED
			MOBILE
			Radio astronomy
			Space research (Passive)
			Earth exploration-satellite (Passive)
			3531/233B 3697/354 3746/382A 3747/382B

MHz 4 700 - 5 000 (cont.)

		Region 1	Region 2	Region 3
E/114/110	MOD	4 990 - 5 000	4 990 - 5 000 (NOC)	4 990 - 5 000 (NOC)
		FIXED	RADIO ASTRONOMY	FIXED
		MOBILE		MOBILE
		RADIO ASTRONOMY		RADIO ASTRONOMY
		Space research (Passive)		
		Earth exploration- satellite (Passive)		
		<del>3531/233B</del>	3749/383A	3531/233B

Reasons: The usefulness of these bands for the passive services.

Footnotes have been deleted because they will become redundant with the proposed new allocation.

To widen the band already allocated to radio astronomy for observations of the continuum.

E/114/111 MOD

Radio astronomy observations on the important formaldehyde spectral lines (rest frequencyies 4-829.649-MHz 4 829.66 MHz, 14.488, 72.838, 140.840, 145.603 and 150.498 GHz) are being carried out in a number of countries under national arrangements. Administrations should bear in mind the needs of the radio astronomy service in their future planning of the band 4-825 - 4-835-MHz. Administrations are urged to adopt all practicable measures to protect radio astronomy observations in the bands 4 825 - 4 835 MHz, 14.473 - 14.503, 72.7 - 72.9, 140.6 - 141.0, 145.45 - 145.75 and 150.35 - 150.65 GHz against harmful interference.

 $\underline{\text{Reasons}}$ : The footnote is amended to emphasize the importance of the various formaldehyde lines.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

<u>Document No. 115-E</u> 28 May 1979

Original : English

PLENARY MEETING

#### Malta

PROPOSALS FOR THE WORK OF THE CONFERENCE

This Administration requests that the series of call signs 9 HA - 9HZ allocated to the Republic of Malta under the provisions of Radio Regulation No. 749 be confirmed by the Conference.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 116-E 20 June 1979

Original : English

PLENARY MEETING

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#### Botswana, Lesotho, Malawi, South Africa, Swaziland and Zambia

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### ARTICLE N7/5

Frequency Allocations - 10 kHz to 275 GHz

#### Section I. Regions and Areas

BOT	MOD	3415/125 For the allocation of frequencies the world has been
LS0		sub-divided into three Regions (see Appendix 24) and two sub-Regions in Region
MWI		
AFS		
SWZ		
ZMB/116/1		·
72 OF	ADD	
BOT	ADD	3416A Region 1 is sub-divided at the 30°N latitude into the
LS0		northern sub-Region which includes the area of Region 1 north of the $30^{ m ON}$
MWI		latitude and the southern sub-Region which includes the area of Region 1 south
AFS		of the 30°N latitude.
SWZ		
ZMB/116/2		Reasons: With few exceptions most of the frequencies below 4 000 kHz and

Reasons: With few exceptions most of the frequencies below 4 000 kHz and between 30 MHz and 1 000 MHz are used for short range radiocommunications purposes and, as a result, the types of services permitted and permissible can vary extensively from one part of Region 1 to another.

It is recognized, for instance, that the needs of the maritime mobile service in the European maritime area for additional channels below 4 000 kHz are pressing yet the same needs do not exist in large areas of Africa even in the maritime states south of the Sahara.

As a result of their various other differing needs, the countries in the southern part of Africa have to resort to the extensive use of footnotes to the Table of Frequency Allocations in order to establish their rights to operate other services in the bands in question.

As an alternative, it is now proposed that Region 1 be sub-divided and, for the purpose of initial consideration, the dividing line is proposed to correspond with the southern boundary of the European maritime and broadcasting areas, namely 30°N latitude.

Agreement to this proposal could ease the work in using the Table of Frequency Allocations and it will also be possible to dispense with the definitions and other regulations referring to the European maritime and broadcasting areas.



#### Section IV. Table of Frequency Allocations

kHz 5 060 - 5 250

			Allocation to Services	
		Region 1	Region 2	Region 3
вот	MOD	5 060 - 5 250	FIXED	
LSO MWI			Land mobile	
AFS SWZ ZMB/116/3				
			kHz 5 730 - 5 950	
BOT LSO	MOD	5 730 - 5 950	FIXED	
MWI AFS			Land mobile	
SWZ ZMB/116/4				
			kHz 6 765 – 7 000	
вот	MOD	6 765 - 7 000	FIXED	
LSO MWI AFS			Land mobile	
SWZ ZMB/116/5				
			kHz 7 300 - 8 195	
BOT	MOD	7 300 - 8 195.	FIXED	
LSO MWI AFS			Land mobile	
SWZ ZMB/116/6				
			kHz 9 040 - 9 500	
BOT LSO	MOD	9 040 - 9 500	FIXED	
MWI AFS			Land mobile	
SWZ ZMB/116/7				

kHz 9 775 - 9 995

		Region 1	Region 2	Region 3
BOT	MOD	9 775 - 9 995	FIXED	
LSO MWI AFS			Land mobile	
swz zmb/116/8				
			kHz 10 100 - 11 175	
BOT LSO	MOD	10 100 - 11 175	FIXED	
MWI AFS			Land mobile	
SWZ ZMB/116/9				
		••• • • • • • • • • • • • • • • • • •	kHz 11 400 - 11 700	
BOT LSO	MOD	11 400 - 11 700	FIXED	
MWI AFS SWZ ZMB/116/10			Land mobile	
		Reasons: To satisfy the	needs of the land mobile se	ervice.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 117-E 12 June 1979 Original : English French

PLENARY MEETING

Inter-governmental Maritime
Consultative Organization (IMCO)

#### PRIORITY SIGNAL FOR MEDICAL TRANSPORTS

(Extract from the Report of the IMCO Sub-Committee on Radiocommunications COM XX/11)

- 1. The ITU Administrative Council has included on the Agenda for the WARC-79 the matter of studying the technical aspects for the use of radiocummunications for marking, identifying, locating and communicating with medical transports protected under the 1949 Geneva Conventions.
- 2. Regarding the provision of a priority radiocummunications signal for medical transports to cover the essential need for a unique and easy means of identifying themselves, the Sub-Committee is of the opinion that to the current "Urgency" signal a word (in the case of radiotelephony) or series of letters (in the case of radiotelegraphy) could be added, which would make it clear that medical transports are involved.
- 3. The Sub-Committee further noted that with the current usage of the "Urgency" signal this would involve minimum changes to the Radio Regulations.



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 118-E 25 June 1979 Original: English

PLENARY MEETING

#### Republic of India

PROPOSAL FOR THE WORK OF THE CONFERENCE

ARTICLE N7/5

Table of Frequency Allocations

IND/118/344 NOC 3496/202

Reasons: Use of the HF (High Frequency) bands defined in No. 6218/425 of the Radio Regulations is a well-established and extensively deployed method for providing internal broadcast coverage in the countries situated within the Tropical Zone. The use of these bands for internal national coverage offers several advantages to these countries, for most of whom the difficulties imposed by the prevalence of higher atmospheric noise are compounded by a situation of developing economy. The chief advantage of HF band is that of large coverage as demonstrated by the fact that a transmitter of 50 kW carrier power can provide a useful service extending up to a radius of as much as 800 kms. In order to service the same area, it would be necessary to use several transmitters of equivalent power in any other (terrestrial) broadcasting band which would result in additional financial investments.

While the long-term development of the VHF mode of transmission is foreseen within the Tropical Zone, this development will inevitably have to be matched with the economic capability of the countries concerned. Since the objective of providing extensive broadcast coverage cannot, in any case, be deferred until the economic conditions permit intensive exploitation of alternative modes, internal broadcasting using the HF bands is unavoidable in the foreseeable future. In the state of economy prevailing in the Tropical Zone, the quality degradation associated with HF service could be tolerated until superior means can be fully implemented.

Any alteration in the provision contained in No. 3496/202 of the Regulations is most likely to have a highly detrimental effect on broadcasting within the Tropical Zone.



<sup>\*)</sup> See also Documents Nos. 83 and 93.

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

NOC

ALG/119/33 (Corr. 1)

4329/534

Corrigendum No. 1 to
Document No. 119-E
12 September 1979
Original: French

PLENARY MEETING

GENEVE

#### Algeria (Algerian Democratic and Popular Republic)

PROPOSALS FOR THE WORK OF THE CONFERENCE

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Page 2: Replace proposal ALG/119/5 by:
ALG/119/5
             NOC
                   4303/508
(Corr.1)
Page 2: Replace proposal ALG/119/7 by:
ALG/119/7
             NOC
                   4305/510
(Corr.1)
Page 3: Replace proposal ALG/119/9 by:
ALG/119/9
             NOC
                   4309/514
(Corr.1)
Page 3: After ADD 4310C add:
ALG/119/13A ADD
                                     d) In the event of disagreement expressed by one or more of
                   the administrations referred to in No. 4310A within the time-limit laid down in
(Corr. 1)
                   No. 4310B, the Board shall apply the procedure set out in No. 4308/513.
Page 4: Replace proposal ALG/119/18 by:
ALG/119/18
            MOD
                   4315/520
                                    (2) Where the notice includes a specific reference to the fact
                   that the station will be operated in accordance with the provisions of
(Corr. 1)
                   No. 3279/115 of these Regulations, the assignment shall be recorded in the
                   Master Register. The date to be entered in the appropriate part of Column 2
                   according to the relevant provisions of Section III of this Article shall be the
                   date of receipt by the Board of the notice, subject to the provisions of
                   No. 4443/611.
Page 4: Replace proposal ALG/119/24 by:
ALG/119/24
                                    (3) If the finding is favourable with respect to
(Corr. 1)
                   Nos. 4297/502 or 4298/503, the assignment shall be recorded in the
                   Master Register. The date to be entered in the appropriate part of Column 2
                   according to the relevant provisions of Section III of this Article shall be
                   the date of receipt by the Board of the notice, subject to the provisions of
                   No. 4443/611.
Page 5: Replace proposal ALG/119/27 by:
ALG/119/27 NOC
                  4323/528
(Corr. 1)
Page 5: Replace proposal ALG/119/28 by:
ALG/119/28
                                    (7) If, however, the notifying administration insists upon
(Corr. 1)
                   reconsideration of the notice, and should the Board's finding remain unchanged,
                   the Board shall return the notice to the notifying administration and the
                  assignment shall not be entered in the Master Register, in accordance with
                  No. 4317/A.
Page 5: Replace proposal ALG/119/33 by:
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# Corrigendum No. 1 to Document No. 119-E Page 2

## Proposal ALG/119/38 ADD:

Page 6: 4368G, 4368J, 4368L

In these numbers, the sentence "The date to be entered in Column 2a shall be the date of publication of the weekly circular containing the finding of the Board" should be replaced by:

"The date to be entered in Column 2a shall be the date of receipt by the Board of the notice",

Page 7: 4368Q, 4368T, 4368W

In these numbers, the sentence "The date to be entered in Column 2b shall be the date of publication of the weekly circular containing the finding of the Board" should be replaced by:

"The date to be entered in Column 2b shall be the date of receipt by the Board of the notice".

### Page 7: After No. 43680 add:

- ADD 43680A If the notifying administration observes harmful interference caused by the assignment in question, it shall report it to the Board, which in turn shall inform the administration responsible for the interfering assignment, reiterating the suggestions referred to in No. 4368M with a view to eliminating the interference. At the same time, the Board shall publish this information in its weekly circular.
- ADD 43680B If, within a period of sixty days following the publication of the weekly circular referred to in No. 43680A, the administration concerned submits a new notice with modifications which, after re-examination, result in a favourable finding by the Board with respect to No. 4368D, the new assignment shall be recorded in the Master Register. The date to be entered in Column 2b shall be the date of receipt by the Board of the new notice.
- ADD 43680C If, however, upon the expiry of the period referred to in No. 43680B, the administration concerned has not made any modifications or has made modifications to a degree insufficient to enable the Board to reach a favourable finding, the Board shall cancel the interfering assignment.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 119-E 18 June 1979 Original: French

PLENARY MEETING

RCHIVE

GENEVE

# Algeria (Algerian Democratic and Popular Republic)

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### 1. Introduction

For most developing countries, the HF bands are of primary importance since they are used to set up national and international direct fixed-type links requiring relatively little investment. In such countries, a considerable number of the links that form part of the backbone of the general network are, and will continue to be, provided in the HF bands. The developed countries, on the other hand, possess reliable telecommunication infrastructures based on wideband transmission media (cables, radio relay links, communication satellites, optical fibres, etc.).

As far as mobile-type links are concerned, the present tendency in developed countries is to use frequencies above 30 MHz which have superior quality and greater reliability than frequencies below 30 MHz. In developing countries, however, the need to meet priority requirements at minimum cost, combined with an antiquated telecommunication infrastructure, means that it will be necessary in most cases for the HF bands to remain in use well into the future.

The Algerian Administration therefore considers that more extensive access to the HF bands should be reserved for the administrations of developing countries through a substantial revision of Article N12/9 of the Radio Regulations.

# 2. Present procedure for the notification of frequency assignments and their recording in the Master International Frequency Register

In the frequency band between about 4 000 kHz and 27 500 kHz, there are broadly speaking two categories of assignments: those with a date in Column 2a (see No. 4439/607 of the Radio Regulations) or in Column 2b (see No. 4440/608 of the Radio Regulations) and those with a date in Column 2d of the Master International Frequency Register.

The first category of assignments concerns solely the aeronautical mobile service and the maritime mobile service in bands allocated exclusively under various plans.

The second category of assignments concerns primarily the fixed and mobile services, with the exception of the broadcasting service which is governed by the provisions of Article 10. The Algerian proposals relate to this category of assignments.

The present procedure for the notification of frequency assignments and their recording in the Master Register sanctions the principle of "first come, first served". Any new notice, whatever the notifying administration, is examined by the IFRB in relation to the harmful interference it may cause to former assignments, i.e. mainly to the assignments of developed countries whether they are in service or not (see Nos. 4297/502 and 4298/503 of the Radio Regulations).

The Algerian proposals relating to Article N12/9 introduce a new principle in the procedure, the main features of which are outlined below.

#### 3. Summary of the Algerian proposals

Each of the frequency bands for which assignments are recorded in Column 2d of the Master Register are divided into two parts, representing roughly 70 % and 30 %.

In the first part (70 %), developing countries will be entitled to international protection from harmful interference, their assignments being recorded with a date in Column 2a of the Master Register; the assignments of developed countries will show a date in Column 2b. The procedure for this part (70 %) of the band appears in the new Sub-Section IIDA in the present document.

In the second part (30 %) of the band, the present procedure as amended will continue to be applied.

Any administration may of course notify frequencies throughout the entire band, since only the procedures differ, depending on which of the two parts of the band is involved.

The Algerian proposals are motivated by the concern to make the IFRB play a still more important role than in the past and to enable it to provide more assistance to the administrations of developing countries.

#### PROPOSALS RELATING TO ITEM 2.2 OF THE AGENDA

# ARTICLE N12/9

#### Section I. Notification of Frequency Assignments

The Algerian Administration will submit the proposals relating to this section at a later date.

> Section II. Procedure for the Examination of Notices and the Recording of Frequency Assignments in the Master Register

		·
ALG/119/1	NOC	4291/496 to 4294/499
ALG/119/2	MOD	Title Sub-Section IIA. Procedure to be followed in cases not covered by Sub-Sections IIB to ### IIF of this Article
ALG/119/3	MOD	4295/500 Except for notices referred to in Nos. 4336/541, 4337/547, 4351/552, 4359/561, 4366/568 and 4368A, the Board shall examine each notice with respect to
ALG/119/4	NOC	4296/501 to 4302/507
ALG/119/5	MOD	4303/508 (2) The assignment shall be recorded in the Master Register. The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt of the notice-by-the-Board publication of the weekly circular containing the finding of the Board.
		Reasons: 1) The proposed date refers to the Board's finding and seems more

- appropriate than the date on which the Board receives the notice.
- 2) Simplification of the procedure for recording frequency assignments in the Master Register.

ALG/119/6 NOC. 4304/509

(2) The assignment shall be recorded in the Master Register. ALG/119/7 MOD 4305/510 The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt of-the-notice-by-the-Board publication of the weekly circular containing the finding of the Board.

Reasons: As for MOD 4303/508.

4306/511 to 4308/513 NOC

ALG/119/9

MOD

4309/514 (3) Should the notifying administration resubmit the notice with modifications which result, after re-examination, in a favourable finding by the Board with respect to No. 4297/502 or 4298/503, the assignment shall be recorded in the Master Register. The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt-by-the-Board-of-the-original-notice publication of the weekly circular containing the finding of the Board. The date of receipt by the Board of the resubmitted notice shall be indicated in the Remarks Column.

Reasons: As for MOD 4303/508.

ALG/119/10 MOD

4310/515 (4) Should the notifying administration resubmit the notice, either unchanged, or with modifications which decrease the probability of harmful interference, but not sufficiently to permit the provisions of No. 4309/514 to be applied, and should that administration, after bringing its assignment into service, insist upon reconsideration of the notice, but should the Board's findings remain unchanged, the-assignment-shall-be-recorded-in-the Master-Register .-- However, -this-entry-shall-be-made-only-if-the-notifying administration-informs-the-Board-that-the-assignment-has-been-in-use-for-at-least sixty-days-without-any-complaint-of-harmful-interference-having-been-received. The-date-to-be-entered-in-the-appropriate-part-of-Column-2-according-to-the relevant-provisions-of-Section-III-of-this-Article-shall-be-the-date-of-receipt by-the-Board-of-the-original-notice---The-date-of-receipt-by-the-Board-of-the advice-that-no-complaint-of-harmful-interference-has-been-received-shall-be indicated-in-the-Remarks-Column: the Board ...

ALG/119/11

ADD

a) shall publish the notice in the weekly circular indicating

which administrations are likely to be affected,

ALG/119/12

4310B

b) shall simultaneously send a written request to the administrations referred to in No. 4310A that they should inform the Board of their agreement or disagreement within a period of sixty days following the date of publication of the corresponding weekly circular.

ALG/119/13

ADD

ADD

4310C c) if, on expiry of the period referred to in ADD 4310B, no administration has informed the Board of its disagreement, the Board shall record the assignment in question in the Master Register. The date to be entered in Column 2 according to the relevant provisions of Section III of this Article shall be the date of publication of the weekly circular referred to in ADD 4310A.

Reasons: The procedure proposed in MOD 4310/515, ADD 4310A, ADD 4310B and ADD 4310C will enable administrations, if they so wish, to monitor their assignments without the need for substantial and expensive monitoring infrastructure.

ALG/119/14

MOD

4311/516 (5) In the case of a frequency assignment recorded in accordance with the provisions of Nor-4310/515 MOD 4310/515, ADD 4310A, ADD 4310B and ADD 4310C, the Board shall investigate the assignments that contributed to the unfavourable finding, using such means at its disposal as are appropriate in the circumstances, and, with the agreement of the notifying administration concerned, shall effect any cancellations or amendments found to be necessary, in order that the recordings in the Master Register shall reflect the actual frequency usage. If,-as-a-result,-the-Board-is-able-to-reach-a-favourable finding-with-respect-to-Nos--4297/502-or-4298/503-with-regard-to-any-assignment recorded-under-the-provisions-of-No--4310/515,-the-appropriate-changes-shall-be made-in-respect-of-the-entry-of-that-assignment-in-the-Master-Register---If-the finding-remains-unfavourable,-the-Board-shall-enter-suitable-remarks-in-the Master-Register-for-the-entry-or-entries-concerned-which-describe-the-situation as-it-has-been-found-by-the-Board-to-exist.

Reasons: As a result of the previous proposals in MOD 4310/515, ADD 4310A, ADD 4310B and ADD 4310C.

ALG/119/15 SUP 4312/517

Reasons: As for the previous proposal.

ALG/119/16 MOD 4313/518 (7) (6) Should the notifying administration resubmit the notice with modifications which increase the probability of harmful interference, and should the Board's finding remain unchanged, the resubmitted notice shall be treated under No. 4308/513. If-the-notice-is-resubmitted-again-and-subsequently recorded,-the-date-to-be-entered-in-the-appropriate-part-of-Column-2-according-to the-relevant-provisions-of-Section-III-of-this-Article-shall-be-the-date-of

receipt-by-the-Board-of-the-notice-submitted-for-the-second-time.

Reasons: As a result of the previous proposals.

ALG/119/17 NOC 4314/519

ALG/119/18 MOD 4315/520 (2) Where the notice includes a specific reference to the fact that the station will be operated in accordance with the provisions of No. 3279/115 of these Regulations, the assignment shall be recorded in the Master Register. The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt-by-the-Board-of-the-notice publication of the weekly circular containing the finding of the Board, subject to the provisions of No. 4443/611.

Reasons: 1) As for the previous proposals.

2) To emphasize the importance of No. 4443/611.

ALG/119/19 NOC 4316/521

ALG/119/20 SUP 4317/522

ALG/119/21 ADD 4317A (4) The Board shall record in the Master Register only those assignments for which the notifying administration undertakes to apply the provisions of No. 3279/115.

Reasons: To emphasize the need to observe the present Regulations.

ALG/119/22 NOC 4318/523

ALG/119/23 NOC 4319/524

ALG/119/24 MOD 4320/525 (3) If the finding is favourable with respect to Nos. 4297/502 or 4298/503 the assignment shall be recorded in the Master Register. The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt-by-the Board-of-the-notice publication of the weekly circular containing the finding of the Board, subject to the provisions of No. 4443/611.

Reasons: As for MOD 4315/520.

ALG/119/25 MOD 4321/526 (4) If the finding is unfavourable with respect to Nos. 4297/502 or 4298/503, the notice shall be returned immediately by airmail to the notifying administration. Should the administration insist upon reconsideration of the notice, the assignment shall be recorded in the Master Register.—However, this entry shall be made only if the notifying administration informs the Board that the assignment has been in use for at least sixty days without any complaint of harmful interference having been received.—The date to be entered in the appropriate part of Column 2 according to the relevant provisions of Section III of this Article shall be the date of receipt by the Board of the original notice. The date of receipt by the Board of the advice that no complaint of harmful interference has been received shall be indicated in the Remarks Column the

procedure set forth in MOD 4310/515, 4310A, 4310B and 4310C shall be applied. Any entry in the Master Register shall be made subject to the provisions of No. 4443/611.

 $\underline{\text{Reasons}}$ : To ensure that the assignment in question does not cause harmful interference.

ALG/119/26 NOC 4322/527

ALG/119/27 SUP 4323/528

Reasons: Superfluous, since the Board's finding becomes favourable with respect to No. 4296/501.

ALG/119/28 SUP 4324/529

Reasons: This case is covered by ADD 4317A.

ALG/119/29 SUP 4325/530

ALG/119/30 SUP 4326/531

Reasons: As a result of ADD 4317A and SUP 4324/529.

ALG/119/31 NOC 4327/532

ALG/119/32 MOD 4328/533 (2) A notice of a change ... shall be examined by the Board according to Nos. 4296/501 and 4297/502, 4298/503 or 4299/504, as appropriate, and the provisions of Nos. 4302/507 to 4326/53± 4322/527 inclusive applied (rest without change).

Reasons: As a result of the previous proposals.

ALG/119/33 MOD 4329/534 (3) However, ... In addition, the date of receipt-by-the
Board publication of the circular containing the finding of the Board with
respect to the notice relating to the change shall be entered in the Remarks
Column.

Reasons: As a result of the previous proposals.

ALG/119/34 ADD 4329A (4) Any notification of a change in the assigned frequency that exceeds half the frequency band originally assigned as defined in No. 3138/89 shall be regarded as a new notice.

Reasons: Clarification of the text.

ALG/119/35 NOC 4330/535 to 4333/538

ALG/119/36 MOD 4334/539 (4) If-the-Board-does-not-receive-this-confirmation-within the-period-referred-to-in-No:-4333/538;-the-entry-concerned-shall-be-cancelled.

Where appropriate, the Board shall consult the notifying administration at least fifteen days before the expiry of the period referred to in No. 4333/538. If the Board does not receive confirmation within that period, the entry concerned shall be cancelled.

 $\underline{\text{Reasons}}$ : To remind the notifying administration one last time of the need for confirmation.

ALG/119/37 NOC 4335/540

ALG/119/38 ADD

Sub-Section IIDA. Procedure to be Followed for the Use of the Frequency Bands Listed In No. 4368AA

Reasons: The reasons for this proposal are given in some detail in the introduction to the document of the Algerian Administration concerning Article N12/9. They apply to the present sub-section in its entirety.

4368A

(1) The Board shall examine each notice with respect to:

4368B

a) its conformity with No. 4296/501

4368C b) the inclusion of the notifying administration in the list of countries given in Appendix X

4368D

c) its conformity with No. 4297/502

4368E Depending upon the findings of the Board subsequent to the examination prescribed in Nos. 4368B, 4368C and 4368D, further action shall be as follows:

4368F (2) Findings favourable with respect to Nos. 4368B, 4368C and 4368D.

4368G The assignment shall be recorded in the Master Register. The date to be entered in Column 2a shall be the date of publication of the weekly circular containing the finding of the Board.

4368H (3) Finding favourable with respect to Nos. 4368B and 4368C, but unfavourable with respect to No. 4368D.

4368I If there is a probability of harmful interference to an assignment recorded in the Master Register and bearing a date in Column 2a, the procedure set forth in No. 4308/513 shall be applied.

4368J If the notifying administration resubmits the notice with modifications which result after re-examination in a favourable finding by the Board with respect to No. 4368D, the assignment shall be recorded in the Master Register. The date to be entered in Column 2a shall be the date of publication of the weekly circular containing the finding of the Board.

4368K If the notifying administration is unable to implement the suggestions of the Board, the Board shall seek, using such means at its disposal as are appropriate in the circumstances and with the agreement of the administrations concerned, a solution aimed at eliminating the probability of harmful interference, as a result of which the assignment shall be recorded in the Master Register. The date to be entered in Column 2a shall be the date of publication of the weekly circular containing the finding of the Board.

The administrations concerned shall assist the Board in finding this solution as rapidly as possible.

4368L If there is a probability of interference to an assignment recorded in the Master Register and bearing a date in Column 2b, the assignment shall be recorded in the Master Register. The date to be entered in Column 2a shall be the date of publication of the weekly circular containing the finding of the Board.

4368M (4) If the Board finds that the new assignment recorded in the Master Register in accordance with No. 4368G, 4368K or 4368L is likely to suffer harmful interference from a former assignment bearing a date in Column 2b, it shall immediately so inform by airmail the administration responsible for such interference and present its suggestions for a satisfactory solution of the problem. The Board shall simultaneously publish its findings in the weekly circular.

4368N If the administration concerned submits a new notice with modifications which, after re-examination, result in a favourable finding by the Board with respect to No. 4368D, the original assignment shall remain in the Master Register bearing the same date in Column 2b. The date of receipt of the new notice shall be entered in the Remarks Column.

43680 If, within a period of sixty days following the publication of the weekly circular referred to in ADD 4368M, the administration concerned has not made the necessary modifications to remove the probability of harmful interference, the Board shall replace, in the Master Register, the date in Column 2b by a symbol indicating that this assignment will no longer be taken into account in subsequent examinations.

4368P (5) Finding favourable with respect to Nos. 4368B and 4368D, but unfavourable with respect to No. 4368C.

4368Q The assignment shall be recorded in the Master Register. The date to be entered in Column 2b shall be the date of publication of the weekly circular containing the finding of the Board.

4368R (6) Finding favourable with respect to No. 4368B, but unfavourable with respect to Nos. 4368C and 4368D.

4368S The Board shall immediately return the notice to the notifying administration in accordance with No. 4308/513.

4368T If the notifying administration submits a new notice with modifications which, after re-examination, result in a favourable finding by the Board with respect to No. 4368D, the assignment shall be recorded in the Master Register. The date to be entered in Column 2b shall be the date of publication of the weekly circular containing the finding of the Board.

4368U If the provisions of No. 4368T are not applicable, the Board shall immediately return the notice to the notifying administration informing it that the assignment has not been recorded in the Master Register and that any new notice will be examined in accordance with Nos. 4368P and subsequent numbers.

4368V (7) Finding unfavourable with respect to No. 4368B, and favourable with respect to No. 3279/115.

4368W If the finding of the Board is favourable with respect to No. 4368D, the assignment shall be recorded in the Master Register. The date to be entered in Column 2b is the date of publication of the weekly circular containing the finding of the Board, subject to the provisions of No. 4443/611.

4368X If the finding of the Board is unfavourable with respect to No. 4368D, the provisions of No. 4308/513 shall be applied.

4368Y If the notifying administration resubmits the notice with modifications which, after re-examination, result in a favourable finding by the Board with respect to No. 4368D, the assignment shall be recorded in the Master Register in accordance with No. 4368W.

4368Z If the conditions set forth in No. 4368Y are not applicable, the Board shall immediately return the notice to the notifying administration informing it that the assignment has not been recorded in the Master Register and that any new notice will be examined in accordance with Nos. 4368V and subsequent numbers.

4368AA The procedure set forth in the present sub-section shall be applicable to the following frequency bands:

Reasons: As a result of the Algerian proposal.

#### APPENDIX X

List of Developing Countries

(Reproduce the list of developing countries)

# ARTICLE N4

ALG/119/39 MOD 3248/673 (3) Moreover, every effort should be made to keep frequency tolerances and levels of spurious unwanted emissions at the lowest values which the state of the technique and the nature of the service permit.

Reasons: More appropriate term. Protection of receivers situated close to the limits of radio transmitter service areas.

## ARTICLE N9/8

#### General Provisions

NOC 3951 to 3963

ALG/119/40 ADD 3693A (1) Assistance in training the senior staff of administrations, particularly in the countries most requiring it, in the field of spectrum management and utilization.

NOC 3964

NOC 3965

#### ARTICLE N16

ALG/119/41 MOD 4997/693

- § 2. All stations are forbidden to carry out:
  - unnecessary transmissions;
  - the transmission of superfluous signals and correspondence;
  - the transmission of false or misleading signals;
  - the transmission of signals without identification (see Article N23/19).1

Reasons: To preclude the transmission of erroneous information, SOS, etc. ...

ALG/119/42 MOD 5001/697 § 6. If, while complying with the provisions of Article N4/12, a station causes harmful interference through its spurious unwanted emissions, special measures shall be taken by the administration to which it belongs to eliminate such interference.

Reasons: Clarification of the text.

NOC 5002/698

ARTICLE N18

ALG/119/43 NOC 5064/684

ALG/119/44 <u>NOC</u> 5071/691

ARTICLE N19

ALG/119/45 NOC 5100/721

ARTICLE N21

ALG/119/46 NOC 5193/722 to 5195/724

ARTICLE N22

ALG/119/47 MOD 5221/725 (1) No transmitting station or receiving station for professional use may be established ... (rest without change).

Reasons: To extend the licence requirement to cover professional receivers.

ALG/119/48 MOD 5224/728 The holder of a licence or of an authorization to operate a station is required to preserve the secrecy of telecommunication, as provided in Article 22 of the Convention. Moreover, the licence the authority issuing the licence or authorization shall provide mention, specifically or by reference, ... (rest without change).

Reasons : Editorial.

ALG/119/49 MOD 5227/731 (2) For land mobile stations, including stations consisting of one or more receivers, a clause shall be included in the licence or authorization, specifically or by reference, under which the operation of these stations shall be forbidden in countries other than the country which has issued the licence, except as may be provided by special agreement between the governments of the countries concerned.

Reasons: As a result of MOD 5221/725 and 5224/728.

#### ARTICLE N24

ALG/119/50 SUP 5532/813

Reasons: Expensive document of limited usefulness.

#### ARTICLE N30

ALG/119/51 MOD 6357/1563 Any person eperating called upon to operate the apparatus of an amateur station ... (rest without change).

Reasons : Clarification of text.

ALG/119/52 MOD 6358/1564 (2) Administrations shall take such the necessary measures as they-judge-necessary to verify the technical qualifications of any person operating called upon to operate the apparatus of an amateur station.

Reasons: Clarification of text.

#### ARTICLE N32

ALG/119/53 NOC 6420/1568

ALG/119/54 MOD 6422/1570 (1) In-experimental-stations-any-person-operating-radiotelegraph apparatus,-either-on-his-own-account-or-for-another,-shall-have-proved-his-ability to-transmit-by-hand-and-to-receive-by-ear-texts-in-Morse-code-signals.

Any person called upon to operate the apparatus of an experimental station shall have proved his ability to operate that station.

Reasons: To extend this provision to cover all types of experimental station.

ALG/119/55 MOD 6423/1571 (2) Administrations shall take such-steps-as-they-think the necessary measures to verify the technical qualifications, from the technical point-of-view, of any person operating called upon to operate the apparatus of an experimental station.

Reasons: To harmonize this provision with No. 6358/1564.

ALG/119/56 (MOD) 6424/1572 **§** 3. The administrations concerned shall fix the maximum power of experimental stations, having regard to the purpose for which their establishment has been authorized and the conditions under which they are to work operate.

Reasons: To improve the text.

ALG/119/57 MOD 6425/1573 § 4. At the end, add: In such cases, the administration which authorizes the operation of these stations shall grant a dispensation in due form.

Reasons: This decision is the responsibility of the administration authorizing the operation of the station rather than of the operating staff.

#### ARTICLE N33

ALG/119/58 MOD 6454/1577 § 2. (Does not concern English text)

Reasons: Conformity with the English text which seems clearer.

ALG/119/59 SUP 6461/1584

Reasons: Superfluous, since radiocommunication by telegraphy or telephony is expected to meet the provisions of the present Regulations.

ALG/119/60 MOD 6462/1584A 8 8. The provisions of Nos. 6453/1576 to 6461/1584 6460/1583 also apply to the maritime radiodetermination-satellite service, in so far as practicable.

Reasons: As a result of SUP 6461/1584.

ALG/119/61 MOD 6476/433 8 15. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 and 415 535 kHz shall be based on a protection ratio against interference of at least 10 15 dB for each beacon throughout its service area.

Reasons: 1) In Region 1, the band 510 - 525 kHz is allocated on a secondary basis to the aeronautical radionavigation service. In Region 2, the bands 510 - 525 kHz and 525 - 535 kHz are allocated on a permitted basis to the aeronautical radionavigation service.

2) Conformity with ICAO Recommendations.

PROPOSALS RELATING TO ITEM 2.10 OF THE AGENDA

DRAFT RECOMMENDATION AND DRAFT RESOLUTION

ALG/119/62

#### RECOMMENDATION A

Relating to the Convening of a World Administrative Radio Conference for the Planning of the Frequency Bands Allocated Exclusively to the Broadcasting Service

The World Administrative Radio Conference, Geneva, 1979,

#### noting

- a) that the Extraordinary Administrative Radio Conference (Geneva, 1951), in Articles 11 and 28 of its Final Acts, decided that the broadcasting service should be governed by plans covering the frequency bands between 3 950 kHz and 27 500 kHz;
- b) that following the above-mentioned decision, the Administrative Council did not consider it necessary to convene a broadcasting conference to examine the draft plans drawn up by the IFRB;

noting further that no plan has so far been adopted for the frequency bands in question, and that these are governed by Article 10 of the Radio Regulations, the provisions of which are no longer pertinent;

considering that plans have been drawn up for broadcasting in the other bands (Geneva, 1975);

recognizing the need to generalize planning in the frequency bands allocated exclusively to the broadcasting service;

recommends that the Administrative Council should convene, as soon as possible, a World Administrative Radio Conference to draw up a plan for the frequency bands allocated exclusively to the broadcasting service between 5 950 kHz and 26 100 kHz.

ALG/119/63

#### RESOLUTION B

Relating to the Modification of the Master International Frequency Register with regard to the Frequency Bands Listed in ADD 4368AA of the Radio Regulations

The World Administrative Radio Conference, Geneva, 1979,

#### in view of

- a) the new provisions of Article N12/9 relating to the notification and recording of frequency assignments in the Master International Frequency Register;
- b) the fact that the Master International Frequency Register will have to be modified with regard to the bands listed in ADD 4368AA of the Radio Regulations;

#### resolves

- 1. that as from date  $\int D / D$ , the dates or symbols appearing in Column 2d of the Master Register shall be transferred to Column 2a or 2b of the Master Register in accordance with the procedure described in point 2 below;
- 2. the transfer and determination of dates to be entered in Column 2a or 2b;
- 2.1 for assignments recorded on behalf of administrations of countries listed in Appendix X, the date or symbol shall be transferred from Column 2d to Column 2a. The date to be entered in this Column shall be date / D/;
- 2.1.1 if the assignment has received a favourable finding with respect to No. 4296/501, the date  $\sqrt{D}$  shall be entered in Column 2a and the date or symbol in Column 2d shall be deleted;
- 2.1.2 if the assignment has received an unfavourable finding with respect to No. 4296/501, the date / D + 1/ shall be entered in Column 2b and the date or symbol in Column 2d shall be deleted;
- 2.2 for assignments recorded on behalf of administrations of countries not listed in Appendix X, the transfer shall be made by the following procedure:
- 2.2.1 the Board shall examine each assignment with respect to the probability of interference to any assignment recorded in Column 2a;

# 2.2.1.1 if the finding is unfavourable;

2.2.1.1.1 the Board shall publish its findings in the weekly circular and shall directly inform those administrations whose assignment(s) is (are) likely to suffer harmful interference and those whose assignments are liable to cause such interference, presenting its suggestions with a view to eliminating the probability of harmful interference.

- 2.2.1.1.2 if the administration does not make any modifications or makes modifications which reduce the probability of harmful interference to an insufficient extent, the Board shall so inform the administration, which shall then be required to cease all emissions. The Board shall delete the date entered in Column 2d and retain only the date in Column 2c. It shall enter in the Remarks Column a symbol indicating that this assignment will no longer be taken into account in subsequent examinations;
- 2.2.1.2 in all other cases not mentioned in point 2.2.1.1.2, the Board shall enter the date / D / in Column 2b if the assignment is in conformity with No. 4296/501 and the date / D + 1 / if the assignment is not in conformity with No. 4296/501. The date or symbol in Column 2d shall then be deleted.

 $<sup>\</sup>overline{/}$  In this draft resolution, the date D is the date of entry into force of the Final Acts of the Conference or any other date adopted by the Conference.  $\overline{/}$ 

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 120-E 18 June 1979 Original: French

PLENARY MEETING

## United Republic of Cameroon

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

#### Introduction

Since the general World Administrative Radio Conference (WARC) of 1959, changes have occurred in the world leading to an increase in the number of participating countries. Inasmuch as the needs of the countries which have newly arrived on the international scene often differ greatly from those of the countries which represented them at the time, it is essential that the Radio Regulations should be brought up to date in order to take the new situation into account.

The United Republic of Cameroon submits the following proposals, which do not prejudge the final positions it may adopt at the Conference.

#### ARTICLE N7/5

#### I. Amateur service

CME/120/1

A footnote will specify that in the United Republic of Cameroon the allocation of frequencies in the bands reserved for the amateur service is subject to restrictions.

 $\overline{\text{Reasons}}$ : Economical use of the frequency spectrum; frequencies in these bands may be allocated to other services in Cameroon on a priority basis.

#### II. HF bands

The United Republic of Cameroon requests the Conference to adopt the following Recommendations :

CME/120/2 ADD

#### RECOMMENDATION No. A

(agenda item 2.1)

# considering

- a) that the HF bands are widely used by the developing countries for their national services and will continue to be used for a long time as a medium of communication to overcome the isolation of localities remote from the decision-making centres;
- b) that the countries concerned have very vast territories and limited means for the establishment of VHF, SHF or satellite links;
- c) that the present and future volume of traffic does not justify the use of frequency bands providing large transmission capacities;
- d) the serious problems created by the heavy congestion in these bands;
- e) the numerous requests for the allocation of bands to the maritime mobile services and the greatly increased use of these bands by the amateur services;

- f) that these new requirements will reduce present exclusive allocations to the fixed services;
- g) the need for international cooperation,

the World Administrative Radio Conference, bearing in mind the vast territories of the developing countries, their scarce resources and their need for low-cost communications,

recommends that the developed and highly industrialized countries should free their assignments in these bands in order to reserve large portions of the HF bands for the less privileged countries.

Reasons: The HF bands are easy and economical to use. The developing countries do not possess the resources for radiocommunications based on highly sophisticated equipments. The developed countries do possess such resources and may therefore use them for their communications.

They are asked in this instance to show a spirit of international cooperation.

#### III. Single sideband broadcasting

(agenda item 2.3)

CME/120/3

The introduction of single sideband broadcasting should be delayed as long as possible.

Reasons: The introduction of this new technique will involve changes in existing installations and the adaptation of receivers. This raises an economic problem which only time can solve. It is these factors that should determine the date on which the new technique is introduced.

### IV. Division of the world into three radio Regions

(agenda item 2.1)

CME/120/4 ADD

RESOLUTION NO. A

### Considering

that the technical criteria for the division of the world into three radio Regions are not clearly defined,

that since the Atlantic City Conference (1947) many changes have occurred throughout the world,

the World Administrative Radio Conference requests the CCIR to set up an ad hoc committee to:

- 1. study all aspects of the division of the world into three Regions;
- propose a better division into regions.

Reasons: The criteria for the present division of the world into three radio Regions appear to be highly subjective. Much more objective criteria should therefore be sought.



### V. International cooperation

(agenda item 2.3)

CME/120/5 ADD

#### RESOLUTION No. B

with regard to technical cooperation with the developing countries in the study of propagation in the Tropical Region and the participation of these countries in the work of the International Consultative Committees (CCIs)

The World Administrative Radio Conference, Geneva, 1979,

having noted that the assistance provided for the developing countries by the Union in cooperation with other United Nations specialized agencies, such as UNDP, in the field of telecommunication augurs well for the future,

#### aware

- a) of the fact that the developing countries require perfect knowledge of the phenomenon of radio propagation in their territories if they are to make rational, economical use of the radio spectrum;
- b) of the important role of propagation in radiocommunications;
- c) of the importance of the work of the CCIs for the development of telecommunications in general and radiocommunications in particular,

# considering

- a) the need for the developing countries themselves to study telecommunications in general and propagation in particular in their vast territories, this being the sole means of enabling them to acquire telecommunication techniques and securing an efficient transfer of technology;
- b) the scarce resources available in these countries for their development,

#### resolves to invite the Secretary-General:

- 1. to offer the assistance of the Union to developing countries which endeavour to carry out national studies in order to improve their telecommunications:
- to assist these countries
  - a) in organizing, with the support of UAPT, UPAT, URTNA, national propagation measurement campaigns in order to improve the use of the radio spectrum;
  - b) in participating actively in the work of the CCIs, as one of the best means of transferring technology;
- 3. to seek funds for this purpose from the United Nations Development Programme (UNDP) or from other sources in order to enable the Union to provide the developing countries with adequate and effective technical assistance for telecommunications in general and radiocommunications in particular:
  - to invite Member countries to contribute, within the limits of their possibilities and in accordance with their technical development, to the cooperation extended by the Union to the developing countries in the field of telecommunications;

- to invite the developing countries to include, in accordance with their needs, telecommunication projects in the country programmes to be executed by means of an external technical assistance and to support multinational projects in this field.

Reasons: Many developing countries desire to organize propagation measurement campaigns on a national basis, but are often hampered by the lack of equipments and staff. They also desire to take part in the work of the CCIs but here, too, they are limited by their material possibilities. This lack of resources is a serious handicap impeding the transfer of technology required by these countries for their development.

#### VI. Resolution for the CCIR

(agenda item 2.1)

CME/120/6 ADD

#### RESOLUTION No. C

concerning the establishment of an ad hoc group for the study of devices for protection against lightning

The World Administrative Radio Conference, Geneva, 1979,

#### considering

- a) that there are areas in Africa where, although the required protective devices against lightning have been installed, equipments constantly deteriorate, often very seriously, following discharges produced during violent hurricanes;
- b) that tentative studies have not led to conclusive results;
- c) the lack of material means and of experience among technicians confronted with this phenomenon,

invites the CCIR to establish an ad hoc committee to study this phenomenon with due despatch and to find ways and means to remedy this situation.

Reasons: For several years - in Cameroon particularly in March-April and September-October - radio equipments have been subject to atmospheric discharges in certain areas despite the protective devices installed. These atmospheric discharges damage radio equipments and interrupt emissions for lengthy periods. Cameroonian technicians have not been able to solve this problem.

# INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 121-E
8 October 1979
Original: Spanish

COMMITTEE 5

#### Republic of Venezuela

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

This document gives corrections to the proposals for the amendment of Article N7/5 made by Venezuela in Document No. 121.

- 1. Page 14:
- 1.1 Replace "NOC 3468/175" by "SUP 3468/175".
- 2. Page 16:
- 2.1 Proposal VEN/121/47: Region 2:
- 2.1.1 Keep reference to footnote "3484/191"
- 2.1.2 Delete reference to footnote "3484A".
- 3. Page 17:
- 3.1 Proposal VEN/121/49: Replace "SUP 3484/191" by "NOC 3484/191".
- 3.2 Proposal VEN/121/50 : Delete.
- 3.3 Proposal VEN/121/52 : Region 2 :
- 3.3.1 Add reference to footnote "3484/191".
- 3.3.2 Delete reference to footnote "3484A".
- 4. Page 40:
- 4.1 Replace proposal VEN/121/177 by the following:

GHz 136 - 137

VEN/121/177 MOD (Corr.1)

Region 1	Region 2	Region 3
136 - 137	SPACE-RESEARCH (Space-to-	Earth)
	AERONAUTICAL MOBILE (R)	
	3581/281A 3582/281AA	



4.2 Replace "NOC 3581/281A" by "SUP 3581/281A".

4.3 Add: "SUP Recommendation Spa 7" .

Reasons: As a result of the proposed allocation and the deletion of footnote 3581/281A

5. Page 48:

5.1 Proposal VEN/121/208 : Region 2 :

5.1.1 Delete the amateur service in the band 420 - 430 MHz.

5.2 Proposal VEN/121/210 : Region 2.

5.2.1 Delete the amateur service in the band 440 - 450 MHz.

6. Page 50:

6.1 Proposal VEN/121/217: Region 2: In the band 608 - 614 MHz keep BROADCASTING on a primary basis, shared with RADIO ASTRONOMY, also on a primary basis.

7. Pages 69 and 70:

7.1 Replace proposals VEN/121/300, VEN/121/301 and VEN/121/305, with reference to the Venezuelan proposal in the band 12 GHz in Region 2, by the following allocation:

GHz 11.7 - 12.75

Region 2

11.7 - 12.7

FIXED

FIXED-SATELLITE

MOBILE except aeronautical mobile

BROADCASTING

BROADCASTING-SATELLITE

3786/405BB 3787/405BC

12.7 - 12.75

FIXED

FIXED-SATELLITE (Earth-to-space)

MOBILE except aeronautical mobile

BROADCASTING

VEN/121/301 (Corr.1)

VEN/121/300 MOD

(Corr.1)

VEN/121/305 MOD (Corr.1)



# Amendment of the band 11.7 - 12.7 GHz

Reasons: In order to give the Regional Administrative Broadcasting Satellite Conference - 1983 greater flexibility in deciding how this band should be shared between services. This will mean that WARC-79 will have to extend the competence of RABSC-83 so that it can plan all the services involved.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 121-E 25 June 1979 Original: Spanish

PLENARY MEETING

#### Republic of Venezuela

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

The following is the first document of proposals prepared by the Venezuelan Administration with a view to the revision of the Radio Regulations by the 1979 World Administrative Radio Conference.

The present document covers only Article N/75. Subsequent documents will deal with other items of the Conference agenda and will be despatched as and when they are ready.

#### Proposals relating to:

Item 2.1 of the WARC-79 agenda

CHAPTER NIII

Frequencies

ARTICLE N7/5

Frequency Allocations 10 kHz to 275 GHz

#### Introduction

## 1. <u>General</u>

In drawing up proposals for the revision of Article N7/5 of the Radio Regulations by the World Administrative Radio Conference, 1979, the Administration of Venezuela has borne in mind the development of radiocommunication services and the needs of both new and existing services; account has also been taken of existing assignments in Venezuela and changes are only proposed if they are considered to be in the national or regional interest and when it is economically feasible to relocate existing users.

These proposals are also intended to reflect the frequency spectrum requirements of the various services in the immediate future and their economic and social implications.

In addition, the proposals are the outcome of a number of preliminary consultations conducted, through direct exchange of opinion or by means of proposals, with other administrations in the Region and with the main domestic users. The recommendations of the SPM and suggestions of the IFRB have been observed as far as possible. In some services attention has been paid to the criteria of specialized international organizations such as ICAO, INTELSAT and IARU.

The fundamental criterion applied for the proposed changes has been to provide world-wide allocations and to avoid different allocations in two or more Regions, for four basic reasons:



- World-wide allocations broaden the market possibilities, thus enabling Venezuela to purchase its telecommunication equipment on any market in the world; this is not the case with the present allocations whereby some frequency bands are different for each Region, with the result that our countries have access only to a restricted market, which contributes towards increasing technological dependence.
- World-wide allocations avoid interference between systems providing different services in different Regions.
- World-wide allocations facilitate the implementation of plans of a similar nature, which is very difficult when there are allocations to different services in different Regions or when the frequency bands allocated are different.
- World-wide allocations contribute towards improving the operation of radiocommunication services and facilitate the standardization of equipment and procedures.

The Administration of Venezuela endorses the suggestion of the IFRB and the proposals made by several countries to maintain a minimum number of footnotes to the Table. Many of the notes have not been amended since they do not concern the Administration of Venezuela, but other administrations are invited to follow this suggestion and to revise and update the notes which affect them with a view to simplifying the use of the Table of Frequency Allocations.

#### 2. Presentation

The proposals have been drawn up on the basis of the Re-Arrangement of the Radio Regulations and in accordance with the guidelines issued by the ITU General Secretariat. However, an additional symbol has been adopted: when the content of a footnote has been amended, it has been underlined in the Table with a dotted line.

For the sake of convenience, the presentation follows the format of the Radio Regulations, proposals being considered by page. The comments relating to each page are given at the bottom of the page.

## 3. Summary of the proposals

Below is a summary of the main proposals of Venezuela on the various sections of Article N7/5.

- 3.1 Section I: The following have been added to this section the contents of Appendix 24 through the modification of footnote 3415/125, the definition of the African Broadcasting Area taken from footnote 3656.1/330.1 and the definition of a Sub-Region given in a new footnote 3426A.
- 3.2 Section II: The text of Resolution No. 6 has been added with a new footnote 3426B.
- 3.3 <u>Section IV</u>: The main proposals by band are the following:

# 3.3.1 Bands from 10 kHz to 27.5 MHz

- In broad terms, the objective has been to maintain allocations to provide the services in greatest demand in Venezuela and throughout Latin America and the developing countries as a whole, such as the fixed and land mobile services in the HF bands, in order to meet domestic requirements. For this purpose, the bands from 4 MHz to 9.5 MHz allocated to the fixed service have been maintained, with the addition of the land mobile service.
- Exclusive world-wide bands are proposed for the radionavigation service : e.g. 10 14 kHz; 90 110 kHz.



- Allocations to services have been made uniform on a world-wide basis in the following bands: 70 90 kHz; 90 110 kHz, 110 130 kHz, 315 325 kHz, 4 438 4 650 kHz; 4 750 4 850 kHz; 7 100 7 250 kHz; 7 250 7 300 kHz and 1 800 1 850 kHz.
- Venezuela has not yet made any proposal for the band 160 285 kHz for which it is currently examining domestic requirements. A proposal will be submitted at a later date.
- The following bands have been added for the maritime mobile service: 490 495 kHz, 505 510 kHz, 2 170 2 172 kHz, 2 187 2 194 kHz.
- A 7-channel increase in allocation is proposed for the MF broadcasting service, 5 channels (1 605 1 655 kHz) having the same power characteristics as those already allocated and the 2 remaining channels, having a power limit (footnote 3484A) and being located at the edges of the band (525 535 kHz and 1 655 1 665 kHz).
- New bands are provided on a world-wide basis to the amateur and amateur-satellite services: 1 800 1 850 kHz, 7 100 7 250 kHz, 10 100 10 200 kHz and 18 068 18 170 kHz.
- The position adopted for tropical broadcasting is not to modify or delete footnote 3496/202.
- Footnote 3498A has been added concerning all the frequency bands allocated to the standard frequency service, which have also been allocated to the radio astronomy service on a secondary basis.
- The allocation for international broadcasting has been extended to include the following bands: 5 900 5 950 kHz; 7 250 7 300 kHz, 9 775 9 800 kHz and 11 600 11 700 kHz. The allocation in the band 25 600 26 100 kHz has been eliminated.

### 3.3.2 Bands from 27.5 MHz to 960 MHz

- Allocations to services have been made uniform on a world-wide basis in the following bands: 27.5 28 MHz, 73 74.6 MHz, 146 148 MHz, 150 157.45 MHz, 160.6 161 MHz and 161.45 162.05 MHz.
- Several footnotes relating to the radio astronomy service have been combined in two new footnotes 3531A and 3560A.
- In the bands 54 72 MHz and 76 88 MHz (Region 2) and 174 216 MHz (Regions 2 and 3), the fixed and mobile services become secondary services in order to provide greater protection for the broadcasting service.
- Allocations to the broadcasting service in the bands 72 73 MHz and 75.4 76 MHz (Region 2) have been eliminated since they are not used under existing channel arrangements.
- The fixed and mobile services have been added to existing services in the bands 136 138 MHz.
- The amateur and amateur-satellite band has been extended from 144 to 148 MHz.
- The band 150.05 174 MHz has been modified, with the allocation of exclusive world-wide bands to the maritime mobile service in accordance with footnote 3595/287. Two new footnotes 3595A and 3595B have been added to enlarge on the present footnote 3595/287 which has been deleted.
- The fixed and mobile (except aeronautical mobile) services have been added in the bands 420 430 MHz and 440 450 MHz.
- The fixed and mobile services have been added in the bands 470 608 MHz and 806 890 MHz (Region 2). The band 608 614 MHz (Region 2) has been allocated exclusively to the radio astronomy service.

#### 3.3.3 Bands from 960 MHz to 15.35 GHz

- The bands 1 370 1 400 MHz and 4 700 4 990 MHz have been allocated on an exclusive basis to the radio astronomy service.
- The proposals for the bands from 1 535 to 1 660 MHz are an exact reflection of ICAO suggestions.
- With respect to the fixed-satellite service, the following bands have been allocated: 1 790 2 290 MHz, 5 470 5 725 MHz, 5 725 5 850 MHz (Regions 2 and 3), 5 850 5 925 MHz (Region 2), 6 425 7 250 MHz, 10.7 10.95 GHz and 11.2 11.45 GHz.
- As far as the band 11.7 12.7 GHz (Region 2) is concerned, no changes are proposed or wanted in the band 11.7 12.2 GHz; the broadcasting-satellite service has been added in the bands 12.2 12.5 GHz and 12.5 12.75 GHz with a view to facilitating the planning work of the 1983 Regional Administrative Radio Conference.
- The fixed and mobile services have been added in the following bands: 4 990 5 000 MHz (Region 2), 7 250 7 300 MHz, 7 975 8 025 MHz, 10.68 10.7 GHz, 12.75 13.25 GHz and 14.5 15.35 GHz.

Venezuela has not proposed any changes in the bands above 15.35 GHz for the time being.

ARTICLE N7/5

NOC

Frequency Allocations 10 kHz to 275 GHz

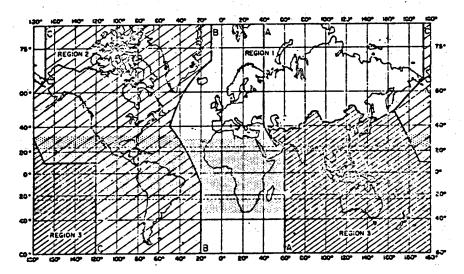
NOC

Section I. Regions and Areas

VEN/121/1 MOD

3415/125 § 1. For the allocation of frequencies the world has been subdivided into the three Regions<sup>2</sup> (see Appendix 24) shown in the following chart:

Chart of Regions as defined in Table of Frequency Allocations (See Nos. 3415/125 to 3422/132 and 3425/135)



The shaded part represents the Tropical Zone as defined in Nos. 3425/135 and 3426/136

Reasons: The chart of the three Regions defined in Nos. 3415/125 to 3422/132 and of the Tropical Zone defined in No. 3425/135 would be more conveniently placed and easier to consult if it were transferred to Section I of Article N7/5. Appendix 24 would thus become superfluous.

VEN/121/3	SUP			API	PENDIX 24			
	NOC	3416/126						·
	NOC	3417/127						
	NOC	3418/128				•		
	NOC	3419/129						
	NOC	3420/130						
	NOC	3421/131				•	•	
	NOC	3422/132						
	NOC	3423/133			•			
	NOC	3424/134						•
VEN/121/4	ADD	3424A		The	"African	Broadcasting	Area"	covers :
		,	a)	African c	ountries,	parts of cou	ntries	, territo

- 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. 3421/131 of these Regulations, situated between the parallels  $40^{\circ}$  South and  $30^{\circ}$  North.

Reasons: In order to transfer this footnote to its appropriate place, i.e. the present section. Footnote 3656.1/330.1 should therefore be deleted.

NOC 3425/135

VEN/121/5 MOD

3426/136 In Region 2, the Tropical Zone may be extended to parallel 33° North, subject to appropriate special agreements between the countries concerned in that Region. Such special agreements shall be notified to the International Frequency Registration Board.

Reasons: To facilitate the work of the IFRB.

VEN/121/6 ADD 3426A A Sub-Region is an area consisting of two or more countries in the same Region.

Reasons: To define a widely used term.

# Section II. Categories of Services and Allocations

VEN/121/7 ADD 3426B Wherever used in the documents of the Union, the terms listed below shall be expressed in the appropriate working language of the Union as indicated in the following table:

Frequency distribution to :	French	English	Spanish
Services	Attribution (attribuer)	Allocation (to allocate)	Atribución (atribuir)
Areas or countries	Allotissement (allotir)	Allotment (to allot)	Adjudicación (adjudicar)
Stations	Assignation (assigner)	Assignment (to assign)	Asignación (asignar)

Reasons: To facilitate reference to terms widely used in the Table of Frequency Allocations and to avoid confusion. The addition of this footnote would make Resolution No. 6 unnecessary.

VEN/121/8 SUP

Resolution No. 6

NOC 3427

NOC 3428/137

NOC 3429/138 (Comment: This footnote has not been used so far; a decision should therefore be taken on its deletion, which would entail the modification of footnotes 3428/137 and 3442/141.)

NOC 3430/139

NOC 3431/140

MOD

VEN/121/9

3432/141 Where a band is indicated in a footnote to the Table as allocated to a service "on a primary basis", or "on a permitted basis" in an area smaller than a Region, or in a particular country, this is a primary service or a permitted service only in that area or country (see Nos. 3282/117 and 3429/138).

Reasons: To provide protection among stations of different services in adjacent Regions or Sub-Regions.

VEN/121/10

MOD 3433

Additional Services Allocations

VEN/121/11 MOD

3434/142 Where a band is indicated in a footnote to the Table as "also allocated" to a service in an area smaller than a Region, or in a particular country, this is an "additional" service, allocation, i.e. an service allocation which is added in this area or in this country to the service-or services-which-are allocation indicated in the Table (see No. 3435/143).

Reasons: Clarification of terms.

VEN/121/12 (MOD) 3435/143

If the footnote does not include any restriction on the service or services concerned an-additional-service apart from the restriction to operate only in a particular area or country, stations of this service or services shall have equality of right to operate with stations of the other

indicated in the Table.

Reasons: Clarification of terms and to standardize reference to the category of services by name rather than by type of print in order to avoid confusion.

primary service or services, -the-names-of-which-are-printed-in-"small-eapitals"

VEN/121/13 MOD 3436/144 If restrictions are imposed on an additional service allocation in addition to the restriction to operate only in a particular area or country, this is indicated in the footnote to the Table.

Reasons: Clarification of terms.

NOC 3437

NOC 3438/145

VEN/121/14 (MOD) 3439/146 If the footnote does not include any restriction on stations of the service or services concerned, apart from the restriction to operate only in a particular area or country, these stations of such service or services shall have an equality of right to operate with stations of the primary service or services the names of which are printed in "small capitals" indicated in the Table and to which the band is allocated in other areas or countries.

Reasons: To clarify the footnote and to refer to the category of services by name rather than by type of print in order to avoid confusion.

NOC 3440/147

NOC 3441

NOC 3442/148

NOC 3443/149

Section III. Description of the Table of Frequency Allocations

NOC 3444/150

NOC 3445/151

NOC 3446/152

VEN/121/15 ADD 3446A When an allocation in the Table is accompanied by an indication in brackets, the allocation to the service shall be restricted to the type of operation indicated.

Reasons: To specify the indications in brackets shown after the allocations in the Table.

NOC 3447/153

NOC 3448/154

NOC 3449/155

# Section IV. Table of Frequency Allocations 10 kHz to 275 GHz

kHz 10 - 14

		Allocation to Services		
		Region 1	Region 2	Region 3
VEN/121/16	MOD	Below 10	(Not allocated)	
			34 <u>51/157</u> *)	
VEN/121/17.	MOD	10 14	RADIONAVIGATION	
	•		Radiolocation	·

VEN/121/18 MOD

3451/157 Administrations authorizing the use of frequencies below 10 kHz for-special-national-purposes shall ensure that no harmful interference is caused thereby to the services to which the bands above 10 kHz are allocated (see also Article N16/14, No. 5003/699).

Reasons: To extend the scope of application of the footnote.

 $(10-14~{\rm kHz})$  To provide world-wide protection for the OMEGA radionavigation system and because this band is not used by the radiolocation service.

NOC 3452/158

NOC 3453/159

NOC 3454/160

NOC 3455/161

<sup>\*)</sup> Note by the General Secretariat : see Introduction, point 2.

kHz 70 - 90

		Region 1	Region 2	Region 3
VEN/121/19	MOD	70 - 72	70 - 90	70 - 90
		RADIONAVIGATION 3456/162	FIXED	FIXED
		MARITIME MOBILE 3452/158	MARITIME MOBILE 3452/158	MARITIME MOBILE 3452/158
		MARITIME RADIONAVIGATION	MARITIME RADIONAVIGATION	RADIONAVIGATION 3456/162
		<u>3456/162</u>	3456/162	MARITIME RADIONAVIGATION
		Radiolocation	Radiolocation	<u>3456/162</u>
		FIXED	•	Radiolocation
		3455/161		
VEN/121/20	MOD	72 - 84		
		FIXED		,
		MARITIME MOBILE 3452/158		
		RADIONAVIGATION 3456/162		
,		MARITIME RADIONAVIGATION	•	
		<u>3456/162</u>		
		Radiolocation	***	
		3455/161 3457/163 <u>3460A</u>		
VEN/121/21	MOD	84 - 86		
		FIXED		
		MARITIME MOBILE 3452/158		
		MARITIME RADIONAVIGATION 3456/162		
		Radiolocation		
		RADIONAVIGATION 3456/162		
		3457/163 <u>3460A</u>		·
VEN/121/22	MOD	86 – 90		
		FIXED		·
		MARITIME MOBILE 3452/158		
		MARITIME RADIONAVIGATION 3456/162		
		Radiolocation		
		RADIONAVIGATION 3456/162		
		3457/163 <u>3460A</u>	3458/164 <u>3460A</u>	3459/165 <u>3</u> 460A

# RESULTING FINAL PROPOSAL:

70 - 90	FIXED
	MARITIME MOBILE 3452/158
	MARITIME RADIONAVIGATION 3456/162
	Radiolocation
	3455/161 3457/163 3458/164 <u>3459/165</u> <u>3460A</u>

 $\underline{\text{Reasons}}$ : (70 - 90 kHz) To make the allocation of the band uniform on a world-wide basis.

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NOC 3456/162

NOC 3457/163

NOC 3458/164

VEN/121/23 MOD

3459/165 In the bands 70 - 72 kHz, and 84 - 86 kHz, 112 - 115 kHz and 126 - 129 kHz, the maritime radionavigation service is shall be the primary service and the fixed and maritime mobile services are shall be secondary services, except in Japan and Pakistan, until the band 90 - 110 kHz is used exclusively for the new radionavigation systems.

Reasons: As a result of the changes of allocation in the bands to which the footnote refers.

VEN/121/24 ADD

3460A In authorizing new assignments in the bands 80 - 90 and 110 - 120 kHz, administrations are urged to take all practicable steps to protect the receiving stations of the radionavigation system in the band 90 - 110 kHz from harmful interference. Radionavigation receiving stations shall be designed in such a way as not to be easily interfered with by other services operating in adjacent frequency bands.

Reasons: To protect the radionavigation system in the band 90 - 110 kHz.

kHz 90 - 110

VEN/121/25 MOD

Region 1	Region 2	Region 3	
90 - 110	90 - 110	90 - 110	
Fixed	RADIONAVIGATION	FIXED	
MARITIME-MOBILE 3452/158	Fixed	MARITIME-MOBILE 3452/158	
RADIONAVIGATION	Maritime-mobile 3452/158	RADIONAVIGATION	
3457/163 <u>3460/166</u> <del>3461/167</del>	3460/166 3461/167	. <u>3460/166</u> <u>3461/167</u>	

#### RESULTING FINAL PROPOSAL :

90 - 110	RADIONAVIGATION	
	3457/163 <u>3460/166</u>	

Reasons: (90 - 110 kHz) To meet the need for an exclusive world-wide allocation for the radionavigation service.

VEN/121/26 MOD

3460/166 The-development-and-operation-of-long-distance radionavigation-systems-are-authorized-in-this-band,-which-will-become exclusively-allocated, -wholly-or-in-part, -to-the-radionavigation-service for the use of any one such system as soon as it is internationally adopted. Other considerations being equal, preference should be given to the long distance radionavigation system requiring the minimum bandwidth for world-wide service and causing the least harmful interference to other services. If a pulse radionavigation system is employed, the pulse emissions shall nevertheless be confined within the band 90 - 110 kHz and shall not cause harmful interference outside the band to stations operating in accordance with the Regulations. In Regions-1-and-3, during the period prior to the international-adoption-of-any-long-distance-radionavigation-system,-the operation-of-specific-radionavigation-stations-shall-be-subject-to-agreements between-administrations-whose-services, operating-in-accordance-with-the-Table, may-be-affected .-- Once-established-under-such-agreements, -radionavigation stations-shall-be-protected-from-harmful-interference.

Reasons: To adapt the footnote to the new allocation.

VEN/121/27 MOD

3461/167 Only classes Al or Fl, A4 or F4 emissions are authorized in the band 90 <u>110</u> - 160 kHz for stations of the fixed service and in-the-band-li0---160-kHz-for-stations of the maritime mobile service. Exceptionally, class A7J emissions are also authorized in the band 110 - 160 kHz for stations of the maritime mobile service.

Reasons: As a result of the modification of the Table and in order to protect the operation of radionavigation systems in the band 90 - 110 kHz.

kHz 110 - 130

	Region 1	Region 2	Region 3
VEN/121/28 MOD	110 - 112	110 - 130	110 - 130
	FIXED	FIXED	FIXED
	MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
	RADIONAVIGATION 3456/162	MARITIME RADIONAVIGATION 3456/162	RADIONAVIGATION 3456/162
	MARITIME RADIONAVIGATION 3456/162	RadioNavigation 3450/102	MARITIME RADIONAVIGATION 3456/162
	Radiolocation	Naurorocatron	Radiolocation 34)0/102
	3457/163 <u>3</u> 460A		
	3461/167 3462/168		
VEN/121/29 MOD	112 - 115		
	RADIONAVIGATION 3456/162	:	
	FIXED		
•	MARITIME MOBILE		a
	MARITIME RADIONAVIGATION 3456/162		•
	Radiolocation		
	3457/163 <u>3460A</u>		
VEN/121/30 MOD	115 - 126		
	FIXED		
•	MARITIME MOBILE		
•	MARITIME RADIONAVIGATION 3456/162		
	Radiolocation		
•	RADIONAVIGATION 3456/162		
	3457/163 <u>3460A</u> <u>3461/167</u> 3462/168 <u>3463/169</u>	•	
VEN/121/31 MOD	126 - 129		
	RADIONAVIGATION 3456/162		
	FIXED		
	MARITIME MOBILE		
	MARITIME RADIONAVIGATION 3456/162		
	Radiolocation		
	3457/163 <u>3460A</u>		

kHz 110 - 130 (cont.)

רכיו/ זמים עו	120	MOD

Region 1	Region 2	Region 3
129 - 130	110 - 130 (cont.)	110 - 130 (cont.)
FIXED  MARITIME MOBILE	,	
MARITIME RADIONAVIGATION 3456/162		
Radiolocation		
RADIONAVIGATION 3456/162		
3457/163 <u>3460A</u> <u>3461/167</u> <del>3462/168</del>	3458/164 <u>3460A 3461/167</u> 3462/168	3460A 3461/167 3462/168 3464/170

### RESULTING FINAL PROTOCOL :

110 - 130	FIXED
	MARITIME MOBILE
	MARITIME RADIONAVIGATION 3456/162
	Radiolocation
	3457/163 <u>3459/165</u> <u>3460A</u> <u>3461/167</u> <u>3463/169</u> 3458/164

 $\underline{\text{Reasons}}$ : (110 - 130 kHz) To make the allocation of the band uniform on a world-wide basis.

VEN/121/33 SUP

3462/168

Reasons : Has become superfluous.

VEN/121/34 MOD

3463/169 In the band 115 - 117.6 kHz the <u>maritime</u> radionavigation service is the primary service and the fixed and maritime mobile services are secondary services. In the same band, in France and the Federal Republic of Germany the fixed and maritime mobile services are primary services and the <u>maritime</u> radionavigation service is a secondary service.

Reasons : As a result of the modification of the Table.

VEN/121/35 SUP

3464/170

Reasons: No longer required in view of the modification of footnote 3459/165.

# kHz 150 - 160

		Region 1	Region 2	Region 3
VEN/121/36	MOD	150 - 160	150 - 160	·
		MARITIME MOBILE 3461/167 3467/174	(UNDER STUDY)	
		BROADCASTING		
		3 <del>468/1</del> 75		

NOC 3465/172

NOC 3466/173

NOC 3467/174

NOC 3468/175

 $\underline{\text{Reasons}}$ : (150 - 160 kHz (Region 2)) The Venezuelan Administration is currently studying domestic requirements in this band.

kHz 160 - 285

VEN/121/37	MOD	160 - 255	160 - 285	160 - 200 (NOC)	
		BROADCASTING 3469A	(UNDER STUDY)	FIXED	
				Aeronautical radionavigation	
		3469/176		200 - 285 (NOC)	
VEN/121/38	MOD	255 - 285		AERONAUTICAL RADIONAVIGATION	
		MARITIME MOBILE 3467/17	ARITIME MOBILE 3467/174		Aeronautical mobile
		BROADCASTING 3469A		Aeronautical mobile	
		AERONAUTICAL RADIONAVIGATION		4.	
		3469/176 3470/177 3471/178			

Reasons: (160 - 285 kHz (Region 2)) The Venezuelan Administration is currently studying domestic requirements in this band.

NOC 3469/176

NOC 3470/177

NOC 3471/178

NOC 3472/179

VEN/121/39 ADD

3469A In the band 190 - 285 kHz, the e.r.p. of broadcasting stations shall be limited to 10 (Mn) - 20 decibels relative to 1 kW in the direction of any aeronautical radionavigation station previously notified.

Reasons: To protect the aeronautical radionavigation service.

kHz 285 - 405

Region 1 Region 2 Region 3 VEN/121/40 NOC 285 - 315 MARITIME RADIONAVIGATION (Radiobeacons) Aeronautical radionavigation VEN/121/41 315 - 325 315 - 325 MOD AERONAUTICAL MARITIME-RADIONAVIGATION-(Radiobeacons) RADIONAVIGATION Aeronautical-radionavigation RADIONAVIGATION RADIONAVIGATION ' 3473/180

RESULTING FINAL PROPOSAL:

315 - 325	RADIONAVIGATION	

kHz 325 - 405

VEN/121/42 MOD

325 - 405	AERONAUTICAL RADIONAVIGATION
	Aeronautical-mobile
·	3474/181

Reasons: (285 - 315 kHz) This band is still required for these services.

(315 - 325 kHz) To make the band uniform on a world-wide basis and to extend the possibilities open to the radionavigation service.

(325 - 405 kHz) To protect the aeronautical radionavigation service.

VEN/121/43 SUP 3473/180

Reasons: As a result of the allocation.

NOC 3474/181

kHz 490 - 510

			· · · · · · · · · · · · · · · · · · ·	
		Region 1	Region 2	Region 3
VEN/121/44	MOD	490 - <del>510</del> <u>495</u>	MARITIME MOBILE	
•			MOBILE-(Distress-and-calls	ing)
			<u>3478/185</u> <u>3479/186</u> <del>3480/</del>	<del>-87</del>
VEN/121/45	MOD	<u>495 - 505</u>	MOBILE (Distress and calli	ng)
			3480/187	·
VEN/121/46	MOD	<u>505</u> - 510	MARITIME MOBILE	
			MOBILE-(Distress-and-ealls	ing)
			<u>3478/185</u> <u>3479/186</u> <del>3480/1</del>	.87
		Reasons : (490510 kHz)	Technological advances exam	nined by the SPM.
	NOC	3475/182	3	
•	NOC	3476/183		
	NOC	3477/184		
,	NOC	3478/185		
	NOC	3479/186		
	NOC	3480/187		
	NOC	3400/101	kHz	
			525 <b>-</b> 1 605	
VEN/121/47	MOD	525 - 535 (NOC)	525 - 535	525 - 535 (NOC)
		BROADCASTING	MOBILE	MOBILE
			/BROADCASTING/ 3484/191	/BROADCASTING/
			/AERONAUTICAL RADIONAVIGATION/ 3481/188	
			BROADCASTING	·
		3483/190	3484A	
VEN/121/48	NOC	535 - 1 605	BROADCASTING	

Reasons (525 - 535 kHz (Region 2)) To meet new broadcasting service requirements in Region 2.

NOC 3481/188

NOC 3482/189

NOC 3483/190

VEN/121/49 SUP · 3484/191

Reasons: In view of ADD 3484A.

VEN/121/50 ADD 3484A The carrier wave power of broadcasting stations in this

band shall not exceed 50 W.

Reasons : To provide a local public information service.

kHz 1 605 - 2 000

				·
		Region 1	Region 2	Region 3
VEN/121/51	MOD	1 605 - 2-000 1 800	1 605 - <del>1</del> - <del>800</del> <u>1 655</u>	1 605 - 1 800 (NOC)
		FIXED	FIXED	FIXED
		MOBILE except	MOBILE	MOBILE
		aeronautical mobile	AERONAUTICAL RADIONAVIGATION	,
			Radiolocation	
			BROADCASTING 3484B	
VEN/121/52	MOD		1 655 - 1 665	
			FEXED	
			MOBILE	
			Radiolocation	
			AERONAUTICAL RADIONAVIGATION	
			BROADCASTING 3484A	
VEN/121/53	MOD		<u>1 665</u> - 1 800	
		-	FIXED	·
			MOBILE	
		3485/192 3486/420 3487/193 3 <del>488/194</del>	AERONAUTICAL RADIONAVIGATION	
		3489/195 3490/195A	Radiolocation	3491/197

kHz 1 605 - 2 000 (cont.)

,		Region 1	Region 2	Region 3
VEN/121/54	MOD	<u>1 800 - 1 850</u>	1 800 - 2-000 1 850	1 800 - 2-000 1 850
		FIXED	AMATEUR	AMATEUR
	•	MOBILE-except aeronautical-mobile	FIXED	F <del>IXED</del>
		AMATEUR	MOBILE-except aeronautical-mobile	M0BHLE-except aeronautical-mobile
		3485/192 3486/420 3487/193 3488/194	RADIONAVIGATION	RAĐ <del>I</del> ONAVIGATION
		3489/195 3490/195A	3 <del>492/198</del>	3492/198
VEN/121/55	MOD	<u>1 850</u> - 2 000	<u>1 850</u> - 2 000	1 850 - 2 000
		FIXED	RADIODETERMINATION	AMATEUR
	·	MOBILE except aeronautical mobile	AMATEUR	RADIONAVIGATION
		aeronauticai mobile	RADIONAVIGATION	FIXED
		• .	FIXED	MOBILE except aeronautical mobile
	·	3485/192 3486/420 3487/193 <del>3488/194</del>	MOBILE except aeronautical mobile	actomatout modific
		3489/195 3490/195A	3492A 3492/198	3492/198

Reasons: (1 605 - 1 665 kHz) To meet broadcasting requirements in Region 2.

(1 800 - 1 850 kHz) To be allocated exclusively to the amateur service on a world-wide basis.

(1 850 - 2 000 kHz) To provide access for the radiolocation service. Recommendation Mar2 - 1.

NOC 3485/192

NOC 3487/193

VEN/121/56 SUP 3488/194

NOC 3489/195

NOC 3490/195A

NOC 3491/197

NOC 3486/420

NOC 3491.1/197.1

VEN/121/57 MOD

3492/198 In-Region-2-the-boran-system-has-priority.--Other-services to-which-the-band-is-allocated-may-use-any-frequency-in-this-band-provided-that they-do-not-cause-harmful-interference-to-the-Loran-system.

In Region 3 the Loran system in any particular area operates either on 1 850 or 1 950 kHz, the bands occupied being 1 825 - 1 875 kHz and 1 925 - 1 975 kHz respectively. Other services to which the band 1 800 - 2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 or 1 950 kHz.

Reasons: As a result of the new allocation.

VEN/121/58 ADD

3492A In Region 2, the Loran system will have priority until it is abandoned by agreement between the administrations.

Reasons: The long-range plans indicate that the Loran systems will be withdrawn from the band 1 900 - 2 000 kHz.

VEN/121/59 ADD

3484B The use of broadcasting channels in this band will be subject to the preparation and approval of an MF broadcasting plan for Region 2.

Reasons: To protect the use of this new band.

kHz 2 170 - 2 194

		Region 1	Region 2	Region 3
VEN/121/60	MOD	2 170 - <del>2-194</del> <u>2 177</u>	MARITIME MOBILE	
	-	•	MOBILE-(Distress-and-calli	ng)
			3494/201 3495/201A	
VEN/121/61	MOD	<u> 2 177 - 2 187</u>	MOBILE (Distress and calling	ng)
			<u>3494/201</u> 3495/201A	
VEN/121/62	MOD	<u>2 187</u> - 2 194	MARITIME MOBILE	
			MOBILE-(Distress-and-callin	ng)
			3494/201 3495/201A	

Reasons: (2 170 - 2 194 kHz) Technological advances make it possible to reduce the width of the distress and calling channel.

NOC 3493/200

NOC 3495/201A

VEN/121/63 MOD

3494/201 The frequency 2 182 kHz is the international distress and calling frequency for radiotelephony. The conditions for the use of the band 2-170-2-194 2 177-2 187 kHz are prescribed in Article N35/35.

Reasons: As a result of the allocation.

kHz 2 300 - 2 625

		Region 1	Region 2	Region 3
VEN/121/64	NOC	2 300 - 2 498	2 300 - 2 495	
	•	FIXED	FIXED	
		MOBILE except aeronautical mobile (R)	MOBILE	
		BROADCASTING 3496/202	BROADCASTING 3496/202	
VEN/121/65	MOD	3487/193 3490/195A	2 495 - 2 505	·
VEN/121/66	MOD	2 498 - 2 502	STANDARD FREQUENCY	
		STANDARD FREQUENCY		
		3497/203 3498/203A <u>3498A</u>		
		2 502 - 2 625 (NOC)	3497/203 3498/203A <u>3498A</u>	
		FIXED .	2 505 - 2 625 (NOC)	
		MOBILE except aeronautical mobile (R)	FIXED	
	-	3487/193 3490/195A	MOBILE	

## VEN/121/67 NOC 3496/202

Reasons: To maintain the allocation of these bands to broadcasting services for domestic purposes in the areas defined in Nos. 3425/135 and 3426/136.

NOC 3497/203

NOC 3498/203A

NOC 3499/205

VEN/121/68 ADD

3498A The bands 2 495 - 2 505 kHz, 4 995 - 5 005 kHz, 9 995 - 10 005 kHz, 14 990 - 15 010 kHz, 19 990 - 20 010 kHz and 24 990 - 25 010 kHz may also be allocated on a secondary basis to the radio astronomy service and passive remote sensors.

Reasons : In conformity with the Recommendations made in the SPM Report.

kHz 3 200 - 3 400

		Region 1	Region 2	Region 3
VEN/121/69	NOC	3 200 - 3 230	FIXED	
			MOBILE except aeronautical	mobile (R)
		,	BROADCASTING 3496/202	
VEN/121/70	NOC	3 230 - 3 400	FIXED	
			MOBILE except aeronautical mobile	
		· · · · · · · · · · · · · · · · · · ·	BROADCASTING 3496/202	

Reasons: As for the band 2 300 - 2 498 kHz.

NOC 3500/205A

kHz 3 500 - 4 000

VEN/121/71 NOC

3 500 - 4 000

AMATEUR

FIXED

MOBILE except
aeronautical mobile (R)

 $\underline{\text{Reasons}}$ : (3 500 - 4 000 kHz (Region 2)) Continuing requirements of the fixed and mobile services.

kHz 4 000 - 4 650

VEN/121/72	MOD	4 000 - 4 063	FIXED	
			LAND MOBILE	
	NOC	4 063 - 4 438	MARITIME MOBILE	
			3503/208 3504/209 3505/2	<u>109A</u>
VEN/121/73	MOD	4 438 - 4 650 (NOC)	FIXED	4 438 - 4 650
			MOBILE except	FIXED
			aeronautical mobile (R)	MOBIBE-except aeronautical-mobile
				MOBILE except. aeronautical mobile (R)

kHz 4 000 - 4 650 (cont.)

Region 1	Region 2	Region 3				
RESULTING FINAL PROPOSAL :						
4 438 - 4 650 FIXED						
	MOBILE except aeronautical	mobile (R)				

kHz 4 750 - 4 850

VEN/121/74 MOD

4 750 - 4 850 (NOC)	4 750 - 4 850
FIXED	FIXED
AERONAUTICAL MOBILE (OR)	BROADCASTING 3496/202
LAND MOBILE	AERONAUTICAL MOBILE (OR)
BROADCASTING 3496/202	LAND MOBILE

#### RESULTING FINAL PROPOSAL :

4 750 - 4 850	FIXED
	BROADCASTING 3496/202
	AFRONAUTICAL MOBILE (OR)
	LAND MOBILE

 $\underline{\text{Reasons}}$ : (4 000 - 4 063 kHz) The land mobile service has been included in view of the need for communications with land mobile units travelling between two or more base stations within the country.

(4 438 - 4 650 kHz) To make the allocation uniform on a world-wide basis.

(4750 - 4850 kHz) To make the allocation uniform on a world-wide basis.

NOC 3503/208

VEN/121/75 MOD

3504/209 On condition that harmful interference is not caused to the maritime mobile service, the frequencies between 4 063 and 4 438 kHz and between 6 200 and 6 525 kHz may be used exceptionally by fixed stations communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 watts;—however,—in-Regions-2-and 3, between 4 238 and 4 368 kHz, a mean power not exceeding 500 watts may be used by such fixed stations. When frequency assignments are notified, the attention of the International Frequency Registration Board shall be drawn to these provisions.

Reasons: To combine footnotes 3504/209 and 3507/211.

VEN/121/76

MOD

3505/209A For the use of carrier frequency 4-136.3-kHz-(as-from 1-3-January-1978-to-be-replaced by-carrier-frequency 4 125 kHz) in the zone of Regions 1 and 2 south of latitude 15° N, including Mexico, and in the zone of Region 3 south of latitude 25° N, see No. 6643/1351E.

Reasons: To update the footnote.

kHz 4 850 - 5 480

		Region 1	Region 2	Region 3
VEN/121/77	NOC	4 850 - 4 995	FIXED	
			LAND MOBILE	
•			BROADCASTING 3496/202	
VEN/121/78	MOD	4 995 - 5 005	STANDARD FREQUENCY	
			3498/203A <u>3498A</u> 3506/210	
VEN/121/79	MOD	5 005 - 5 060	FIXED	
			BROADCASTING 3496/202	
			LAND MOBILE	
VEN/121/80	MOD	5 060 - 5 250	FIXED	
	÷		LAND MOBILE	
VEN/121/81	NOC	5 250 - 5 430	5 250 - 5 450	5 250 - 5 430
		FIXED .	FIXED	FIXED
		LAND MOBILE	LAND MOBILE	LAND MOBILE
VEN/121/82	NOC	5 430 - 5 480	5 450 - 5 480	5 430 - 5 480
		FIXED	AERONAUTICAL MOBILE (R)	FIXED
		AERONAUTICAL MOBILE (OR)		AERONAUTICAL MOBILE (OR)
		LAND MOBILE		LAND MOBILE
		FIXED  LAND MOBILE  5 430 - 5 480  FIXED  AERONAUTICAL MOBILE (OR)	5 250 - 5 450  FIXED  LAND MOBILE  5 450 - 5 480	FIXED  LAND MOBILE  5 430 - 5 480  FIXED  AERONAUTICAL MOBILE (OR)

Reasons: (4 850 - 4 995 kHz) Continuing requirements of these services in this band.

 $(5\ 005\ -\ 5\ 250\ kHz)$  As for  $4\ 000\ -\ 4\ 063\ kHz$ .

 $(5\ 250\ -\ 5\ 480\ kHz)$  Continuing requirements of these services in these bands.

NOC 3506/210

kHz 5 730 - 7 100

		Region 1	Region 2	Region 3
VEN/121/83	MOD	5 730 - 5- <del>950</del> <u>5 900</u>	FIXED	
			LAND MOBILE	
VEN/121/84	MOD	<u>5 900</u> - 5 950	FIXED	
			BROADCASTING	
			3508A	
VEN/121/85	NOC	5 950 - 6 200	BROADCASTING	
VEN/121/86	MOD	6 200 - 6 525	MARITIME MOBILE	
			3507/211 3504/209 3508/	<u>211A</u>
	NOC	6 525 - 6 685	AERONAUTICAL MOBILE (R)	
	NOC	6 685 – 6 765	AERONAUTICAL MOBILE (OR)	
VEN/121/87	MOD	6 765 - 7 000	FIXED	
			LAND MOBILE	
VEN/121/88	NOC	7 000 - 7 100	AMATEUR	
•			AMATEUR-SATELLITE	

 $\frac{\text{Reasons}}{\text{land mobile services}}$ : (5 730 - 5 950 kHz) To meet the requirements of the broadcasting and

(5 950 - 6 200 kHz) To protect the assignments in adjacent bands.

 $(7\ 000\ -\ 7\ 100\ kHz)$  To reaffirm the world-wide allocation to the amateur service and the advisability of exclusive status.

VEN/121/89 SUP 3507/211

Reasons: In view of the modification of footnote 3504/209.

VEN/121/90 MOD 3508/211A For the use of carrier frequency 6-204-kHz-(as-from 1-January-1978-to-be-replaced-by-carrier-frequency 6 215.5 kHz) in the zone of Region 3 south of latitude 25° N, see No. 6648/1351F.

Reasons: To update the footnote.

VEN/121/91 ADD

Administrations whose domestic fixed service requirements are increasing in the bands 5 900 - 5 950 kHz, 9 775 - 9 800 kHz and 11 600 - 11 700 kHz may continue to use these bands to meet demand until 1 January 1990. Every possible technical and operational measure shall be taken in the fixed service to minimize the possibility of harmful interference to the broadcasting service.

 $\underline{\text{Reasons}}$ : To grant a period of time for the withdrawal of fixed service systems from these bands.

kHz 7 100 - 7 300

	Region 1	Region 2	Region 3
VEN/121/92 MO	D 7 100 - <del>7</del> - <del>300</del> <u>7 250</u>	7 100 - <del>7-300</del> <u>7 250</u>	7 100 <b>- 7</b> - <del>3</del> 00 <u>7 250</u>
	BROADCASTING	AMATEUR	BROADCASTING
	AMATEUR		<u>AMATEUR</u>
	3509/212 3509B	3509B	3509B
VEN/121/93 MO	D <u>7 250</u> - 7 300	<u>7 250</u> - 7 300	<u>7 250</u> - 7 300
	BROADCASTING	AMATEUR	BROADCASTING
		BROADCASTING	
	3509/212 3509A	3509A	3509A

#### RESULTING FINAL PROPOSAL :

7 100 - 7 250	AMATEUR
	3509B
7 250 - 7 300	BROADCASTING
	3509A

kHz 7 300 - 8 195

LAND MOBILE

VEN/121/94 MOD

7 300 - 8 195 FIXED

#### kHz 9 040 - 9 995

		Region 1	Region 2	Region 3
VEN/121/95	MOD	9 040 - 9 500	FIXED	
			MOBILE except aeronautical	mobile (R)
VEN/121/96	NOC	9 500 - 9 775	BROADCASTING	·
VEN/121/97	MOD	9 775 - <del>9-99</del> 5 <u>9 800</u>	FIXED	
			BROADCASTING	
			3508A	
VEN/121/98	MOD	<u>9 800</u> - 9 995	FIXED	

Reasons: (7 100 - 7 300 kHz) To make the allocation in this band uniform on a world-wide basis by eliminating existing interference problems.

 $(7\ 300\ -\ 8\ 195\ kHz)$  As for the band  $4\ 000\ -\ 4\ 063\ kHz$ .

(9 040 - 9 500 kHz) To meet foreseeable mobile service requirements.

(9 775 - 9 995 kHz) To meet growing broadcasting service requirements in the HF bands.

VEN/121/99 SUP 3509/212

Reasons: As a result of the allocation.

NOC 3510/213

VEN/121/100 ADD 3509A The transmitting power of broadcasting stations in this band shall not exceed 50 kW.

Reasons: To devote this new band to international medium-range broadcasting.

VEN/121/101 ADD 3509B The bands 7 240 - 7 250 kHz, 10 190 - 10 200 kHz, 14 340 - 14 350 kHz, 21 440 - 21 450 kHz, 29 690 - 29 700 and 147.990 - 148.00 MHz are allocated on a world-wide basis to stations operating on the scene of a natural disaster. Such world-wide priority will be effective only for communications to or from stations operating on the scene of a disaster and exclusively during the period of the emergency.

Reasons: To give priority to communications during a natural disaster.

kHz 9 995 - 12 330

		Region 1	Region 2	Region 3
VEN/121/102	MOD	9 995 - 10 005	STANDARD FREQUENCY	
			3495/201A 3498/203A <u>3498A</u>	3511/214
	NOC	10 005 - 10 100	AERONAUTICAL MOBILE (R)	
			3495/201A	
VEN/121/103	MOD	10 100 - <del>11-175</del> <u>10 200</u>	FIXED	
			AMATEUR	
			AMATEUR-SATELLITE	
			<u>3509B</u>	
VEN/121/104	MOD	10 200 - 11 175	FIXED	
	NOC	11 175 - 11 275	AERONAUTICAL MOBILE (OR)	
	NOC	11 275 - 11 400	AERONAUTICAL MOBILE (R)	
VEN/121/105	MOD	11 400 - <del>11-700</del> <u>11 600</u>	FIXED	
			3512/216	
VEN/121/106	MOD	<u>11 600</u> - 11 700	FIXED	1
			BROADCASTING	
			3512/216 3508A	
	NOC	11 700 - 11 975	BROADCASTING	
VEN/121/107	MOD	11 975 - <del>12-330</del> <u>12 200</u>	FIXED	
VEN/121/108	MOD	<u>12 200</u> - 12 330	FIXED	
			MARITIME MOBILE	:

 $\underline{\text{Reasons}}$ : (10 100 - 11 175 kHz) To facilitate amateur service communications in different ionospheric propagation conditions.

(11  $400 - 11\ 700\ kHz$ ) To meet growing broadcasting service requirements in the HF bands.

(11 975 - 12 330 kHz) To meet the growing requirements of the maritime mobile service.

NOC 3511/214

NOC 3512/216

kHz 13 360 - 14 990

		Region 1	Region 2	Region 3
VEN/121/109	MOD	13 360 - ±4-000 <u>13 900</u>	FIXED	
			3513/217	
VEN/121/110	MOD	<u>13 900</u> - <u>13 950</u>	Fixed	
			RADIO ASTRONOMY	
			3513/217	
VEN/121/111	MOD	<u>13 950</u> - 14 000	FIXED	
		·	3513/217	
	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
VEN/121/112	MOD	14 250 - 14 350	AMATEUR	
			AMATEUR-SATELLITE	
			3509B 3514/218	
VEN/121/113	MOD	14 350 - 14 990	FIXED	
			MOBILE except aeronautical	mobile (R)

Reasons: (13 360 - 14 000 kHz) In conformity with the SPM suggestions.

(14 250 - 14 350 kHz) To facilitate the expansion of the amateur-satellite service.

(14 350 - 14 990 kHz) To meet the growing requirements of the mobile except aeronautical mobile (R) service.

NOC 3513/217

NOC 3514/218

kHz 14 990 - 17 900

		Region 1	Region 2	Region 3
VEN/121/114	MOD	14 990 - 15 010	STANDARD FREQUENCY	
			3495/201A 3498/203A <u>3498A</u>	3515/219
	NOC	15 010 - 15 100	AERONAUTICAL MOBILE (OR)	
VEN/121/115	NOC	15 100 - 15 450	BROADCASTING	
VEN/121/116	NOC	15 450 - <del>16-460</del> <u>16 360</u>	FIXED	
VEN/121/117	MOD	<u>16 360</u> - 16 460	FIXED	
			MARITIME MOBILE	
	NOC	16 460 - 17 360	MARITIME MOBILE	
			3510/213	
	NOC	17 360 - 17 700	FIXED	
VEN/121/118	NOC	17 700 - 17 900	BROADCASTING	

Reasons: (15 450 - 16 360 kHz) To define one band only for the fixed service.

(15 768 - 16 460 kHz) To provide an increase to meet the future requirements of the maritime mobile service.

(15 100 - 15 450 kHz; 17 700 - 17 900 kHz) Continuing requirements of the broadcasting service in these bands.

NOC 3515/219

VEN/121/119

Not used.

kHz 18 068 - 21 450

VEN/121/120	MOD	18 068 - <del>1</del> 9-990 <u>18 170</u>	FIXED
			AMATEUR
VEN/121/121	MOD	<u>18 170</u> - 19 990	FIXED
VEN/121/122	MOD	19 990 - 20 010	STANDARD FREQUENCY
			3495/201A 3498/203A <u>3498A</u> 3516/220
VEN/121/123	MOD	20 010 - 21-000 20 230	Fixed
•			MARITIME MOBILE

kHz 18 068 - 21 450 (cont.)

		Region 1	Region 2	Region 3
VEN/121/124	MOD	<u>20 230</u> - 21 000	FIXED	
			MOBILE except aeronautical	mobile (R)
VEN/121/125	MOD	21 000 - 21 450	AMATEUR	
			AMATEUR-SATELLITE	
			3509B	

Reasons : (18 068 - 19 990 kHz) As for the band 10 100 - 10 200 kHz.

(20 010 - 21 000 kHz) To meet the requirements of the maritime mobile service.

NOC 3516/220

kHz 21 750 - 25 010

VEN/121/126	MOD	21 750 - 21 850	FIXED	
•			MOBILE except aeronautical mobile (R)	
VEN/121/127	MOD	21 850 - 21 870	RADIO ASTRONOMY	
			3517/221B	
VEN/121/128	MOD	21 870 - <del>22</del> -000 <u>21 924</u>	AERONAUTICAL FIXED	
			AERONAUTICAL-MOBILE-(R)	
VEN/121/129	MOD	21 924 - 22 000	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (R)	
	NOC	22 000 - 22 720	MARITIME MOBILE	
VEN/121/130	MOD	22 720 <b>-</b> <del>23</del> - <del>200</del> <u>22 855</u>	FIXED	
			MARITIME MOBILE	
VEN/121/131	MOD	<u>22 855</u> - 23 200	FIXED	
· ·			MOBILE except aeronautical mobile (R)	
VEN/121/132	MOD	23 200 - 23 350	AERONAUTICAL-FIXED	
			AERONAUTICAL-MOBILE-(OR)	
			MOBILE except aeronautical mobile (R)	
			FIXED	

kHz 21 750 - 25 010 (cont.)

		Region 1	Region 2	Region 3
VEN/121/133	MOD	23 350 - 24 990	FIXED	
			LAND MOBILE	
			<del>3518/222</del> 3519/222A	
VEN/121/134	MOD	24 990 - 25 010	STANDARD FREQUENCY	·
			3498/203A <u>3498A</u> 3520/223	

 $\underline{\text{Reasons}}$ : (21 750 - 21 850 kHz) To meet the requirements of the mobile except aeronautical mobile (R) service.

 $(21\ 870\ -\ 22\ 000\ kHz)$  In conformity with Recommendation No. Aer2 - 5 of the Aeronautical Mobile (R) WARC, Geneva 1978. An exclusive band is required for long-distance radiocommunication in the aeronautical mobile (R) service.

 $(22\ 720\ -\ 23\ 200\ kHz)$  To meet the growing requirements of the maritime mobile service.

(23 200 - 23 350 kHz) To meet the requirements of the fixed and mobile except aeronautical mobile (R) services at the expense of the aeronautical fixed service which is not used in this band.

VEN/121/135 SUP 3517/221B

Reasons: To protect the radio astronomy service.

VEN/121/136 SUP 3518/222

 $\underline{\text{Reasons}}$ : Other bands have already been allocated which meet the requirements of the maritime mobile service.

NOC 3519/222A

NOC 3520/223

kHz 25 600 - 27 500

VEN/121/137	MOD	25 600 - 26 100	BROADCASTING	
			FIXED	
			MOBILE except aeronautical mobile (R)	
VEN/121/138	MOD	26 100 - 27 500	FIXED	
		•	MOBILE except aeronautical mobile	
			3522/225 <del>3523/226</del>	

Reasons: (25 600 - 26 100 kHz) The broadcasting service tends not to be used in this band, which is therefore allocated to the fixed and mobile services which do require it.

NOC 3521/224

NOC 3522/225

VEN/121/139 SUP 3523/226

Reasons: Additional bands have already been allocated to the amateur service to meet its requirements.

MHz 27.5 - 28

VEN	/121	/140	MOD

Region 1	Region 2	Region 3
27.5 - 28	27.5 - 28 (NOC)	
METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	
FIXED	FIXED	
MOBILE	MOBILE	
3424/227		

### RESULTING FINAL PROPOSAL:

27.5 - 28	METEOROLOGICAL AIDS
٠	. FIXED
	MOBILE

MHz 28 - 37.75

VEN/121/141 M	10D	28 - 29.7	AMATEUR
			AMATEUR-SATELLITE
			3509B
VEN/121/142 M	IOD	29.7 - 30.005	FIXED 3525/228 3526/229 3528/231 3529/232
			MOBILE .
VEN/121/143 M	IOD	30.005 - 30.01	SPACE OPERATION (Satellite identification)
			FIXED 3525/228 3526/229 3528/231
			MOBILE
			SPACE RESEARCH
VEN/121/144 M	IOD	30.01 - <del>37.75</del> <u>37.50</u>	FIXED 3525/228 3526/229 3527/230 3528/231
			MOBILE
			3530/233A
VEN/121/145 M	IOD	<u>37.50</u> - 37.75	FIXED 3525/228 3526/229 3527/230 3528/231
			MOBILE
	!		RADIO ASTRONOMY
			3 <del>530/233A</del> 3531A

 $\underline{\text{Reasons}}$  : (27.5 - 28 MHz) To make the allocation of the band uniform on a world-wide basis.

(30.01 - 37.75 MHz) To provide greater protection for the radio astronomy service.

VEN/121/146 SUP 3524/227

Reasons: As a result of the modification of the allocation.

VEN/121/147 SUP 3525/228

VEN/121/148 SUP 3526/229

VEN/121/149 SUP 3527/230

VEN/121/150 SUP 3528/231

VEN/121/151 SUP 3529/232

Reasons: These footnotes have been deleted since tropospheric scatter stations will be replaced by transmission systems using frequencies more economically and efficiently.

NOC 3530/233A

VEN/121/152 ADD

353LA In assigning frequencies to stations of the other services to which this band is allocated, administrations are requested to take all practicable steps to protect radio astronomy observations from harmful interference.

Reasons: To protect the radio astronomy service. To combine several footnotes in a single text.

MHz 37.75 - 50

		Region 1	Region 2 Region 3
VEN/121/153	MOD	37.75 - 38.25	FIXED 3525/228 3526/229 3528/231
			MOBILE
			Radio-astronomy
			RADIO ASTRONOMY
			3531/233B 3531A
VEN/121/154	MOD	38.25 - 41	FIXED 3525/228 3526/229 3527/230 3528/231
			MOBILE
3532/235 3533		!	3532/235 3533/236 3534/236A

MHz 37.75 - 50 (cont.)

		Region l	Region 2	Region 3
VEN/121/155	MOD	41 - 47	41 - 50	41 - 44
		BROADCASTING	FIXED 3525/228 3528/231 3535/237	FIXED <del>3525/228</del> <del>3535/237</del>
		Fixed <del>3525/228</del> <del>3535/237</del>	MOBILE	MOBILE
		Mobile		3534/236A
VEN/121/156	MOD			44 - 50
		3534/236A 3536/238 3537/239 3538/240		FIXED 3525/228 3528/231 3535/237
		3539/241		MOBILE
				BROADCASTING
			3530/233A 3534/236A	

Reasons: (37.75 - 38.25 MHz) To provide greater protection for the radio astronomy service.

VEN/121/157 SUP

3531/233B

Reasons: See footnote 3531A.

NOC 3532/235

NOC 3533/236

NOC 3534/236A

VEN/121/158 SUP 3535/237

 $\underline{\text{Reasons}}$  : Same as for the deletion of footnotes 3525/228, 3526/229, 3527/230 and 3528/231.

NOC 3536/238

NOC 3537/239

NOC 3538/240

NOC 3539/241

MHz 47 **–** 68

Region 1	Region 2	Region 3
47 - 68 (NOC)		
BROADCASTING	50 - 54 (NOC)	
	AMATEUR	
	3542/244 3543/245 3544/2	46 3545/247
	54 - 68	54 - 68
·	FIXED 3525/228 3535/237	FIXED 3525/228 3528/231
	MOBILE	3535 <del>/237</del>
·	BROADCASTING	MOBILE
	Fixed	BROADCASTING
	Mobile	
3536/238 3537/239 3539/241 3540/242 3541/243		3544/246
	47 - 68 (NOC) BROADCASTING  3536/238 3537/239 3539/241 3540/242	47 - 68 (NOC)  BROADCASTING  50 - 54 (NOC)  AMATEUR  3542/244 3543/245 3544/2  54 - 68  FIXED 3525/228 3535/237  MOBILE  BROADCASTING  Fixed  Mobile  3536/238 3537/239 3539/241 3540/242

 $\underline{\text{Reasons}}$  : (54 - 68 MHz (Region 2)) To provide greater protection for the broadcasting service.

NOC 3540/242 NOC 3541/243 NOC 3542/244 NOC 3543/245 NOC 3544/246 NOC 3545/247

MHz 68 - 74.6

		Region l	Region 2	Region 3
VEN/121/160	MOD	68 <b>-</b> <del>74.8</del> <u>73</u>	68 <b>- <del>73</del> <u>72</u></b>	68 - 70 (NOC)
		FIXED	F <del>IXED</del>	FIXED
		MOBILE except	MOBILE	MOBILE
		aeronautical mobile	BROADCASTING	AERONAUTICAL RADIONAVIGATION
		·	Fixed Mobile	3553/254 3554/255 3555/256
VEN/121/161	MOD	÷		70 - <del>74.6</del> <u>73</u>
VEN/121/162	MOD		<u>72</u> - 73	FIXED
•		·	FIXED	MOBILE
			MOBILE	
		3546/248 3547/249	BROADGASTING	
		3548/250 3549/251 3550/252		3555/256 3556/257 3557/258
VEN/121/163	MOD	<u>73 - 74.8 74.6</u>	73 - 74-6	<u>73</u> - 74.6
		F±XEĐ	RADIO ASTRONOMY	FIXED
		MOBILE-except		MOBILE
		RADIO ASTRONOMY	·	RADIO ASTRONOMY
	ļ	3546/248 3547/249 3548/250 3549/251 3550/252 3551/253A 3552/253B	3551/253A 3552/253B	3555/256 3556/257 3557/258 3551/253A 3552/253B

### RESULTING FINAL PROPOSAL :

73 - 74.6	RADIO ASTRONOMY
	3551/253A 3552/253B

MHz 74.6 - 75.4

	Region 1	Region 2	Region 3
VEN/121/164 MOD	<u>74.6</u> - 74.8	74.6 - 75.4	
	<del>FIXED</del>	AERONAUTICAL RADIONAVIGATI	ON
	MOBILE-except aeronautical-mobile		
	AERONAUTICAL RADIONAVIGATION		
	3546/248 3547/249 3548/250 3549/251 3550/252 3558/259		
VEN/121/165 MOD	74.8 - 75.2		
	AERONAUTICAL RADIONAVIGATION		
	3558/259		
		3558/259	

Reasons: (68 - 73 MHz) To protect the broadcasting service.

(73 - 74.6 MHz) To make the allocation to the radio astronomy service uniform on a world-wide basis.

(74.6 - 74.8 MHz) To make the allocation to the aeronautical radionavigation service uniform on a world-wide basis.

NOC 3546/248

NOC 3547/249

NOC 3548/250

NOC 3549/251

NOC 3550/252

VEN/121/166 MOD

Reasons: To generalize the footnote in conformity with the proposed allocation.

NOC 3552/253B

NOC 3553/254

NOC 3554/255

NOC 3555/256

NOC 3556/257

NOC 3557/258

VEN/121/167 MOD

3558/259 The frequency 75 MHz is assigned to aeronautical marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference to or impose any constraint on marker beacons.

Reasons: Permanent and essential requirement in relation to the ILS.

MHz 75.2 - 100

	Region 1	Region 2	Region 3
VEN/121/168 MOD	75.2 - 87.5		
VEN/121/169	FIXED  MOBILE except aeronautical mobile	75.4 - 88 <u>76</u> **MOBILE except	75.4 - 78 (NOC) FIXED
		MOBILE	MOBILE
		BROADCASTING	3554/255 3555/256 3556/257 3565/266
VEN/121/170 MOD VEN/121/171 MOD		76 - 88  FIXED  MOBILE  BROADCASTING  Fixed  Mobile	78 - 80  FIXED  MOBILE  AERONAUTICAL  RADIONAVIGATION  3554/255 3555/256 3556/257 3560/261 3565/266 3560A  80 - 87 (NOC)
VEN/121/172 <u>NOC</u>	3546/248 3548/250 3550/252 3559/260 <del>3560/261</del> 3561/262 3562/263 <u>3560A</u> 87.5 - 100 (NOC) BROADCASTING	3560A 88 - 100 ( <u>NOC</u> ) BROADCASTING	MOBILE  3553/254 3554/255 3555/256 3556/257 3560/261 3565/266  87 - 100 (NOC)  FIXED  MOBILE  BROADCASTING  3553/254 3566/267
	3563/264 3564/265		3567/268

Reasons: (75.4 - 88 MHz (Region 2)) To protect the broadcasting service.

(88 - 100 MHz) Continuing requirements of the FM sound broadcasting service.

NOC 3559/260

VEN/121/173 SUP 3560/261

Reasons: See footnote 3560A.

NOC 3561/262

NOC 3562/263

NOC 3563/264

NOC 3564/265

NOC 3565/266

NOC 3566/267

NOC 3567/268

VEN/121/174 ADD

3560A The bands 79.75 - 80.25 MHz (except Korea, India and Japan), 322 - 328.6 MHz (in India), 608 - 614 MHz (in India), 1 610.6 - 1 613.8 MHz, 1 718.8 - 1 722.2 MHz, 14.47 - 14.6 GHz, 22.01 - 22.08 GHz, 23.6 - 24 GHz, 36.43 - 36.5 GHz, 42.77 - 42.86 GHz, 43.07 - 43.17 GHz, 48.94 - 49.04 GHz, 86 - 92 GHz, 97.88 - 98.08 GHz, 109.67 - 109.89 GHz, 110.09 - 110.31 GHz, 114.11 - 115.5 GHz, 140.69 - 140.98 GHz, 144.68 - 144.97 GHz, 145.45 - 145.75, 146.82 - 147.11 GHz, 150.34 - 150.65 GHz, 219.34 - 219.78 GHz, 220.17 - 220.62 GHz, 230.3 - 230.77 GHz are allocated on a primary basis to the radio astronomy service.

Reasons: To combine several footnotes in one and to take account of SPM suggestions. Replaces footnote 3560/261.

Pro mem : Add this reference in all relevant boxes (above 22.01 GHz)

MHz 100 - 108

# VEN/121/175 NOC

Region 1	Region 2	Region 3	
100 - 108	100 - 108		
MOBILE except aeronautical mobile (R)	BROADCASTING		
3568/269 3569/270 3570/271	3554/255 3555/256 355	7/258 3566/267 3571/272	

Reasons: (100 - 108 MHz) Continuing requirements in the FM broadcasting service.

NOC 3568/269

NOC 3569/270

NOC 3570/271

NOC 3571/272

MHz 108 - 138

		Region 1	Region 2	Region 3
N	10C	108 - 117.975	AERONAUTICAL RADIONAVIGATION	
VEN/121/176 M	40D	117.975 - <del>13</del> 2 <u>136</u>	AERONAUTICAL MOBILE (R)	
			3495/201A 3572/27 <b>3</b> 3573/2	73A 3574/274 <u>3572A</u>
VEN/121/177 M	40D	<u>136</u> - 137	SPACE RESEARCH (Space-to-E	arth)
			FIXED	
			MOBILE	
			3581/281A 3582/281AA	
VEN/121/178 M	1OD	137 - 138	SPACE OPERATION (Telemeter	ing and tracking)
			SPACE RESEARCH (Space-to-E	arth)
		•	METEOROLOGICAL-SATELLITE	
			FIXED	
			MOBILE	
	;		3578/275A 3580/279A 3583/2	816 358 <sup>4</sup> /281E

Reasons: (117.975 - 136 MHz) To make a full band uniform for the aeronautical mobile (R) service

(136 - 137 MHz, 137 - 138 MHz) To meet the growing requirements of the fixed and mobile services.

NOC 3572/273

NOC 3573/273A

NOC 3574/274

VEN/121/179 SUP 3575/274A

Reasons: No longer in force.

VEN/121/180 SUP 3576/274B

Reasons: To protect the aeronautical mobile (R) service.

VEN/121/181 SUP 3577/275

Reasons: No longer in force.

NOC 3581/281A

VEN/121/182 SUP 3582/281AA

Reasons: As a result of the proposed allocation.

VEN/121/183 SUP 3583/281C

Reasons: As a result of the proposed allocation.

VEN/121/184 SUP 3584/281E

Reasons: As a result of the proposed allocation.

NOC 3580/279A

VEN/121/185 ADD 3572A Space system techniques may be used to receive the emissions

of emergency position-indicating radiobeacons on the frequencies 121.5 and

243 MHz.

 $\underline{\mathtt{Reasons}}$  : To allow rapid identification of position and rapid assistance in

search and rescue operations.

VEN/121/186 SUP 3578/275A

Reasons: As a result of the proposed allocation.

MHz 146 - 149.9

	Region 1	Region 2	Region 3
VEN/121/187 MOD (WW)	146 - <del>14</del> 9-9 <u>148</u>	146 - 148	
(ww)	FIXED	AMATEUR	
	MOBILE-except aeronautical-mobile-(R)	AMATEUR-SATELLITE	
·	AMATEUR		
	AMATEUR-SATELLITE		·
	3590/285 3591/285A 3509B	3597/289 <u>3509B</u>	
VEN/121/188 MOD	<u>148</u> - 149.9	148 - 149.9 (NOC)	
	FIXED	FIXED	
	MOBILE except aeronautical mobile (R)	MOBILE	
	3590/285 3591/285A	3591/285A 3598/290	

Reasons: (146 - 149.9 MHz Region 1; 146 - 148 MHz Region 2) To meet the requirements of the amateur and amateur-satellite services with exclusive world-wide allocations.

NOC 3590/285

NOC 3591/285A

NOC 3592/285B

NOC 3593/285C

VEN/121/189 3597/289 SUP

> NOC 3598/290

> > MHz150.05 - 174

		Region 1	Region 2	Region 3
VEN/121/190	MOD.	150.05 - 151	150.05 - <del>1</del> 74 <u>156</u>	150.05 - <del>170</del> <u>156</u>
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile (R)	MOBILE	MOBILE
		RADIO ASTRONOMY		
		3531/233B 3590/285 3594/286A <u>3531A</u>		
VEN/121/191	MOD	151 - 153		
		FIXED		
		MOBILE except aeronautical mobile (R)		
		RADIO ASTRONOMY		
		/METEOROLOGICAL AIDS/		
		3531/233B 3590/285 3594/286A <u>3531A</u>	,	
		153 - 154 (NOC)		
		FIXED	'	
		MOBILE except aeronautical mobile (R)		
		/METEOROLOGICAL AIDS/		
		3590/285		
		154 - 156 (NOC)		
		FIXED		
		MOBILE except aeronautical mobile (R)	21.05 /007 4 2520 /0224	2):0E /001 A 2E0E /097
		3590/285	3495/201A 3530/233A 3595/287	3495/201A 3595/287 3598/290

MHz 150.05 - 174 (cont.)

•		Region 1	Region 2	Region 3
VEN/121/192	MOD	156 - <del>174</del> 157.450	<u> 156 - 157.450</u>	<u> 156 - 157.450</u>
		FIXED	FIXED	FIXED
		MOBILE-except aeronautical-mobile	MOBILE	MOBILE
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		3495/201A 3590/285 3595/287 3596/288 3595A 3595B	3495/201A <del>3530/233A</del> 3595/287 <u>3595A</u> 3595B	3495/201A <del>3598/290</del> <del>3595/287</del> <u>3595A</u> <u>3595B</u>
VEN/121/193	MOD	<u>157.450</u> - <u>160.6</u>	<u> 157.450</u> - <u>160.6</u>	<u> 157.450</u> - <u>160.6</u>
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	MOBILE
		3495/201A 3590/285 3595/287 3596/288	3495/201A 3530/233A 3595/287	3495/201A 3595/287 3598/290
VEN/121/194	MOD	<u>160.6</u> - <u>161</u>	<u>160.6</u> - <u>161</u>	<u>160.6</u> - <u>161</u>
		FIXED	FIXED	FIXED
		MOBILE-except aeronautical-mobile	MOBILE	MOBILE
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		3 <del>495/201A</del> 3590/285 3595 <del>/</del> 287 <u>3595B</u> 3596 <del>/</del> 288	3495/201A 3530/233A 3595/287 3595B	3495/201A 3595/287 3595B 3598/290
VEN/121/195	MOD	<u> 161 - 161.45</u>	<u> 161 - 161.45</u>	<u> 161 - 161.45</u>
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	MOBILE
		3495/201A 3590/285 . 3595/287 3596/288	3495/201A 3530/233A 3595/287	3495/201A 3598/290 3595/287
VEN/121/196	MOD	161.45 - 162.05	<u>161.45</u> - <u>162.05</u>	161.45 - 162.05
		FIXED	FIXED	FIXED
		MOBILE-except aeronautical-mobile	.MOBILE	MOBILE
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		3495/201A 3590/285 3595/287 3595B 3596/288	3 <del>495/201A</del> 3530/233A 3595/287 <u>3595</u> B	3495/201A 3595/287 3595B 3598/290

MHz 150.05 - 174 (cont.)

VEN/121/197 MOD

Region 1	Region 2	Region 3
<u>162.05</u> - 174	<u>162.05</u> - 174	<u>162.05</u> - 170
FIXED	FIXED	FIXED
MOBILE except	MOBILE	MOBILE
aeronautical mobile		3495/201A 3595/287 3598/290
		170 - 174 (NOC)
		FIXED
3 <del>495/201A</del> 3590/285	21:05 /0014 2520 /0224	MOBILE
3595/287 3596/288	3495/20±A 3530/233A 3595/287	BROADCASTING

## RESULTING FINAL PROPOSAL :

156 - 157.45	MARITIME MOBILE
	3590/285 3495/201A <u>3595A</u> <u>3595B</u>
157.45 - 160.6	157.45 - 160.6
FIXED	FIXED
MOBILE except aeronautical mobile	MOBILE
3590/285	
160.6 - 161	MARITIME MOBILE
	3590/285 <u>3595B</u>
161 - 161.45	161 - 161.45
FIXED	FIXED
MOBILE except aeronautical mobile	MOBILE
3590/285	
161.45 - 162.05	MARITIME MOBILE
	3590/285 <u>3595B</u> 3596/288

MHz 150.05 - 174 (cont.)

Region 1	Region 2	Region 3
162.05 - 174	162.05 - 174	162.05 - 170
FIXED	FIXED	FIXED
MOBILE except	MOBILE	MOBILE
aeronautical mobile		170 - 174
		FIXED
		MOBILE
3590/285 3596/288	3530/233A	BROADCASTING

Reasons: (150.05 - 174 MHz) Replacing part of footnote 3595/287 to the Table, thus protecting the existing world-wide radiotelephone channel plan for the maritime mobile service.

NOC 3594/286A

VEN/121/198 SUP 3595/287

 $\overline{\text{Reasons}}$ : This footnote has become superfluous with the addition of footnotes ADD 3595A and ADD 3595B and the proposed allocation.

VEN/121/199 ADD

3595A The frequency 156.8 MHz is the international distress, safety and calling frequency of the maritime mobile radiotelephone service. Administrations shall ensure that a guardband is provided on each side of this frequency. The conditions for the use of this frequency are contained in Article N35/35.

 $\underline{\text{Reasons}}$ : To provide a separate footnote to the Table for the distress, safety and calling frequency to emphasize its importance and facilitate the use of the Table.

VEN/121/200 ADD

3595B In countries or areas in which these bands may also be allocated to the fixed and mobile services, such allocations shall not cause harmful interference or interference higher than is acceptable, depending on the circumstances, to radiocommunications in the maritime mobile service.

 $\overline{\text{Reasons}}$ : To permit the use of these bands for the fixed and mobile services in areas where it is possible.

NOC 3596/288

### $\mathtt{MHz}$ 174 - 216

VEN/121	/201	MOD

Region 1	Region 2	Region 3
174 - 216 (NOC)	174 - 216	
BROADCASTING	BROADCASTING	
	F <del>IXED</del>	
	MOBILE	
	Fixed	
2500/007 2600/000	Mobile	,
3599/291 3600/292 3601/293 3602/294	3602/294 3603/295 3604/2	96

Reasons: (174 - 216 MHz) To protect the TV broadcasting service.

NOC 3599/291

NOC 3600/292

NOC 3601/293

3602/294 NOC

NOC 3603/295

3604/296 NOC

> MHz273 - 328.6

VEN/121/202

MOD

273 - 328.6	FIXED
	MOBILE
	3560A 3618/308A 3622/310 3623/310A

NOC 3618/308A

NOC 3622/310

VEN/121/203 3623/310A SUP

Reasons: See footnote ADD 3560A.

3624/311 NOC

MHz 335.4 - 399.9

VEN/121/204	NOC

Region 1	Region 2	Region 3
335.4 - 399.9	FIXED .	
	MOBILE	
	3618/308A	

Reasons: (335.4 - 399.9 MHz) Continuing fixed and mobile service requirements in this band.

MHz 401 - 402

VEN/121/205 MOD

401 - 402	METEOROLOGICAL AIDS
	SPACE OPERATION (Telemetering) 3630/315A
	Fixed
·	Meteorological-satellite (Earth-to-space)
	Mobile except aeronautical mobile
·	3628/314 3629/315 <u>3631/315B</u> 3632/315C 3633/316

Reasons : (401 - 402 MHz) (Does not concern English text.)

NOC 3629/315

NOC 3630/315A

VEN/121/206 MOD 3631/315B (Does not concern English text.)

NOC 3632/315C

NOC 3633/316

MHz 406.1 - 410

VEN/121/207 MOD

406.1 - 410	FIXED
	MOBILE except aeronautical mobile
	RADIO ASTRONOMY
	<del>3530/233B</del> <u>3531A</u> 3628/314

NOC 3634/317A

NOC 3635/317B

MHz 420 - 460

		Region l	Region 2	Region 3
VEN/121/208	MOD	420 - 430	420 - <del>450</del> <u>430</u>	420 - 450
		FIXED	RADIOLOCATION	RADIOLOCATION
		MOBILE except aeronautical mobile	Amateur FIXED	Amateur
	Radiolocation	MOBILE except aeronautical mobile		
			Radiolocation	
		<u>3636/318</u> 3640/319	3636/318 364±/3±9A 3642/319B 3644/320A 3647/323 3648/324	
VEN/121/209	MOD	430 – 440	<u>430</u> - <u>440</u>	
		AMATEUR	AMATEUR	
		RADIOLOCATION	RADIOLOCATION	
		<u>3636/318</u> 3640/319 3642/319B 3643/320 <u>3644/320A</u> 3645/321 3646/322	Amateur  3636/318 3641/319A 3642/319B 3644/320A 3647/323 3648/324	
VEN/121/210	MOD	440 – 450	440 - 450	
		FIXED	RADIOLOCATION	
		MOBILE except aeronautical mobile	Amateur	
		Radiolocation	FIXED	
			MOBILE except aeronautical mobile	
			Radiolocation	
		3636/318 3640/319 3641/319A	3636/318 3641/319A 3642/319B 3644/320A 3647/323 3645/324	<u>3636/318</u> 3641/319A 3642/319B <u>3644/320A</u> 3647/323 3648/324
VEN/121/211	MOD	450 - 460	FIXED	
	MOBILE 3638/318B 3639/318C			
,			<u>3636/318</u> 3641/319A	

 $\underline{\text{Reasons}}$  : (420 - 430 MHz) Need to increase the allocation to the fixed and mobile services in these bands.

Reasons: (430 - 440 MHz) To enable the amateurs in Region 2 to use the OSCAR satellites for this service as in Region 1.

(440 - 450 MHz) As for the band 420 - 430 MHz.

VEN/121/212

3636/318

MOD

Radio altimeters may also be used until-31-December-1974 in the band 420 - 460 MHz: -- However; -after-this-date; -they-may-be-authorized-to continue-to-operate on a secondary basis except in the U.S.S.R. where they will continue to operate on a primary basis.

Reasons: To update the footnote.

NOC 3637/318A

3638/318B NOC

3639/318C NOC

NOC 3640/319

NOC 3641/319A

NOC 3642/319B

NOC 3643/320

MOD

VEN/121/213

3644/320A In the bands 435 - 438 MHz, 1250 - 1260 MHz, 2 390 - 2 400 MHz and 5 650 - 5 670 MHz the amateur-satellite service may be authorized, on condition that no harmful interference shall be caused to other services operating in accordance with the Table. Administrations authorizing such use shall ensure that any harmful interference caused by emissions from an amateur-satellite is immediately eliminated in accordance with the provisions of No. 6362/1567A.

Reasons: To provide the amateur-satellite service with additional allocations above 450 MHz to meet future requirements.

3645/321 NOC

NOC 3646/322

3647/323 NOC

3648/324 NOC

MHz 470 - 942

		Region 1	Region 2	Region 3
VEN/121/214	MOD	470 - 582 (NOC)	470 - <del>890</del> <u>608</u>	470 - 585 (NOC)
		BROADCASTING	BROADCASTING	BROADCASTING
		582 - 606 (NOC)	FIXED	3664/335
VEN/121/215	MOD	BROADCASTING	MOBILE	585 - 610
		RADIONAVIGATION		RADIONAVIGATION
		3651/325 3652/327 3653/328 3654/329		
VEN/121/216	MOD	606 - 790	3655/329A <del>3660/332</del> <del>3611/332A</del>	
VEN/121/217	MOD	BROADCASTING	608 - 614	3560A 3658/330B 3655/336 3666/337
VEN/121/218	MOD		BROADCASTING	610 - 890
			RADIO ASTRONOMY	FIXED
		•	3655/329A 3660/332 3661/332A	MOBILE
VEN/121/219	MOD	3654/329 3656/330 3657/330A 3659/331	<u>614</u> - <u>806</u>	BROADCASTING
		3660/332 3661/332A	BROADCASTING	
		790 - 890 (NOC)	3655/329A 3660/332 3661/332A	
VEN/121/220	MOD	FIXED	<u>806</u> - 890	·
		BROADCASTING	BROADCASTING	
			FIXED	
			MOBILE	3560A <del>3658/330В</del>
		3654/329 3659/331 3662/333 3663/334	3655/329A 3660/332 3611/332A	3667/338 36687339
VEN/121/221	MOD	890 - 942 (NOC)	890 - 942	890 - 942 (NOC)
		FIXED	FIXED	MOBILE
		BROADCASTING	RADIOLOCATION	FIXED
		Radiolocation	Radiolocation	BROADCASTING
		0(5), 1000 0(5), 1005	MOBILE except aeronautical mobile	Radiolocation
		3654/329 3659/331 3662/333 3669/339A	3669/339A 3670/340	3668/339 3669/339A

Reasons: (470 - 890 MHz) To meet the growing requirements of the fixed, mobile and radio astronomy services.

(890 - 942 MHz) To meet mobile service requirements.

NOC 3651/325

NOC 3652/327

NOC 3653/328

NOC 3654/329

NOC 3655/329A

NOC 3656/330

NOC 3657/330A

VEN/121/222 SUP 3658/330B

Reasons: See footnote 3560A.

NOC 3659/331

VEN/121/223 MOD 366

3660/332 In Region 1, except the African broadcasting area\*, the band 606 - 614 MHz and in Region 3, the band 610 - 614 MHz may be used by the radio astronomy service. Administrations shall avoid using the band concerned for the broadcasting service as long as possible, and thereafter, as far as practicable, shall avoid the use of such effective radiated powers as will cause harmful interference to radio astronomy observations.

In-Region-2,-the-band-608---614-MHz-is-reserved exclusively-for-the-radio-astronomy-service-until-the-first Administrative-Radio-Conference-after-1-January-1974-which-is-competent-to-review-this-provision;--however,-this-provision-does-not-apply-to-Guba:

Reasons: As a result of the new allocation.

VEN/121/224 MOD

3661/332A Within the frequency band 620 614 - 790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions Nos. Spa2 - 2 and Spa2 - 3). Such stations shall not produce a power flux density in excess of the value -129 dBW/m² for angles of arrival less than 20 (see Resolution No. Spa2 - 10) within the territories of other countries without the consent of the administrations of those countries.

Reasons: To expand the allocation to the broadcasting-satellite service.

NOC	3662/333
NOC	3663/334
NOC	3664/335
NOC	3665/336
NOC	3666/337
NOC	3667/338
NOC	3668/339
NOC	3669/339A
NOC	3670/340
OI ID	2656 1/220

VEN/121/225 SUP 3656.1/330.1

Reasons: Replaced by footnote ADD 3424A, Section I, Article N7/5.

MHz 1 215 - 1 3 50

			1 215 - 1 3 50	
		Region l	Region 2	Region 3
VEN/121/226	MOD	1 215 - 1 300	RADIOLOCATION	
			Amateur	
			<u>3644/320A</u> 3672/342 3673/	343 3674/344 3675/345
VEN/121/227	MOD	1 300 - 1 350	AERONAUTICAL RADIONAVIGAT	ION <u>3676/346</u>
			Radiolocation	
			3677/347 3678/348	
	NOC	3671/341		
	NOC	3672/342		
	NOC	3673/343		
•	NOC	3674/344		
	NOC	3675/345		
VEN/121/228	MOD		he aeronautical radionavig ; in the future; to associate the control of the cont	

Reasons: To update the footnote.

3677/347

3678/348

NOC

NOC

MHz 1 350 - 1 400

	Region 1	Region 2	Region 3
VEN/121/229 MOD	1 350 - <del>1</del> -400 <u>1 370</u>	1 350 - <del>1</del> -400 <u>1 370</u>	
	FIXED	RADIOLOCATION	
	MOBILE		
	RADIOLOCATION		
	3679/349 3680/349A	3679/349 3680/349A	
VEN/121/230 MOD	<u>1 370</u> - 1 400	<u>1 370</u> - 1 400	
	FIXED	RADIOLOCATION	
	MOBILE	RADIO ASTRONOMY	
	RADIOLOCATION		
	RADIO ASTRONOMY		
	3679/349 3680/349A	3679/349 3680/349A	

### RESULTING FINAL PROPOSAL:

1 370 - 1 400	RADIO ASTRONOMY	
1 310 - 1 400	THOMONICAL OTHER	

MHz 1 400 - 1 427

VEN/121/231	NOC	1 400 - 1 427	RADIO ASTRONOMY	
		l .		

Reasons: (1 350 - 1 400 MHz) In conformity with the SPM Report suggestion concerning the radio astronomy service.

VEN/121/232 SUP 3679/349

Reasons: The time provision of the footnote is no longer applicable.

VEN/121/233 SUP 3680/349A

 $\underline{\text{Reasons}}$  : The footnote has been taken into account with the proposed allocation to the radio astronomy service.

MHz 1 535 - 1 660

•		Region 1	Region 2	Region 3
	NOC	1 535 - 1 542.5	MARITIME MOBILE-SATELLITE	
			3685/352 3688/352D 3689/352E	
VEN/121/234	MOD	1 542.5 - 1 543.5	AERONAUTICAL-MOBILE-SATELL	±Ψ <b>Ξ</b> − <del>(</del> R <del>)</del>
			MARITIME MOBILE-SATELLITE	
			3685/352 3688/352D <u>3689/3</u>	52E <del>3690/352F</del>
VEN/121/235	MOD	1 543.5 - <del>1-558.5</del> <u>1 550</u>	AERONAUTICAL-MOBILE-GATELL	±Ψ <b>E</b> − <del>(</del> R <del>)</del>
			MARITIME MOBILE-SATELLITE	
			3685/352 3688/352D <u>3689/3</u>	52E 3691/352G
VEN/121/236	MOD	1 550 - 1 558.5	AERONAUTICAL MOBILE-SATELL	ITE (R)
			3685/352 3688/352D 3691/3	52G
VEN/121/237	MOD	1 558.5 - <del>1-636.5</del> <u>1 565</u>	AERONAUTICAL-RADIONAVIGATI	<del>M</del> G
			AERONAUTICAL MOBILE-SATELL	ITE (R)
			3685/352 3686/352A 3687/3 3695/352K	52B 3688/352D <u>3691/352G</u>
VEN/121/238	MOD	1 565 - 1 590	AERONAUTICAL RADIONAVIGATI	ИС
			RADIONAVIGATION-SATELLITE	
			3685/352 3686/352A <u>3687/3</u>	<u>52В</u> 3688/352D <del>3695/352к</del>
VEN/121/239	MOD	1 590 - 1 624	AERONAUTICAL RADIONAVIGATION	
			AERONAUTICAL RADIONAVIGATION	ON-SATELLITE
			3560A 3685/352 3686/352A 3695/352K	3687/352B 3688/352D
VEN/121/240	MOD	1 624 - 1 625	AERONAUTICAL-RADIONAVIGATI	ЭМ
			MOBILE-SATELLITE	
			3685/352 3686/352A 3687/3 3695/352K	52B 3688/352D <u>3695A</u>
VEN/121/241	MOD	<u>1 625</u> - 1 636.5	AERONAUTICAL-RADIONAVIGATI	Ж
			MARITIME MOBILE-SATELLITE	
			3685/352 <del>3686/352A 3687/3</del> <del>3695/352К</del>	<del>52В</del> 3688/352D <u>3692/352Н</u>

MHz 1 535 - 1 660 (cont.)

		Region 1	Region 2	Region 3
	NOC	1 636.5 - 1 644	MARITIME MOBILE-SATELLITE	
			3685/352 3688/352D 3692/3	52Н
VEN/121/242	MOD	1 644 - 1 645	AERONAUTICAL-MOBILE-SATELLITE-(R)	
			MARITIME MOBILE-SATELLITE	
			3685/352 3688/352D <u>3692/352H</u> <del>3693/352I</del>	
	NOC	1 645 - 1 660	AERONAUTICAL MOBILE-SATELLITE (R)	
			3685/352 3688/352D 3694/3	52J

### RESULTING FINAL PROPOSAL:

1 535 - 1 550	MARITIME MOBILE-SATELLITE	
	3685/352 3688/352D <u>3689/352E</u>	
1 550 - 1 565	AERONAUTICAL MOBILE-SATELLITE (R)	
	3685/352 3688/352D <u>3691/352G</u>	
1 565 - 1 590	AERONAUTICAL RADIONAVIGATION	
	RADIONAVIGATION-SATELLITE	
	3685/352 · <u>3686/352A</u> <u>3687/352B</u> 3688/352D	
1 590 - 1 624	AERONAUTICAL RADIONAVIGATION	
	AERONAUTICAL RADIONAVIGATION-SATELLITE	
	3560A 3685/352 3686/352A 3687/352B 3688/352D	
1 624 - 1 625	MOBILE-SATELLITE	
	3685/352 3688/352D <u>3695A</u>	
1 625 - 1 645	MARITIME MOBILE-SATELLITE	
	3685/352 3688/352D <u>3692/352H</u>	
1 645 - 1 660	MARITIME MOBILE-SATELLITE (R)	
	3685/352 3688/352D 3694/352J	

 $\underline{\text{Reasons}}$ : (1 535 - 1 660 MHz) To allocate exclusive bands to the aeronautical and maritime services to meet their known future requirements.

VEN/121/243 MOD 3686/352A The bands 1-558.5 - 1-636.5 1 565 - 1 624 MHz,
4-200--4-400-MHz,-5-000--5-250-MHz and 15.4 - 15.7 GHz are reserved on a world-wide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities.

VEN/121/244 MOD 3687/352B The bands 1-558.5 - 1-636.5 1 565 - 1 624 MHz,
5 000 - 5 250 MHz and 15.4 - 15.7 GHz are also allocated to the aeronautical
mobile (R) service for the use and development of systems using space
radiocommunication techniques. Such use and development is subject to
agreement and coordination between the administrations concerned and those
having services, operating in accordance with the Table, which may be affected.

NOC 3688/352D

VEN/121/245 MOD 3689/352E The use of the band 1 535 - \(\frac{1}{2}\)-542.75 \(\frac{1}{2}\) 550 MHz is limited to transmissions from space-to-Earth stations in the maritime mobile-satellite service for communication and/or radiodetermination purposes. Transmissions from coast stations directly to ship stations, or between ship stations, are also authorized when such transmissions are used to extend or supplement the satellite-to-ship links.

VEN/121/246 SUP 3690/352F

Reasons: Has become superfluous.

VEN/121/247 MOD 3691/352G The use of the band 1-543.5 - 1-558.5 1 550 - 1 565 MHz is limited to transmissions from space-to-Earth stations in the aeronautical mobile-satellite (R) service for communication and/or radiodetermination purposes. Transmissions from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

VEN/121/248 MOD 3692/352H The use of the band 1-636.5 - 1-644 1 625 - 1 645 MHz is limited to transmissions from Earth-to-space stations in the maritime mobile-satellite service for communication and/or radiodetermination purposes. Transmissions from ship stations directly to coast stations, or between ship stations, are also authorized when such transmissions are used to extend or supplement the ship-to-satellite links.

VEN/121/249 SUP 3693/352I

Reasons: Has become superfluous. Replaced by ADD 3695A.

VEN/121/250 SUP 3695/352K

Reasons: See ADD 3560A.

VEN/121/251 NOC 3694/352J

Reasons: To ensure compatibility with the proposed allocations.

VEN/121/252 ADD 3695A Such use shall be limited to space-to-Earth transmissions in connection with distress and safety operations.

Reasons: To provide an allocation for this service in this band. Replaces footnote 3693/3521.

ADD 3560A

Reasons: To combine several footnotes in a single text. See band 79.75 - 80.25 MHz. Replaces footnote 3695/352K.

1 660 - 1 690

MOBILE except aeronautical mobile

		Region 1	Region 2	Region 3
VEN/121/253	MOD	1 660 - 1 670	METEOROLOGICAL AIDS	
			RADIO ASTRONOMY	
			3531A 3696/353A 3697/354	3698/354A 3699/354B
VEN/121/254	MOD	1 670 - 1 690	METEOROLOGICAL AIDS	
			FIXED	
			METEOROLOGICAL-SATELLITE (	Space-to-Earth) 3649/324A

<del>3697/35</del>4

VEN/121/255 SUP 3696/353A

Reasons: See footnote ADD 3531A.

VEN/121/256 SUP 3697/354

Reasons: See footnote ADD 3531A

NOC 3698/354A

NOC 3699/354B

NOC 3700/354C

NOC 3701/354D

MHz 1 710 - 1 770

VEN/121/257 MOD	1 710 - 1 770	1 710 - 1 770
	FIXED	FIXED
	Mobile	MOBILE
	<u>3560A</u> <del>3695/352K</del> 3702/356	<u>3560A</u> <del>3695/352K</del> 3703/356A

MHz 1 790 - 2 290

VEN/121/258 MOD

Region 1	Region 2	Region 3
1 790 - 2 290	1 790 - 2 290	
FIXED	FIXED	
Mobile	MOBILE	
FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-	Earth)
3702/356 3705/356AB 3706/356ABA 3707/356AC	3703/356A 3705/356AB 3706/	356ABA

 $\frac{\text{Reasons}}{\text{satellite}}$ : (1 790 - 2 290 MHz) To meet the future requirements of the fixed-satellite service.

NOC 3702/356

NOC 3703/356A

NOC 3704/356AA

NOC 3705/356AB

NOC 3706/356ABA

NOC 3707/356AC

NOC 3708/356C

ADD 3560A

Reasons: Replaces footnote 3695/352K.

MHz 2 300 - 2 450

VEN/121/259 MOD

2 300 - 2 450 (NOC)	2 300 - 2 450
FIXED	RADIOLOCATION
Amateur	Amateur
Mobile	Fixed
Radiolocation	Mobile
0700/057 0730/050	FIXED
3709/357 3710/358 3711/359	<u>3644/320A</u> 3709/357 3712/360

Reasons : (2 300 - 2 450 MHz) To meet foreseeable fixed service requirements.

NOC 3709/357 NOC 3710/358 NOC 3711/359

3712/360

NOC

MHz 2 655 - 2 700

	Region 1	Region 2	Region 3
VEN/121/260 MOD	2 655 - 2 690	2 655 - 2 690	
	FIXED 3721/364C 3722/364D	FIXED 3721/364C 3722/364D	
MOBILE except FIXED-SATELLITE (Earth-to-space) aeronautical mobile		space)	
		MOBILE except aeronautical mobile	
	BROADCASTING-SATELLITE 3715/361B 3726/364H	BROADCASTING-SATELLITE 3715/361B 3726/364H	
	3717/363 3718/364 3724/364F 3 <del>725/3646</del>		
VEN/121/261 MOD	2 690 - 2 700	RADIO ASTRONOMY	
<del>3531/233B</del> <u>3531A</u> 3717/363 3719/364A 37		3719/364A 3720/364B	

VEN/121/262 SUP 3725/364G

VEN/121/263 SUP 3726/364H

 $\overline{\text{Reasons}}$ : It is considered that the allocations proposed meet the radio astronomy requirements expressed at the SPM and facilitate the development of the services in this band.

ADD 3531A

Reasons: Replaces footnote 3531/233B.

MHz 2 700 - 3 400

VEN/121/264	MOD	2 700 - 2 900	AERONAUTICAL RADIONAVIGATION 3676/346	
			Radiolocation	
			3727/366	
	NOC	2 900 - 3 100	RADIONAVIGATION 3728/367 3729/367A 3730/367B	
			Radiolocation	

MHz 2 700 - 3 400 (cont.)

		Region 1	Region 2	Region 3
VEN/121/265	MOD	3 100 - 3 300	RADIOLOCATION	
			3531A 3697/354 3731/368 3	732/369
	NOC	3 300 - 3 400	3 300 - 3 400	
		RADIOLOCATION	RADIOLOCATION	
			Amateur	
		3733/370 3734/371	3739/376	

NOC 3727/366

NOC 3728/367

NOC 3729/367A

NOC 3730/367B

NOC 3731/368

NOC 3732/369

NOC 3733/370

NOC 3734/371

NOC 3739/376

ADD 3531A

Reasons: Replaces footnote 3697/354.

MHz 3 400 - 4 700

	Region 1	· Region 2	Region 3
VEN/121/266 MOD	3 400 - 3 600 (NOC)	3 400 - 3 500	
	FIXED	FIXED-SATELLITE (Space-to-	Earth)
	FIXED-SATELLITE	RADIOLOCATION	
	(Space-to-Earth)	Radiolocation	
	Radiolocation	Amateur	
		3739/376	
VEN/121/267 MOD	3735/372 3736/373 3737/374 3738/375	3 500 - 3 700	3 500 - 3 700
	3 600 - 4 200 (NOC)	FIXED	FIXED-SATELLITE
	FIXED	FIXED-SATELLITE (Space-to-Earth)	(Space-to-Earth)
	FIXED-SATELLITE (Space-to-Earth)	_	
		MOBILE	Radiolocation
	Mobile	RADIOLOCATION	Fixed
		Radiolocation	Mobile
			3740/377 3741/378
		3 700 - 4 200 (NOC)	
		FIXED	
		FIXED-SATELLITE (Space-to-	Earth)
		MOBILE	
	3737/374	3742/379	
VEN/121/268 MOD	4 200 - 4 400	AERONAUTICAL RADIONAVIGATION	
·		3686/352A <u>3742A</u> 3743/379A 3748/383	3744/381 3745/382
VEN/121/269 MOD	1/269 MOD 4 400 - 4 700 FIXED		
		FIXED-SATELLITE (Earth-to-	space) (Space-to-Earth)
		MOBILE	

Reasons: (3 400 - 3 700 MHz) To provide greater protection for the fixed-satellite service.

(4 400 - 4 700 MHz) To facilitate future planning in the fixed-satellite service.

VEN/121/270 ADD 3742A The use of the band 4 200 - 4 400 MHz by the aeronautical radionavigation service is reserved exclusively for airborne radioaltimeters.

 $\overline{\text{Reasons}}$ : For the purposes of safety in sharing with other services in this band. Replaces footnote 3686/352A.

NOC 3737/374

NOC 3738/375

NOC 3735/372

NOC 3740/377

NOC 3741/378

NOC 3742/379

NOC 3743/379A

NOC 3736/373

NOC 3744/381

NOC 3745/382

NOC 3748/383

MHz 4 700 - 5 250

		Region 1	Region 2	Region 3
VEN/121/271	MOD	4 700 - 4 990	FIXED	
			MOBILE	
			Radio astronomy	
			3531/233B 3531A 3697/354	3746/382A 3747/382B
VEN/121/272	MOD	4 990 - 5 000	4 990 - 5 000	4 990 - 5 000
	. !	FIXED	RADIO ASTRONOMY	RADIO ASTRONOMY
		MOBILE	FIXED	FIXED
		RADIO ASTRONOMY	MOBILE	MOBILE
		3531A 3536/233B	3531A 3749/383A	3531A 3536/233B
VEN/121/273	MOD	5 000 - 5 250	AERONAUTICAL RADIONAVIGATI	ON
			3686/352A 3687/352B <u>3750/383B</u> <u>3750A</u>	

 $\underline{\text{Reasons}}$ : (4 700 - 4 990 MHz) To meet radio astronomy service requirements for formaldehyde line observations.

(4 990 - 5 000 MHz) To meet the growing requirements of the fixed and mobile services.

VEN/121/274 SUP 3746/382A

VEN/121/275 SUP 3747/382B

VEN/121/276 SUP 3749/383A

Reasons: As a result of the allocation and the addition of footnote 3531A.

VEN/121/277 MOD

3750/383B The bands 5 000 - 5 250 MHz and 15.4 - 15.7 GHz is are also allocated to the fixed-satellite and inter-satellite services for connection between one or more earth stations at specific fixed points on the Earth and satellites when these services are used by the aeronautical mobile-(R) service-and/or-the-radiodetermination-service jointly with the aeronautical radionavigation service and/or the aeronautical mobile-(R) service. Such use and development shall be subject to agreement and coordination between the administrations concerned and those having services, operating in accordance with the Table, which may be affected.

Reasons: To assist operations between air traffic control centres, aircraft operation functions and pilot reports as well as the centralized dissemination of meteorological bulletins throughout the world (aviation).

VEN/121/278 ADD

3750A The band 5 000 - 5 250 MHz shall be used for the operation of the international standard precision approach and landing system. The requirements of this system shall take precedence over any other use of the band.

<u>Reasons</u>: To protect the new guidance system in respect of existing services as the system is implemented. The introduction of the new guidance system will be coordinated in accordance with footnotes 3686/352A and MOD 3687/352B.

ADD 3531A

Reasons: To combine several footnotes in one. Replaces footnotes 3531/233B, 3697/354, 3746/382A, 3747/382B and 3749/383A.

MHz 5 470 - 5 725

		Region 1	Region 2	Region 3
VEN/121/279	MOD	5 470 - 5 650	MARITIME-RADIONAVIGATION	·
			Maritime radionavigation	
			Radiolocation	
			FIXED-SATELLITE (Earth-to-space)	
			3754/386 3755/387	
VEN/121/280	MOD	5 650 - 5 670	RADIOLOCATION	
			Radiolocation	
			Amateur	
			FIXED-SATELLITE (Earth-to-s	space)
•			3644/320A 3756/388 3757/38	39

MHz 5 470 - 5 725 (cont.)

	_		
VEN/	'เวา	/281	MOD

Region 1	Region 2	Region 3	
5 670 - 5 725	RADIOLOCATION		
	Amateur		
	Space Research (Deep space)		
	Radiolocation		
	FIXED-SATELLITE (Earth-to-space)		
	3756/388 3757/389 3758/389A		

NOC 3751/384

NOC 3752/384A

NOC 3753/385

NOC 3754/386

NOC 3755/387

NOC 3756/388

NOC 3757/389

NOC 3758/389A

 $\underline{\text{Reasons}}$ : (5 470 - 5 650; 5 650 - 5 670; 5 670 - 5 725 MHz) To meet the requirements of the fixed-satellite service.

MHz 5 725 - 5 850

### VEN/121/282 MOD

5 725 - 5 850	5 725 - 5 850	
FIXED-SATELLITE	RADIOLOCATION	
(Earth-to-space)	Radiolocation	
RADIOLOCATION	Amateur	
Amateur	FIXED-SATELLITE (Earth-to-space)	
Radiolocation		
3697/354 3756/388 3759/390 3760/391 3761/391A	3757/389 3760/391 <del>3761/391A</del>	

### MHz 5 725 - 5 850 (cont.)

### RESULTING FINAL PROPOSAL :

Region 1	Region 2	Region 3	
5 725 - 5 850	FIXED-SATELLITE (Earth-to-space)		
Radiolocation			
	Amateur		
	3756/388 3757/389 3759/3	90 3760/391	

 $\underline{\text{Reasons}}$ : (5 725 - 5 850 MHz) To allow for the future expansion of the fixed-satellite service.

NOC 3759/390

NOC 3760/391

VEN/121/283 SUP 3761/391A

 $\underline{\text{Reasons}}$ : It is considered that the allocations proposed for the radio astronomy service meet the requirements expressed at the SPM.

MHz 5 850 - 7 300

VEN/121/284	MOD	5 850 - 5 925 (NOC)	5 850 - 5 925	5 850 - 5 925 (NOC)
		FIXED	RADIOLOCATION	FIXED
		FIXED-SATELLITE (Earth-to-space)	Amateur	FIXED-SATELLITE (Earth-to-space)
		MOBILE	FIXED-SATELLITE (Earth-to-space)	MOBILE
			Radiolocation	Radiolocation
		3760/391	3760/391	3760/391
	NOC	5 925 - 6 425	FIXED	
			FIXED-SATELLITE (Earth-to-	space)
			MOBILE	
VEN/121/285	MOD	6 425 - 7 250	· FIXED	
			MOBILE	
			FIXED-SATELLITE (Earth-to-space)	
		-	3743/379A <u>3762/392AA</u> 3763/	392В 3767/393

MHz 5 850 - 7 300 (cont.)

VEN/121/286 MOD

Region 1	Region 2	Region 3
7 250 - 7 300	FIXED	
	FIXED-SATELLITE (Space-to-Earth)	
	MOBILE	
	3764/392D <del>3765/392G</del>	

Reasons: (5 850 - 5 925; 6 425 - 7 250 MHz) To meet the future requirements of the fixed-satellite service.

(7 250 - 7 300 MHz) To meet the requirements of the fixed and mobile services.

### VEN/121/287 MOD

3762/392AA In-Brazil,-Canada-and-the-United-States-of-America,-the band-6-625---7-125-MHz-is-also-allocated,-on-a-secondary-basis,-to the-fixed satellite-service-for-space-to-Earth-transmissions. In Region 2, the power flux density produced by space stations in this band shall be in accordance with the provisions of No. 6064/470NM. In Regions 1 and 3, it shall be at least 6 dB lower. Receiving earth stations in this band may not impose restrictions on the locations or technical parameters of existing or future terrestrial stations of-other-countries.

Reasons: As a result of the proposed allocation.

NOC 3763/392B

NOC 3764/392D

VEN/121/288 SUP 3765/392G

Reasons: As a result of the proposed allocation.

NOC 3767/393

MHz 7 975 - 8 025

VEN/121/289 MOD

)	7 975 - 8 025	FIXED-SATELLITE (Earth-to-space)
		MOBILE
		FIXED
		3766/392н

Reasons: (7 975 - 8 025 MHz) To adapt the allocation to requirements.

VEN/121/290 SUP 3766/392H

Reasons: The footnote becomes superfluous with the proposed allocation.

MHz 8 500 - 8 750

		Region 1	Region 2	Region 3
VEN/121/291	MOD	8 500 - 8 750	RADIOLOCATION	
			<del>3697/354</del> 3772/395	
			MHz 9 000 - 9 500	
VEN/121/292	MOD	9 000 - 9 200	AERONAUTICAL RADIONAVIGATI	ON <u>3676/346</u>
			Radiolocation	
			3774/397	
	NOC	9 200 - 9 300	RADIOLOCATION	·
			3774/397 3775/398	
VEN/121/293	MOD	9 300 - 9 500	RADIONAVIGATION 3729/367A	3730/367в
		·	Radiolocation	
			3776/399	
	NOC	3772/395		
	NOC	3773/396		
	NOC	3774/397		
	NOC	3775/398		
VEN/121/294	MOD	radionavigation service is radars. In addition, group aeronautical radionavigation harmful interference is cauthis-band, the band 9 300 -	limited to airborne weather ad-based radar beacons are a service in the band 9 300 ased to the maritime radional property over other radio of the priority over other radio.	r radars and ground-based authorized in the 0 - 9 320 MHz provided no avigation service. In adars used for

 $\overline{\text{Reasons}}$ : The band 9 300 - 9 350 MHz is needed for the continuous and growing use of airborne weather radars on frequencies 9 345 and 9 375 MHz and ground-based radars used in connection with the air traffic control services.

GHz 10.6 - 10.7

		Region 1	Region 2	Region 3
VEN/121/295	MOD	10.6 - 10.68	FIXED	
			MOBILE	
			RADIO ASTRONOMY	
			Radiolocation	
			3531A 3783/404A	
VEN/121/296	MOD	10.68 - 10.7	RADIO ASTRONOMY	
			MOBILE	
			FIXED	
			3531A 3784/405B	

 $\underline{\text{Reasons}}$ : (10.68 - 10.7 GHz) To meet the requirements of the fixed and mobile

services.

NOC 3783/404A

VEN/121/297 SUP 3784/405B

Reasons: As a result of the proposed allocation.

GHz 10.7 - 12.5

VEN/121/298	MOD	10.7 - 10.95	FIXED
			MOBILE
			FIXED-SATELLITE (Space-to-Earth)
	NOC	10.95 - 11.2	10.95 - 11.2
		FIXED	FIXED
		FIXED-SATELLITE	FIXED-SATELLITE (Space-to-Earth)
		(Space-to-Earth) (Earth-to-space)	MOBILE
		MOBILE	
VEN/121/299	MOD	11.2 - 11.45	FIXED
			MOBILE
			FIXED-SATELLITE (Space-to-Earth)

GHz 10.7 - 12.5 (cont.)

		Region 1	Region 2	Region 3
	NOC	11.45 - 11.7	FIXED	-
			FIXED-SATELLITE (Space-to-	Earth)
			MOBILE	
VEN/121/300	MOD	11.7 - 12.5	11.7 - 12.2 ( <u>NOC</u> )	11.7 - 12.2
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	FIXED-SATELLITE (Space-to-Earth)	MOBILE except aeronautical mobile
		BROADCASTING BROADCASTING-SATELLITE	MOBILE except aeronautical mobile BROADCASTING-SATELLITE	BROADCASTING BROADCASTING-SATELLITE
			BROADCASTING	0-11
			3786/405BB 3787/405BC	3785/405BA
VEN/121/301	MOD		12.2 - 12.5	12.2 - 12.5 (NOC)
			FIXED	FIXED
			MOBILE except aeronautical mobile	MOBILE except aeronautical mobile
			BROADCASTING	BROADCASTING
			BROADCASTING-SATELLITE	
		3785/405BA	3786/405ВВ 3787/405ВС	

 $\underline{\text{Reasons}}$ : (10.7 - 10.95; 11.2 - 11.45 GHz) To meet the future requirements of the fixed-satellite service.

(12.2 - 12.5 GHz) To meet the future requirements of space services in this band.

VEN/121/302 MOD

3785/405BA In the band 11.7 - 12.2 GHz in Region 3 and in the band 11.7 - 12.5 GHz in Region 1, existing and future fixed, mobile and broadcasting services shall not cause harmful interference to broadcasting-satellite stations operating in accordance with the decisions-of-the-appropriate-broadcasting frequency-assignment-planning-conference-(see-Resolution-No.-Spa2---2)-and-this requirement-shall-be-taken-into-account-in-the-decisions-of-that-conference. plan drawn up by the 1977 BS-WARC.

Reasons: The plan has already been drawn up for these Regions.

VEN/121/303 MOD 3786/405BB

Terrestrial radiocommunication services in the band 11.7 - 12.2 12.7 GHz in Region 2 shall be introduced only after the elaboration and approval of plans for the space radiocommunication services, so as to ensure compatibility between the uses that each country decides for this band.

Reasons: As a result of the proposed change of allocation.

VEN/121/304 MOD 3787/405BC The use of the band  $11.7 - \frac{12.2}{12.7}$  GHz in Region 2 by the broadcasting-satellite and fixed-satellite services is limited to domestic systems and is subject to previous agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Articles Nll and Nl3/9A and Resolution No. Spa2 - 3).

Reasons: As a result of the proposed allocation Table.

 ${\tt GHz}$ 12.5 - 13.25

		Region 1	Region 2	Region 3
VEN/121/305	MOD	12.5 - 12.75 (NOC)	12.5 - 12.75	12.5 - 12.75 (NOC)
		FIXED-SATELLITE (Space-to-Earth)	FIXED	FIXED
		(Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Space-to-Earth)
			MOBILE except aeronautical mobile	MOBILE except aeronautical mobile
			BROADCASTING-SATELLITE	
		3788/405BD 3789/405BE	3786/405BB 3787/405BC	
VEN/121/306	MOD	12.75 - 13.25	FIXED	
			MOBILE	
			FIXED-SATELLITE (Earth-to-	space)

GHz. 14.4 - 15.35

VEN/121/307 MOD 14.4 - 14.5

FIXED

FIXED-SATELLITE (Earth-to-space)

MOBILE

3560A 3796/408B 3797/408C

GHz 14.4 - 15.35 (cont.)

		Region 1	Region 2	Region 3
VEN/121/308	MOD	14.5 - 15.35	FIXED	
			MOBILE	
			FIXED-SATELLITE (Earth-to-	space)
			3560A 3796/408B 3797/408C	,

 $\underline{\text{Reasons}}$  : (12.5 - 12.75 GHz) To meet the future requirements of space services in this band.

(12.75 - 13.25; 14.5 - 15.35 GHz) To meet the future requirements of the fixed-satellite service in these bands.

NOC 3788/405BD

NOC 3789/405BE

NOC 3791/406

NOC 3792/407

NOC 3793/407A

NOC 3794/408

INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 122-E 26 June 1979

Original : English

PLENARY MEETING

Israel (State of)\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

ISR/122/5

MOD

3488/194

In Austria, Denmark, Finland, Ireland, Israel,

Netherlands, .... etc.

Reasons: To enhance amateur activity.



<sup>\*)</sup> See also Document No. 113.

### INTERNATIONAL TELECOMMUNICATION UNION

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 123-E
17 October 1979
Original: English

COMMITTEE 5

### Islamic Republic of Iran

PROPOSALS FOR THE WORK OF THE CONFERENCE

Page 4 - replace proposal IRN/123/8 MOD by the following new proposal:

IRN/123/8 MOD (Corr.1)

Region 3

FIXED

BROADCASTING

Aeronautical radionavigation

AERONAUTICAL RADIONAVIGATION

Page 4 - add the following proposals :

IRN/123/96 MOD (Corr.1)

200 - 285

AERONAUTICAL RADIONAVIGATION

Aeronautical-mobile

AERONAUTICAL MOBILE

285 - 315

MARITIME RADIONAVIGATION (radiobeacons)

Aeronautical radionavigation

AERONAUTICAL RADIONAVIGATION

315 - 325

MARITIME RADIONAVIGATION (radiobeacons)

Aeronautical radionavigation

AERONAUTICAL RADIONAVIGATION

IRN/123/97 MOD (Corr.1)

IRN/123/98 MOD (Corr.1)

Corrigendum No. 1 to
Document No. 123-E

Page 2

IRN/123/99 MOD (Corr.1)

IRN/123/100 MOD (Corr.1)

Region 3

325 - 405

AERONAUTICAL RADIONAVIGATION

Aeronautical-mobile

AERONAUTICAL MOBILE

181

405 - 415

RADIONAVIGATION

Aeronautical-mobile

AERONAUTICAL MOBILE

182

Reasons: Throughout the band 160 - 415 kHz of the Table of Frequency Allocations, the aeronautical radionavigation and aeronautical mobile service shall be upgraded from the secondary to primary basis in Region 3.



#### INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 123-E 22 June 1979 Original: English

PLENARY MEETING

### Islamic Republic of Iran

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE N7/5

Frequency Allocations 10 kHz to 275 GHz

### Introduction

The draft proposals relating to Article N7/5 are broadly based on the following principles:

- 1. The frequency spectrum is an international resource, in service of man, for the development of the human quality of life, through the application of science and technology. Therefore, frequency allocations should take into account the development needs of <u>all</u> peoples and nations on an equal basis.
- 2. Both the requirements of developing countries and the state-of-art of technology are undergoing rapid changes. Therefore, service allotments should reflect sufficient flexibility for changing requirements and capabilities over the next two decades.
- 3. Frequency allocations should take into consideration not only efficient utilization of this international resource but also the limited management and economic capabilities of the developing countries and poorer nations.

Therefore, allocations should allow easier utilization and frequency management techniques and should also enable poorer nations to employ simpler systems and equipments. This principle yields two guiding criteria for decision making: first, wherever two or more services share the same frequency allocation, exclusive allotments should be adopted provided that the new separations maintain a <a href="reasonable">reasonable</a> efficiency in spectrum utilization. Second, service allocations should allow the employment of low-level or intermediate technologies for developing countries.

4. Radionavigation service and other safety services <u>specifically</u> providing a safety-of-life function should be allocated exclusive frequency bands in order to minimize the impact of human error or frequency management problems on these critical services.



IRN/123/1

MOD

### ARTICLE N7/5

kHz 10 - 14

	Allocation to Services	
Region l	Region 2	Region 3
10 - 14	RADIONAVIGATION	
. :	Radiolocation	

Reasons: To satisfy need for the world-wide exclusive allocation for the radionavigation service.

kHz 90 - 110

IRN/123/2 MOD (WW)

90 - 110	90 - 110	90 - 110
FIXED	RADIONAVIGATION	FEXED
Fixed	Fixed	Fixed
MARITIME-MOBILE	Maritime mobile 3452/158	MARITIME-MOBILE
Maritime mobile 3452/158		Maritime mobile 3452/158
RADIONAVIGATION		RADIONAVIGATION
3457/163 3460/166 3461/167	3460/166 3461/167	3460/166 3461/167

 $\overline{\text{Reasons}}$ : To provide protection for the world-wide use of the LORAN-C navigation system.



kHz 110 - 130

		Region 1	Region 2	Region 3
IRN/123/3	MOD	110 - 112	110 - 130	110 - 130
		FIXED	FIXED	FIXED
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		RADIONAVIGATION 3456/162	MARITIME RADIONAVIGATION 3456/162	RADIONAVIGATION 3456/162
		3457/163 3461/167 3462/168	Radiolocation	
		112 - 115 (NOC)		
		RADIONAVIGATION 3456/162		;
		3457/163		
IRN/123/4	MOD	115 - 126		
		FIXED		·
		MARITIME MOBILE		
		RADIONAVIGATION 3456/162		
		3457/163 3461/167 <del>3462/168</del> 3463/169		
		126 - 129 (NOC)		
		RADIONAVIGATION 3456/162		
		3457/163		
IRN/123/5	MOD	129 - 130		
		FIXED		
		MARITIME MOBILE		
		RADIONAVIGATION 3456/162		
		3457/163 3461/167 3462/168	3458/164 3461/167 <del>3462/168</del>	3461/167 <del>3462/168</del> 3464/170

IRN/123/6 SUP 3462/168

 $\underline{\text{Reasons}}$ : There has been no requirement for communication to aircraft in these bands.

kHz 150 - 200

		Region 3
IRN/123/7	MOD	150 - 160
		BROADCASTING
		FIXED
•		MARITIME MOBILE
		3461/167
IRN/123/8	MOD	160 - <del>200</del> <u>190</u>
		FIXED -
		BROADCASTING
		Aeronautical radionavigation
IRN/123/9	MOD	190 - 200
		FIXED
		Aeronautical radionavigation
		AERONAUTICAL RADIONAVIGATION

Reasons: 1) To provide a band for LF broadcasting in Region 3.

2) To provide additional spectrum for the provision of radio beacons in the aeronautical radionavigation service.

kHz 415 - 505

		Region 1	Region 2	Region 3
IRN/123/10	MOD	415 - <del>490</del> <u>495</u>	MARITIME MOBILE	
			3478/185 3479/186	
IRN/123/11	MOD	<u>495</u> - <del>51</del> 0 <u>505</u>	MOBILE (Distress and calli	ng)
			3480/187	

Reasons: Improved frequency stability prevalent in current technology can allow for reducing the bandwidth for the international distress and calling frequency at 500 kHz.

kHz 505 - 1 606.5

	•	Region 1	Region 2	Region 3
IRN/123/12	MOD	<del>510</del> <u>505</u> - <del>525</del> <u>515</u>	5 <del>1</del> 0 <u>505</u> - <del>525</del> <u>515</u>	5 <del>10</del> <u>505</u> - <del>525</del> <u>515</u>
		MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE
		Aeronautical radionavigation	/AERONAUTICAL RADIONAVIGATION/	Aeronautical-mobile
		radionavigation	NADIONAVIGATION?	Band-mobile
		3478/185	3481/188	3482/189
IRN/123/13	MOD	<u>515 - 526.5</u>	/AERONAUTICAL RADIONAVIGAT	ION/
IRN/123/14	MOD	<u>526.5</u> - 535	<u>526.5</u> - 535	<u>526.5</u> - 535
		BROADCASTING	MOBILE	MOBILE
			Mobile	Mobile
		,	/BROADCASTING/	/BROADCASTING/
			BROADCASTING 3484/191	BROADCASTING
			/AERONAUTICAL RADIONAVIGATION/ 3481/188	
IRN/123/15	MOD	535 - <del>1-605</del> <u>1 606.5</u>	BROADCASTING	3

 $\overline{\text{Reasons}}$ : 1) While retaining the same amount of spectrum for maritime mobile, make provisions for exclusive allocation to the aeronautical radionavigation service.

### IRN/123/16 SUP 3482/189

 $\underline{\text{Reasons}}$  : 2) To extend the primary allocation for broadcasting downward from 535 to 526.5 kHz. Also, to adjust the band edges to accommodate the 9 kHz channelling plan.

kHz 1 606.5 - 2 000

	Region l	Region 2	Region 3
IRN/123/17 MOD	<del>1-605</del> <u>1 606.5</u> - 2 000	1-605 1 606.5 - 1 800	1-605 1 606.5 - 1 800
	FIXED	FIXED	FIXED
	MOBILE except aeronautical mobile	MOBILE  AERONAUTICAL  RADIONAVIGATION	MOBILE
		Radiolocation	MOD 3491/197
		1 800 - 2 000 (NOC)	
		AMATEUR	
		FIXED	
·		MOBILE except aeronautical	mobile
	3485/192 3487/193 3488/194 3489/195	RADIONAVIGATION	
	3490/195A	3492/198	

IRN/123/18 MOD 3491/197 In Australia, North Borneo, Brunei, Sarawak, <u>Iran,</u>
Singapore, China, Indonesia, Malaya, New Zealand and the Philippines, the
band 1 606.5 - 1 800 kHz is allocated on a permitted basis to the aeronautical
radionavigation service, the stations of which shall use a mean power not
exceeding 2 kW.

kHz 3 900 - 4 000

IRN/123/19	MOD	3 900 - 3 950	
		AERONAUTICAL-MOBILE	
		BROADCASTING	
IRN/123/20	MOD	3 950 - 4 000	
		FIXED	
		BROADCASTING	

Reasons : To provide exclusive allocation to broadcasting.

kHz 4 000 - 4 650

		Region l	Region 2	Region 3
IRN/123/21	MOD	4 000 - 4 063	FIXED	
			MOBILE	
IRN/123/22	MOD	4 063 - <del>4</del> - <del>4</del> 38 <u>4 500</u>	MARITIME MOBILE	
			3503/208 3504/209 3505/2	209A
IRN/123/23	MOD	4 500 - 4 650		<u>4 500</u> - 4 650
		FIXED		FIXED
		MOBILE except aeronautical	mobile (R)	MOBILE except aeronautical mobile

Reasons : To provide additional spectrum for mobile services.

kHz 5 730 - 6 200

IRN/123/24	MOD	5 730 - <del>5</del> - <del>950</del> <u>5 850</u>	FIXED	
IRN/123/25	MOD	<u>5 850</u> - 6 200	BROADCASTING	İ

Reasons: To provide additional spectrum for broadcasting.

kHz 7 100 - 9 995

IRN/123/26	MOD (WW)	7 100 - <del>7</del> - <del>300</del> <u>7 500</u>	7 100 - <del>7-300</del> <u>7 500</u>	7 100 - <del>7-300</del> <u>7 500</u>
	(ww)	BROADCASTING	AMATEUR	BROADCASTING
•			BROADCASTING	
IRN/123/27	MOD	7 500 - 8- <del>19</del> 5 <u>8 100</u>	FIXED	
IRN/123/28	MOD	8 100 - 8 815	MARITIME MOBILE	
			3495/201A 3510/213	·
	NOC	8 815 - 8 965	AERONAUTICAL MOBILE (R)	·
	NOC	8 965 - 9 040	AERONAUTICAL MOBILE (OR)	
IRN/123/29	MOD	9 040 - 9- <del>500</del> <u>9 400</u>	FIXED	
IRN/123/30	MOD	<u>9 400 - 9-775 9 900</u>	BROADCASTING	
IRN/123/31	MOD	<u>9 900</u> - 9 995	FIXED	

 $\underline{\text{Reasons}}$ : To provide additional spectrum for the broadcasting and maritime  $\underline{\text{mobile}}$  services.

kHz 11 400 - 14 350

		Region 1	Region 2	Region 3
IRN/123/32	MOD	11 400 - <del>11-700</del> <u>11 500</u>	FIXED	·
			3512/216	
IRN/123/33	MOD	11 500 - ±±-975 12 025	BROADCASTING	
IRN/123/34	MOD	12 025 - <del>1</del> 2- <del>330</del> 12 200	FIXED	
IRN/123/35	MOD	<u>12 200</u> - 13 200	MARITIME MOBILE	
			3510/213	
	NOC	13 200 - 13 260	AERONAUTICAL MOBILE (OR)	
	NOC	13 260 - 13 360	AERONAUTICAL MOBILE (R)	
IRN/123/36	MOD	13 360 - <del>14-000</del> <u>13 400</u>	FIXED	·
IRN/123/37	MOD	<u>13 400 - 13 800</u>	FIXED	
			BROADCASTING	
			3513/217	
IRN/123/38	MOD	<u>13 800 - 13 950</u>	FIXED	
IRN/123/39	MOD	<u>13 950</u> - 14 000	FIXED	
			RADIO ASTRONOMY	
	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
IRN/123/40	MOD	14 250 - 14 350	AMATEUR	
			MOD 3514/218	

 $\underline{\text{Reasons}}$ : 1) To provide additional spectrum for broadcasting and maritime mobile services.

2) To provide 50 kHz for radio astronomy in response to Recommendation Spa2 - 7.

IRN/123/41 MOD 3514/218 In the USSR  $\underline{\text{and Iran}}$  the band 14 250 - 14 350 kHz is also allocated to the fixed service.

kHz 15 100 - 17 900

		Region 1	Region 2	Region 3
IRN/123/42	MOD	15 1.00 - <del>15-450</del> <u>15 700</u>	BROADCASTING	
IRN/123/43	MOD	<u> 15 700</u> - 15 7 <u>6</u> 2	FIXED	
	NOC	15 762 - 15 768	FIXED	
IRN/123/44	MOD	15 768 - <del>16</del> -460 <u>16 300</u>	FIXED	
IRN/123/45	MOD	<u>16 300 - <del>1</del>7-36</u> 0 <u>17 400</u>	MARITIME MOBILE	
	;		3510/213	·
IRN/123/46	MOD	<u> 17 400 - <del>1</del>7-700</u> <u>17 600</u>	FIXED	·
IRN/123/47	MOD	<u>17 600</u> - 17 900	BROADCASTING	

 $\underline{\text{Reasons}}$  : To provide additional spectrum for the broadcasting and maritime mobile services.

kHz 21 750 - 22 000

		r	
IRN/123/48	MOD	2ì 750 - 21 850	FIXED
			BROADCASTING
	NOC	21 850 - 21 870	RADIO ASTRONOMY
	1		3517/221B
IRN/123/49	MOD	21 870 - <del>22</del> -000 <u>21 924</u>	AERONAUTICAL FIXED
			AERONAUTICAL-MOBILE-(R)
IRN/123/50	MOD	21 924 - 22 000	AERONAUTICAL-FIXED
			AERONAUTICAL MOBILE (R)

Reasons: (21 750 - 21 850 kHz) Self-explanatory.

(21 870 - 22 000 kHz) It is desirable to provide aeronautical mobile (R) service with an exclusive band appropriate for long distance radiocommunications, as in Recommendation Aer2 - 5.

MHz50 - 68

IRN/123/51 MOD

IRN/123/52 MOD

Region 2	Region 3		
50 - 54			
AMAPEUR			
FIXED			
MOBILE	·		
BROADCASTING			
3542/244 3543/245 3544/2	46 3545/247		
54 - 68 (NOC)	54 - 68		
FIXED 3525/228 3535/237	FEXED 3525/228 <b>3</b> 52 <b>8/</b> 231 3535/237		
MOBILE			
BROADCASTING	Fixed		
	MOBILE		
	Mobile		
	BROADCASTING		
	3544/246		

Reasons : (50 - 54 MHz) To provide additional spectrum for fixed and broadcasting services.

(54 - 68 MHz) To provide additional protection for broadcast reception in this band.

MHz 68 - 75.4

		Region 1	Region 2	Region 3
IRN/123/53	MOD .	68 - 74.8 (NOC)	68 - 73 (NOC)	68 - 70
		FIXED	FIXED	FIXED
		MOBILE except	MOBILE	MOBILE
		aeronautical mobile	BROADCASTING	AERONAUTICAL RADIONAVIGATION
				3553/254 3554/255 3555/256
				70 - 74.6 (NOC)
			73 - 74.6 (NOC)	FIXED
	:		RADIO ASTRONOMY	MOBILE
		3546/248 3547/249 3548/250 3549/251	3551/253A 3552/253B	3555/256 3556/257 3557/258
IRN/123/54	MOD	3550/252	74.6 - 75.4	
IRN/123/55	MOD	74.8 - 75.2	AERONAUTICAL RADIONAVIGATI	ON
		AERONAUTICAL RADIONAVIGATION		
		MOD 3558/259	MOD 3558/259	

IRN/123/56 MOD

3558/259 The frequency 75 MHz is assigned to aeronautical marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on the marker beacons.

Reasons: There is a continuing and essential requirement associated with ILS.

MHz 78 - 100

IRN/123/57 MOD

78 - 80

FIXED

MOBILE

AERONAUTICAL
RADIONAVIGATION

3554/255 3555/256
3556/257 3560/261
3565/266

MHz 78 - 100 (cont.)

Region 3		
80 - 87 (NOC)		
FIXED		
MOBILE		
3553/254 3554/255 3555/256 3556/257 3560/261 3565/266		
87 - 100		
FIXED		
MOBILE		
BROADCASTING		
3553/254 3566/267 <del>3567/268</del>		

IRN/123/58 MOD

Reasons: 1) Eliminate aeronautical radionavigation from the 78 - 80 MHz band. The service is not needed in this band. Align Region 3 with Regions 1 and 2.

2) To avoid harmful interference to the FM broadcasting receivers.

MHz 132 - 138

		Region 1	Region 2	Region 3
IRN/123/59	MOD	132 - 136	AERONAUTICAL MOBILE <del>(R)</del>	
			3573/273A <del>3574/274</del> <del>3575/274A</del> 3576/274B 3577/275	
IRN/123/60	MOD	136 - 137	AERONAUTICAL MOBILE (R)	
			FIXED	
			MOBILE	
	:		SPACE RESEARCH (space-to-Earth)	
			3581/281A 3582/281AA	

MHz 132 - 138 (cont.)

		Region 1	Region 2	Region 3		
IRN/123/61 MOD		137 - 138	FIXED			
			SPACE OPERATION (Telemetering and tracking)			
			METEOROLOGICAL-SATELLITE			
			SPACE RESEARCH (Space-to-Earth)			
			MOBILE			
			357 <del>8/2</del> 75A 3580/279A 3583/2	81C 3584/281E		
		Reasons : (132 - 136 MHz)				
IRN/123/62	SUP	3574/274 Due to the great demand for frequencies in this band by aeronautical mobile (OR) services, the (R) limitation in this service is removed. Hence, footnote 274 is no longer needed.				
IRN/123/63	SUP	3575/274A The date referenced in the footnote has expired and, therefore, footnote is no longer needed.				
		Reasons: (136 - 137 MHz) Aeronautical mobile (R) service is added to provide for expanding requirements for operational control functions.				
		(136 - 137 MHz and 137 - 138 MHz) To remedy a critical shortage of VHF frequencies for fixed and mobile services, the said services have been added.				
IRN/123/64	SUP	3578/275A )	Coincidental to the addition of the fixed and mobile services to the 136 - 138 MHz bands.			
IRN/123/65	SUP	3581/281A )				
IRN/123/66	SUP					
IRN/123/67	SUP	3584/281E )				
			MHz 174 - 235			
IRN/123/68	MOD		174 - 216			
			BROADCASTING			
			FEXED			
			MOBILE			
•			3602/294 3603/295 3604/296			

MHz 174 - 235 (cont.)

IRN/123/69 MOD

.

IRN/123/70 MOD

IRN/123/71 MOD

Region 3

216 - 225 223

AERONAUTICAL RADIONAVIGATION

Radiolocation

BROADCASTING

3615/306 3616/307 3617/308

<u>223</u> - <del>225</del> <u>230</u>

AERONAUTICAL RADIONAVIGATION

Radiolocation

BROADCASTING

Fixed

Mobile

3615/306 3616/307 3617/308

<u>230</u> - 235

FIXED

MOBILE

AERONAUTICAL RADIONAVIGATION

 $\underline{\text{Reasons}}$ : (174 - 216 MHz) To provide an allocation for broadcasting in Region 3 similar to that in Region 1.

(216 -  $223\ \mathrm{MHz})$  To avoid interference to broadcasting receivers and to simplify frequency management problems.

(223 - 230 MHz) To provide additional spectrum for broadcasting.

MHz403 - 406

IRN/123/72 MOD

Region 1	Region 2	Region 3
403 - 406	METEOROLOGICAL-AIDS	•
	Fixed	
	FIXED	
	Mobile-except-aeronautical	-mobile
	MOBILE except aeronautical	mobile
	3628/314 3629/315 <del>3633/3</del>	<del>16</del>

Reasons: To provide additional spectrum for the development of fixed and mobile systems.

> MHz420 - 450

IRN/123/73 MOD 420 - 450

RADIOLOCATION

Amateur

3636/318 3641/319A 3642/319B 3644/320A 3647/323 3647A 3648/324

IRN/123/74

ADD

In Iran, the band 420 - 450 MHz is also allocated on a secondary basis to the fixed and mobile except aeronautical mobile service.

> $\mathrm{MH}\,\mathbf{z}$ 585 - 610

IRN/123/75 MOD 585 - 610

RADIONAVIGATION

BROADCASTING

3658/330B <del>3665/336</del> 3666/337

Reasons: To make available additional spectrum for broadcasting as is done in Regions 1 and 2.

MHz 1 790 - 2 290

IRN/123/76 MOD

Region 2	Region 3
1 790 - 2 290	
FIXED	
MOBILE	
3703/356A 3705/356AB 3706/	356ABA 3706A

IRN/123/77 ADD

3706A In Iran, the band 1 790 - 2 290 MHz is allocated to Earth exploration-satellite service on the primary basis and also the fixed and mobile services on the secondary basis.

MHz 3 400 - 3 500

IRN/123/78 MOD

3 400 - 3 500

FIXED-SATELLITE (Space-to-Earth)

RADIOLOCATION

Amateur

MOD 3739/376

IRN/123/79 MOD

3739/376 In China, India, Indonesia, <u>Iran</u>, Japan and Pakistan, the band 3 300 - 3 500 MHz is also allocated to the fixed and mobile services.

Reasons: Self-explanatory.

MHz 7 250 - 7 300

IRN/123/80 MOD

Region 1	Region 2	Region 3
7 250 - 7 300	FIXED-SATELLITE (Space-to-	Earth)
	3764/392D MOD 3765/392G	

IRN/123/81

MOD 3765/392G

Iran to be added to the footnote 3765/392G.

MHz 7 975 - 8 025

IRN/123/82 MOD

7 975 - 8025

FIXED-SATELLITE (Earth-to-space)

MOD 3766/392H

IRN/123/83 MOD 3766/392H

Iran to be added to the footnote 3766/392H.

MHz 10 000 - 10 500

		Region l	Region 2	Region 3
IRN/123/84	MOD	10 000 - 10 500	RADIOLOCATION	
			Amateur	
			3779/401A 3780/402 <u>3780A</u>	3781/403

IRN/123/85 ADD 3780A In Iran, the band 10 - 10.5 GHz may also be allocated on the secondary basis to fixed and mobile services.

GHz 10.68 - 10.7

IRN/123/86 MOD 10.68 - 10.7 FIXED

MOBILE except aeronautical mobile

RADIO ASTRONOMY

3784/405B

IRN/123/87 SUP 3784/405B

 $\overline{\text{Reasons}}$ : To provide additional spectrum for fixed and mobile except aeronautical mobile services.

GHz 10.7 - 12.5

IRN/123/88	MOD	10.7 - 10.95	FIXED-SATELLITE (Space-to-Earth)
			FIXED
			MOBILE
	NOC	10.95 - 11.2	10.95 - 11.2
		FIXED	FIXED
		FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)
		(Earth-to-space)	MOBILE
		MOBILE	

GHz 10.7 - 12.5 (cont.)

		Region l	Region 2	Region 3
IRN/123/89	MOD	11.2 - 11.45	FIXED-SATELLITE (Space-to-	Earth)
			FIXED	
			MOBILE	
•	NOC	11.45 - 11.7	FIXED	
			FIXED-SATELLITE (Space-to-	Earth)
			MOBILE	
				11.7 - 12.2 (NOC)
				FIXED
				MOBILE except aeronautical mobile
				BROADCASTING
				BROADCASTING-SATELLITE
			·	3785/405BA
IRN/123/90	MOD	-		12.2 - 12.5
				BROADCASTING-SATELLITE
				FIXED
				MOBILE except aeronautical mobile
				BROADCASTING

Reasons: 1) To expand spectrum available to the fixed-satellite service.

2) To be in conformity with Region 1, regarding the broadcasting-satellite service.

GHz 12.5 - 15.35

		Region 1	Region 2	Region 3
IRN/123/91	MOD	L <del>or</del>	<del></del>	12.5 - 12.75
				FIXED
				FIXED-SATELLITE  (Space-to-Earth)  (Earth-to-space)
				MOBILE except aeronautical mobile
IRN/123/92	MOD			12.75 - 13.25
1				FIXED-SATELLITE (Earth-to-space)
				FIXED
				MOBILE
				MOBILE except aeronautical mobile
		13.25 - 13.4 (NOC)	AERONAUTICAL RADIONAVIGA	TION
			3791/406 3792/407 3793,	/407A
IRN/123/93	MOD	13.4 - 14	RADIOLOCATION	
			3792/407 3793/407A 3794/	/408 <u>3797A</u> 3798/409
		14 - 14.5 (NOC)	FIXED ,	
			FIXED-SATELLITE (Earth-to	o-space)
			MOBILE	
•			3796/408B 3797/408C	
IRN/123/94	MOD			14.5 - 15.35
				FIXED
				MOBILE
				BROADCASTING-SATELLITE (Earth-to-space)
				3796/408B 3797/408C

 $\underline{\text{Reasons}}$ : (12.75 - 13.25 GHz) To provide additional spectrum for the fixed-satellite service in Region 3.

 $(14.5 - 15.35 \; \mathrm{GHz})$  To provide a designated uplink for satellite broadcasting in Region 3.

IRN/123/95 ADD 3797A In Iran, the bands 13.4 - 14 GHz and 19.7 - 21.2 GHz are also allocated to fixed and mobile services.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 124-E 28 June 1979 Original : English

PLENARY MEETING

Japan\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

(Agenda item 2.1)

CHAPTER N1/1

Terminology

ARTICLE N1/1

Terms and Definitions

### 1. General comments concerning the definition of "radio waves"

The term "radio waves" in the Radio Regulations was first defined by the Plenipotentiary Conference (Atlantic City, 1947) with an upper frequency limit of 3 000 GHz. After that, at the Ordinary Administrative Radio Conference (Geneva, 1959), the definition of this term was partially modified without any change in upper frequency limit.

In those days, use of radio waves for communications was restricted to the frequencies well below 3 000 GHz. However, nowadays, the utilization of electromagnetic waves in the optical region "propagating in space without artificial guide", with the use of the laser for example, is going to be applied in telecommunications throughout the world as a result of recent technical developments.

"Radio waves" should be defined in terms of "electromagnetic waves propagating in space without artificial guide", and there is no physical reason for restricting the frequency to a range "lower than 3 000 GHz" as presently defined.

The utilization of radio waves has contributed to the human progress in the economy, in education and in public safety. Progress has increased the demand for radiocommunications, and it has promoted the advancement of the utilization of the radio waves. Thus, the radio spectrum actually utilized has reached to the higher frequency region, and the upper limit of frequency allocations in the Radio Regulations has also attained nearly 300 GHz, which differs from the upper frequency limit in the definition of radio waves by order of magnitude only.

On the assumption that progress and prosperity will continue we must persist with the development of the radio spectrum resource "to promote the development of technical facilities and their most efficient operation" as indicated in "the purposes of the Union" in the Convention.



<sup>\*)</sup> See also Documents Nos. 62A and 62B.

The CCIR has already begun to study the question of the use of the radio spectrum above 3 000 GHz. The 14th CCIR Plenary Assembly adopted an Opinion proposing to the next Plenipotentiary Conference a revision of the terms of reference of the CCIR to cover this question and an Opinion to WARC-79 to review the upper frequency limit in the definition of "radio waves" in the Radio Regulations.

In the discussion of the question of "radio waves" at the CCIR Plenary Assembly, opinions were expressed to the effect that an appropriate upper frequency limit of "radio waves" was required not for the technical or physical reasons but on regulatory grounds.

Frequencies of most laser equipments under development are in the region of the spectrum below 3 000 THz, and because of the particular characteristics of the emission are restricted to a large number of very narrow bands distributed irregularly throughout the spectrum. However, in view of the rapid advances in laser technology, emissions in any frequency of the spectrum will occur in the near future. On the other hand, increased spectrum utilization from the lower frequency bands to the higher frequency bands, such as - - - VHF, UHF, SHF, EHF, will fill the gap of unused frequency bands up to the laser region.

Indeed, at present, no international regulation is necessary for interference problems between laser communications where "electromagnetic waves propagate in space without artificial guide", but the laser is expected to develop rapidly, in the near future, due to its suitability for space communications, for transmitting information between satellites, from deep space, etc., which will require international coordination.

Furthermore, since the observations of electromagnetic waves in this spectrum region are being carried out in astronomy, the protection of such observations should be taken into consideration when the laser is developed and used for communications.

The role of WARC-79, which is being held 20 years after the last WARC, is to solve not only existing problems but also fundamental problems of future radiocommunications.

Over 30 years ago, when the upper frequency limit of "radio waves" (3 000 GHz) was determined, nobody expected to utilize the higher frequency spectrum which is now being used or is going to be used in space communications and other areas. Nevertheless, we must draw attention to the fact that the problems of international coordination arising from space communications made possible by this rapid and unanticipated technical development, have been effectively resolved by the provisions of the Radio Regulations under the present definition of radio waves. The Japanese Administration therefore proposes that, in the definition of radio waves, the frequency range should be extended up to 3 000 THz.

It may also be possible to utilize the frequency spectrum in the X-ray or the  $\gamma$ -ray area over 3 000 THz for future communications. It would seem appropriate to discuss any further extension above the 3 000 THz level at the next WARC.



#### 2. Proposals

### ARTICLE N1/1

#### Terms and Definitions

J/124/298

MOD 3005/7

Radio Waves (or Hertzian Waves): Electromagnetic waves of frequencies lower than 3 000 GHz THz, propagated in space without artificial

Reasons: In recent years, electromagnetic waves of frequencies higher than 3 000 GHz (such as laser) will be applied in telecommunications throughout the world. The upper frequency limit of "radio waves" should be raised for the purpose of promoting the development of technical facilities and their most efficient operation (see general comments).

J/124/299

MOD

3183/112 Nomenclature of the Frequency and Wavelength Bands Used in Radiocommunication:

- § 1. The radio spectrum shall be subdivided into mine twelve frequency bands, which shall be designated by progressive whole numbers in accordance with the following table. Frequencies shall be expressed:
  - in kilohertz (kHz) up to and including 3 000 kHz
  - in megahertz (MHz) thereafter up to and including 3 000 MHz
  - in gigahertz (GHz) thereafter up to and including 3 000 GHz.
  - in terahertz (THz) thereafter up to and including 3 000 THz.

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

Band Number	Frequency Range (lower limit exclusive, upper limit inclusive)	Corresponding Metric Subdivision
14	3 to 30 kHz	Myriametric waves
5	30 to 300 kHz	Kilometric waves
6	300 to 3 000 kHz	Hectometric waves
7	3 to 30 MHz	Decametric waves
8	30 to 300 MHz	Metric waves
9	300 to 3 000 MHz	Decimetric waves
10	3 to $30~\mathrm{GHz}$	Centimetric waves
11	30 to 300 GHz	Millimetric waves
12	300 to 3 000 GHz or	Decimillimetric waves
<u>13</u>	3 to 30 THz	Centimillimetric waves
<u>14</u>	30 to 300 THz	Micrometric waves
<u>15</u>	300 to 3 000 THz	Decimicrometric waves

Note 1 : "Band Number N" extends from 0.3 x  $10^{\text{N}}$  to 3 x  $10^{\text{N}}$  Hz.

Note 2 : Symbols and prefixes :

Hz = hertz

 $k = kilo (10^3)$ 

M = mega (106)

 $G = giga (10^9)$ 

 $T = tera (10^{12})$ 

Note 3: Abbreviations for adjectival band designations:

Band 4 = VLF

Band 5 = LF

Band 6 = MF

Band 7 = HF

Band 8 = VHF

Band 9 = UHF

Danu 9 - One

Band 10 = SHF Band 11 = EHF

Band 12 = HHF

Band 12 = HAFBand 13 = FOF

Band 14 = NOF

Band 15 = OF

Reasons: Owing to the extension of the upper frequency limit of the "radio waves" by modifying the definition, the above table should be also modified to promote technical development and efficient operation in these frequency bands.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 125-E 17 July 1979 Original: French

BUDGETARY CONTROL COMMITTEE

### Note by the Secretary-General

### BUDGET OF THE CONFERENCE

For the information of the Budgetary Control Committee, the budget of the Conference as approved by the ITU Administrative Council at its 33rd (1978) and 34th (1979) session is annexed hereto.

It should be emphasized that Conference expenditure forms part of the ordinary budget of the Union and is met from the annual contributions of Union Members, for 1979 in respect of the preparatory work and of the Conference itself, and for 1980 in respect of the finalization work.

Under Nos. 547 and 548 of the International Telecommunication Convention, Malaga-Torremolinos 1973, the recognized private operating agencies and the international organizations which take part in the work of the Conference shall share in defraying the expenses, with the exception of the international organizations exempted under Administrative Council Resolution No. 574.

M. MILI

Secretary-General

 $\underline{\text{Annex}}$ : 1



### ANNEX

### Section 11

### WORLD ADMINISTRATIVE CONFERENCES

(Article 7, No. 41, Torremolinos Convention, 1973)

### Recapitulation of the credits for the World Administrative Radio Conference, Geneva 1979

		1979 Budget including additional credits	1980 Budget
	Staff	Swiss	francs -
	50011		
11.101 11.102 11.103	Salaries and related expenses Travel (recruitment) Insurance	2,045,000 170,000 50,000	214,000 20,000 6,000
		2,265,000	240,000
	Premises and equipment		
11.111 11.113 11.114 11.115 11.116 11.117	Premises, furniture, machines Document production Supplies and office expenditure Postage Technical installations Sundry and unforeseen	1,160,000 890,000 40,000 360,000 10,000 42,000	
		2,502,000	<del>-</del>
	Other expenses		
11.121	Final Acts	378,000	
	Total, Section 11	5,145,000	240,000
	General total (1979 + 1980)	5 <b>,</b> 385	,000
	· · · · · · · · · · · · · · · · · · ·	<b></b>	

### Staff

It is planned to recruit the following supernumerary staff for work relating to the Conference :

### Salaries and related expenses of supernumerary staff

a)	Interpretation into French, English, Spanish, Russian, Chinese and Arabic totalling 4,554 days of interpreters working in teams whose size will	
	depend on the working methods and intensity of work at the Conference	1,850,000
ъ)	Supernumerary staff for the IFRB	180,000
c)	Supernumerary staff for the CCIR	15,000
		2,045,000
Tra	vel of supernumerary staff recruited non-locally	170,000
Ins	urance (accident, sickness, etc.)	50,000
	Total	2,265,000 ======

Supernumerary staff for the General Secretariat Common Services Department is not charged to the budget of the Conference, but to a special section of the Union budget (Section 17).

### Premises and equipment

### Premises, furniture, machines

The following credits have been allocated:

-	rental of the CICG for 68 days plus 2 days installation before the opening of the Conference and 2 days' clearing up at the end, i.e. 72 days' rental in all, at a daily rate of 14,000 Swiss francs.	, <b>1</b>	1,008,000
-	maintenance of simultaneous interpretation installations		45,000
-	cleaning meeting rooms and offices		25 <b>,</b> 000
_	security of premises at night and weekends		20,000
_	rental of other offices and meeting rooms		50,000
-	rental of office machines (typewriters, photocopying machines, etc.)		12,000
		Total	1,160,000

Document pr	oduction
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Document production		
Conference documents are estimated to amount to 31 million ISO A4 pages. With the staff and machinery available to the Union's reprography workshops and the deadlines set for producing the documents, it is expected that 21 million pages can be produced in the Union itself, requiring a credit of	250,000	
It is planned for the remaining 10 million pages to be produced by outside printers, at an estimated cost of	550 <b>,</b> 000	
A further credit has been provided for the IFRB for the work involved in preparing its report to the Conference and other documents it is required to draw up before and during		800,000
the Conference		90,000
Total		890,000
Supplies and overheads		
The budget forecasts cover:		
- supplies and office equipment		30,000
- local transport and internal removal expenses		10,000
Total		40,000
Postago telephone telegraph		
Postage, telephone, telegraph		
The following credits have been allocated for this item:		
- postage for the dispatch of 4 million pages of documents before the Conference, 80 % of which by airmail	300,000	
- other postage costs	50,000	
		350,000
- telephone charges		5,000
- telegraph charges		5,000
Total		360 <b>,</b> 000
Technical installations		

### <u>T</u>

The CICG rental covers the use of the simultaneous interpretation, telex, etc., equipment already installed in the building. A provision for extra expenses (e.g. magnetic tapes) has however been made.

10,000

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### Sundry and unforeseen

Credit allocated

42,000

### Other expenses - Final Acts of the Conference

It is estimated that the Final Acts of the Conference will comprise 1,000 ISO A4 pages and that 550, 750 and 250 copies will be printed in French, English and Spanish respectively. The text will be stored at first typing by the ITU's data acquisition process, which will give the first reading series ("Blue"). The stored text will then be corrected to take account of the amendments made to the first reading ("Blue") and second reading ("Pink") series, and will thus be made ready for the final printing ("White") from which the new Radio Regulations can later be printed. For accounting purposes, it has been decided to treat the text storage as equivalent to the first composition under the old system. Under Resolution No. 83 (amended), paragraph 20, it is for the Plenary Meeting of the Conference to decide on the relative shares of the "composition" costs - in fact the costs of data input to store - to be charged to the budget of the Conference and to the Supplementary Publications Budget respectively. In the light of experience at previous conferences, shares of 1/3 to the budget of the Conference and 2/3 to the Supplementary Publications Budget have been proposed.

On this basis, the following credits have been allocated:

1.	Acquisition of data for text storage and for preparing "Blues" (1st reading)	75,000	
2.	Corrections for preparing "Pinks" (2nd reading)	18,000	
3.	Corrections for preparing final texts, "Whites"	18,000	
4.	Supplies	2,000	
		113,000	
1/3 Budg	of which is charged to the Conference get		38,000
5.	Costs of printing "Blues", "Pinks" and "Whites" by the Union's reprography workshops and by outside printers		200,000
6.	Translation into Chinese		70,000
7.	Translation into Russian		70,000
	Total		378 <b>,</b> 000

### Finalization work (1980 budget)

The following credits have been allocated for this item:

- a) work to be done by the IFRB for which expenses of 180,000 Swiss francs have been allocated, mainly for the recruitment of supernumerary staff;
- b) extra work by the General Secretariat's Division of Relations with Members (RM Division) for which a supernumerary staff requirement amounting to 60,000 Swiss francs has been estimated.

The 1980 budget accordingly provides for a credit totalling 240,000 Swiss francs.

### INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 126-E 17 July 1979 Original: French

BUDGET CONTROL COMMITTEE

### Note by the Secretary-General

### CONTRIBUTIONS OF NON-EXEMPTED RECOGNIZED PRIVATE OPERATING AGENCIES AND INTERNATIONAL ORGANIZATIONS

No. 544 of Article 79 of the International Telecommunication Convention, Malaga-Torremolinos, 1973, stipulates as follows:

..."The amount of the contribution per unit payable towards the expenses of administrative conferences by recognized private operating agencies which participate in accordance with 338 and by participating international organizations shall be fixed by dividing the total amount of the budget of the Conference in question by the total number of units contributed by Members as their share of Union expenses. The contributions shall be considered as Union income. They shall bear interest from the sixtieth day following the day on which accounts are sent out, at the rates fixed in 546."

The total budget of the World Administrative Radio Conference, including a share for common services, amounts to 8,441,600 Swiss francs. Since the contributory units of the Members total  $426\frac{1}{2}$ , the amount of the contributory unit for recognized private operating agencies and international organizations which are not exempted under Administrative Council Resolution No. 574 is 19,720 Swiss francs.

A list of non-exempted recognized private operating agencies and international organizations taking part in the Conference, showing the number of contributory units chosen, will be published in due course.

M. MILI

Secretary-General



### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 127-E 17 July 1979 Original : French

BUDGETARY CONTROL COMMITTEE

### Note by the Secretary-General

### FINAL ACTS OF THE CONFERENCE

Administrative Council Resolution No. 83 (as amended) contains the following provisions concerning the publication of the Final Acts of conferences or meetings:

- E. Publication of the Final Acts of conferences or meetings
- 18. In principle, the Final Acts of conferences or meetings, whatever their method of reproduction, shall be published by the General Secretariat in their usual place of publication and with the minimum of cost.
- 19. However, this rule may be disregarded in recognized cases of urgency and at the special request of the conference or meeting.
- 20. In this connection:
- 20.1 if a conference or meeting prints, for its own use, documents of which typographical composition can subsequently be used, in whole or in part, for the printing of the Final Acts, it must bear a percentage of the composition costs and the whole of the printing costs of the said document;
- 20.2 when this is not so, the printing costs of the Final Acts shall, in principle, be posted to the printed matter account, but the conference or meeting may decide, in special circumstances, to subsidize these costs;
- 20.3 the percentage of the composition cost mentioned in 20.1 above, or the subsidy mentioned in 20.2 above, shall be decided by the plenary meeting of the conference or meeting.
- 21. Apart from the Final Acts distributed to the persons concerned as a conference document, no copy shall be supplied free of charge to participants in the conference or meeting.

The texts constituting the Final Acts of the Conference submitted for signature by delegations will, as far as possible, be produced in the Union's own printing shops. These documents will be re-used in preparing the sales edition of the Final Acts. It is therefore for the plenary meeting of the Conference to decide how much of the composition costs should be met from the Conference Budget and from the Supplementary Publications Budget respectively.



### Document No. 127-E

Page 2

The Budgetary Control Committee is therefore requested to make a proposal on the subject for submission to the plenary meeting. The Committee's attention is drawn to the fact that the budget approved by the Administrative Council is based on a breakdown of:

- 1/3 to be charged to the Conference Budget, and
- 2/3 to the Supplementary Publications Budget.

M. MILI

Secretary-General

### **WORLD ADMINISTRATIVE RADIO CONFERENCE**

(Geneva, 1979)

Document No. 128-E 6 July 1979

Original: French

PLENARY MEETING

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### l. Revision of Article N7/5 of the Radio Regulations

Proposals relating to frequency bands 100 - 108 MHz and 790 - 890 MHz.

MHz100 - 108

			Allocation to Services	
		Region 1	Region 2	Region 3
BEL/128/1	MOD	100 - <del>108</del> <u>104</u>	NOC	·
		MOBILE-except aeronautical-mobile-(R)		
		BROADCASTING		
		3568/269 3569/270 3570/271		
BEL/128/2	MOD	<u>104</u> - 108		
		MOBILE except aeronautical mobile (R)		
•		/BROADCASTING/		
		3570A		

BEL/128/3 ADD

Planning shall be such that it does not entail any risk of harmful interference with the aeronautical radionavigation service operating in the adjacent band.

Reasons: Application of Recommendation No. 14 in the Radio Regulations.

MHz 790 - 890

BEL/128/4 MOD 790 - 890 846

FIXED

BROADCASTING

3654/329 3659/331 3662/333 3663/334

See Document No. 23.

MHz. 790 - 890 (cont.)

BEL/128/5

MOD.

Region 1

<u>846</u> - 890

FIXED

BROADCASTING

BROADCASTING-SATELLITE

BEL/128/6

MOD

3663/334 In Belgium, France and Monaco, the band 790-890 MHz is allocated to the broadcasting service.

Reasons : Allocation of a frequency band for sound broadcasting via satellite for use by mobile receivers.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to

Document No. 129-E

11 September 1979

Original: Spanish

PLENARY MEETING

### Argentine Republic

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

### INTRODUCTION

- 1. This document is issued as an addendum to Document No. 129-E because they both contain proposals relating to the distress and safety frequencies 500 and 2 182 kHz.
- 2. If the Conference decides to adopt proposals Nos. 16, 17, 18, 35, 36 and 37 in Document No. 14-E, some provisions of the Radio Regulations which deal with those frequencies will have to be amended accordingly.
- 3. Some sections of the articles to be amended will be the following:

N33; N35; N56; N57; N62; Recommendation Mar2 - 4.

ARTICLE N33

Section III

ARG/129/222 MOD (Add.1) 6464/1586 Where a radio direction-finding service is provided in the authorized bands between  $\frac{1-605}{1}$   $\frac{1}{615}$  and 2 850 kHz, the radio direction-finding stations should be able to take bearings on the radiotelephone distress and distress call frequency 2 182 kHz.

ARTICLE N35

Section I

ARG/129/223 MOD (Add.1)

6633/1323 ...It shall be used for this purpose by ship, aircraft and survival craft stations and by emergency position-indicating radiobeacons using frequencies in the authorized bands between 1-605 / 1615 / and 4000 kHz when requesting assistance from the maritime services. It is used for the distress call and distress traffic, ...



ARG/129/224 MOD 6634/1323A In the zone of Regions 1 and 2 south of latitude 15°N, including Mexico, and in the zone of Region 3 south of latitude 25°N, if a distress message on the carrier frequency 2 182 kHz has not been acknowledged, the radiotelephone alarm signal, whenever possible followed by the distress call and message, may be transmitted again on a carrier frequency of 4-136.3-kHz 4 125 kHz or 6-204-kHz 6 215.5 kHz (see Nos. 6643/1351E, 6648/1351F and 6710/1354A).

ARG/129/225 MOD 6636/1325A Selective calling under the provisions of Article N59/28A (Add.1) may not be used on the carrier frequency 2 182 kHz in the shore-to-ship, ship-to-shore and ship-to-ship directions and-on because this frequency shall be confined-to designated exclusively for distress and urgency and to vital navigational warnings. In no circumstances shall such selective calling be used in place of the procedures given in Nos. 6782/1402, 6783/1403, 6797/1416, 6798/1417 and 6937/1465.

ARG/129/226 MOD 6643/1351E In the zone of Regions 1 and 2 south of latitude 15°N, including Mexico, and in the zone of Region 3 south of latitude 25°N, the carrier frequency 4-136.3-kHz 4 125 kHz is designated to supplement the carrier frequency of 2 182 kHz for distress and safety purposes, the frequency 2 187.9 kHz for call and reply.

ARG/129/227 MOD 6648/1351F In the zone of Region 3 south of latitude 25°N, the carrier frequency 6-204-kHz 6 215.5 kHz is designated to supplement the carrier frequency of 2 182 kHz for distress and safety purposes, the frequency of 2 187.9 kHz for call and reply (see also No. 6644/13511).

ARG/129/228 MOD 6666/996 In the bands between 1-605-kHz / 1 615 / kHz and 2 850 kHz, be able to transmit with a carrier frequency of 2 182 kHz using class A3, A3H or A3J emissions. If a receiver is provided for any of these bands, it shall be able to receive class A3, A3H and A3J emissions on a carrier frequency of 2 182 kHz.

### Section II

ARG/129/229 MOD 6676/1112 § 15. (1) Apart from the transmissions authorized on 500 kHz, and taking account of No. 8077/1115, all transmissions on the frequencies included between 490-kHz 495 kHz and 510-kHz 505 kHz are forbidden.

ARG/129/230 MOD 6681/1325 Except for transmissions authorized on the carrier frequency 2 182 kHz, all transmissions on the frequencies between 2-173-5-kHz 2 179.8 kHz and 2-190-5-kHz 2 187.4 kHz are forbidden.

ARG/129/231 SUP 6682/1326A (Add.1)

ARG/129/232 SUP 6683/1326B (Add.1)

### ARTICLE N56

### Section I

ARG/129/233 MOD 7945/984 a) send class-A3-or-A3H-emissions-with-a-carrier-frequency-of (Add.1) 2-182-kHz and receive class A3, A3H and A3J emissions on a carrier frequency of 2 182 kHz. However, after 1 January 1982, it is no longer authorized to send class A3 emissions, except for such apparatus as is referred to in No. 7948/987.

### Section III

ARG/129/234 MOD 7969/1232 An aircraft station calling a coast station or a ship (Add.1) station may use the carrier frequency 2-182-kHz 2 187.9 kHz.

### ARTICLE N57

#### Section I

ARG/129/235 MOD 8039/442 In Region 1, frequencies assigned to stations of the maritime mobile service operating in the bands between 1-605-kHz / 1 615 / kHz and 3 800 kHz (see Article N7/5) should, whenever possible, be in accordance with the following subdivision:

 $\sqrt{1}$  615  $\sqrt{-1}$  625 kHz: Radiotelegraphy exclusively.

1 625 - 1 670 kHz: Low power radiotelephony.

1 670 - 1 950 kHz : Coast stations.

1 950 - 2 053 kHz: Ship stations working to coast stations.

2 053 - 2 065 kHz: Intership working.

2 065 - 2 173.5 kHz: Coast stations calling ship stations (including selective calling).

(Add.1)

2 173.5 - 2 176.7 kHz: Ship-to-shore working and vice versa.

2 176.7 - 2 179.8 kHz : Intership working.

2 179.8 - 2 187.9 kHz : Guard-band for the distress frequency 2 182 kHz.

2 187.9 - 2 191 kHz: Ship stations calling coast stations and vice versa.

- 2 194 kHz: Ship stations calling coast stations.

(Rest of the list unchanged)

### Section IV

ARG/129/236 (Add.1)	MOD		The frequency 2 182 kHz is the international distress elephony (see also No. 6633). The class of emission to be my on the frequency 2 182 kHz shall be A3, A3H or A3J (see
ARG/129/237 (Add.1)	SUP	8193/1327	
ARG/129/238 (Add.1)	SUP	8194/1328	
ARG/129/239 (Add.1)	SUP	8195/1329	
ARG/129/240 (Add.1)	SUP	8196/1329A	
ARG/129/241 (Add.1)	SUP	8198/1331	
ARG/129/242 (Add.1)	MOD	_ *	Before transmitting <u>urgency and safety signals</u> on the 82 kHz, a station in the mobile service should listen on reasonable period to make sure that no distress traffic is 683/1217).
ARG/129/243	MOD	8202/1336	Coast stations which use 2-182-kHz 2 187.9 kHz for calling

shall be able to use the distress frequency 2 182 kHz and at least one other frequency in the authorized bands between 1-605-kHz / 1 615 / kHz and 2 850 kHz. ARG/129/244 MOD 8203/1336A Coast stations authorized to use radiotelephony on one or (Add.1) more authorized frequencies between 1-605-kHz / 1 615 / kHz and 2 850 kHz shall be capable of transmitting on those frequencies class A3H, A3A and A3J emissions. However, after-1-January-1975,-class-A3-emissions-shall no longer-be-authorized-and after 1 January 1982, class A3H emissions also shall no longer be authorized, except on the frequency 2 182 kHz (see also No. 8191/1322D).

ARG/129/245 MOD 8204/1337 Coast stations open to the public correspondence service on one or more frequencies between 1-605-kHz / 1 615 / kHz and 2 850 kHz shall also be capable of transmitting class-A3H-emissions-with-a-carrier-frequency-of 2-182-kHz, and of receiving class A3, A3H and A3J emissions with a carrier frequency of 2 182 kHz.

ARTICLE N62

#### Section III

ARG/129/246 MOD 8696/1303 The provisions of No. 8694/1302 are obligatory when (Add.1) 2-182-kHz 2 187.9 kHz or 156.8 MHz is used.

### Section IV

ARG/129/247 (Add.1)	MOD	8726/1227	the carrier frequency 2-182-kHz 2 187.9 kHz.	
ARG/129/248 (Add.1)	MOD	8729/1230	the carrier frequency 2-182-kHz 2 187.9 kHz.	
ARG/129/249 (Add.1)	MOD	ship stations of	Subject to the provisions of No. 8734/1235A, concordance with the requirements of their own counir own nationality either on a working frequency ships are made, on the carrier frequency 2-182-kHz	try, call or, when

ARG/129/250 MOD 8733/1235 As a general rule, coast stations should call radiotelephone ship stations of another nationality on the carrier frequency 2-182-kHz 2 187.9 kHz.

ARG/129/251 MOD 8747/1240D c) the carrier frequency 2-182-kHz 2 187.9 kHz, and then only (Add.1) to determine the working frequency to be used.

ARG/129/252 MOD 8751/1242 When a ship station is called on the carrier frequency 2-182-kHz 2 187.9 kHz it should reply on the same carrier frequency unless (Add.1)

another frequency is indicated by the calling station.

ARG/129/253 MOD 8757/1247 a) on the carrier frequency 2-182-kHz 2 187.9 kHz to calls (Add.1) made on the carrier frequency 2-182-kHz 2 187.9 kHz unless another frequency is indicated by the calling station.

ARG/129/254 MOD 8768/1254 If contact is established on the carrier frequency (Add.1) 2-182-kHz 2 187.9 kHz, coast and ship stations shall transfer to working frequencies for the exchange of traffic.

### Section VII

ARG/129/255 MOD 8816/1295 Any signals sent for testing shall be kept to a minimum, (Add.1) particularly:

- on the carrier frequency 2 182 kHz;
- on the carrier frequency 2 187.9 kHz;
- on the frequency 156.8 MHz;

(rest unchanged)

ARG/129/256 MOD (Add.1)

### RECOMMENDATION Mar2 - 4

- that provision is made in the Radio Regulations for the carrier frequency 4-136-3-kHz 4 125 kHz to be used in the zone of Regions 1 and 2 south of latitude 15° North, including Mexico, and in the zone of Region 3 south of latitude 25° North and also for the carrier frequency 6-204-kHz 6 215.5 kHz to be used in the zone of the frequency 2 182 kHz for distress and safety purposes, the frequency 2 187.9 kHz for call and reply.
- that it could be in the interests of ships equipped only for radiotelephony and operating in these zones to have facilities to send and receive on the carrier frequencies 4-136-3-kHz-and-6-204-kHz 4 125 kHz and 6 215.5 kHz when calls on 2-182-kHz 2 187.9 kHz might be ineffective.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 129-E 9 July 1979

Original : Spanish

PLENARY MEETING

### Argentine Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

MARITIME DISTRESS AND SAFETY SYSTEM1)

Reduction of the guard bands of frequency 2 182 kHz and allocation of the frequencies thus released for other purposes for the maritime mobile service

### 1. Introduction

- 1.1 In accordance with the requirements laid down in Article N35 6681/1325 for the distress and safety system of the maritime mobile service, the frequency 2 182 kHz performs a dual function: for distress and for calling (N35 6633/1323 Mar).
- 1.2 Since this frequency is congested by calls, possible distress traffic from craft equipped with low-power transmitters or the transmissions of emergency position-indicating radio beacons may be masked by the interference caused by such calls, in some cases unjustified.
- 1.3 Since the frequency spectrum is a limited natural resource, the rational use of the spectrum should be a basic principle: all steps should be taken to avoid any wastage which would still further limit the possibilities of its use.

### 2. Background

2.1 Recommendation Mar5 recommends that administrations should explore the possibility of assigning international working frequencies for communications with ship stations of other nationalities, without ruling out the possibility of their use for national purposes.



<sup>1)</sup> This document is related to the proposal ARG/14/36.

- 2.2 Recommendation Mar2 2 invites the CCIR to study the technical and operational aspects of the designation of a frequency in the 1 605 to 3 800 kHz band reserved exclusively for safety purposes in the maritime mobile service.
- 2.3 Recommendation Mar2 3 invites administrations to study the problem and to communicate to the Union the results of their studies together with their views and proposals on the basis of the considerations set forth in the Recommendation.

### 3. Analysis

- 3.1 Technological progress and current advances in the state of this art make it possible to design and build equipment of a quality unattainable a few years ago. At present, equipments are manufactured with a high degree of stability and a passband close to the theoretical ideal.
- 3.2 The characteristics of the equipments described in broad outline in the previous paragraph and the use of SSB equipments in maritime mobile service communications make it possible to reduce the guard band for the international safety frequency in the maritime mobile service bands between 1 605 and 4 000 kHz.

### ARG/129/146 4. Conclusions

- 4.1 To establish a plan consistent with the concepts of spectrum economy set forth in the <u>Introduction</u>, meeting the requirements laid down in the Recommendations referred to in the <u>Background</u> section, and taking into account the technological progress referred to in the <u>Analysis</u>, we wish to make the following proposals for the frequencies between 2 173.5 and 2 190.5 kHz belonging to the 2 170 2 194 kHz band allocated to the mobile (distress and safety) service:
- 4.1.1 That from 1 January 1982, the 2 173.5 2 190.5 kHz band should be limited to 2 176.7 2 187.4 kHz. This latter fraction (2 176.7 2 187.4 kHz) should remain unchanged until 31 December 1982, owing to the existence of equipments provided for the use referred to in No. 7948/987 of Article N56 of the Radio Regulations, which refers to "apparatus provided solely for distress, urgency and safety purposes".
- 4.1.2 That, as a result of this reduction of the guard band, the following two channels should be provided for the maritime mobile service from 1 January 1982:

4.1.2.1 2 173.6 - 2 176.7 kHz, and

4.1.2.2 2 187.9 - 2 191.0 kHz



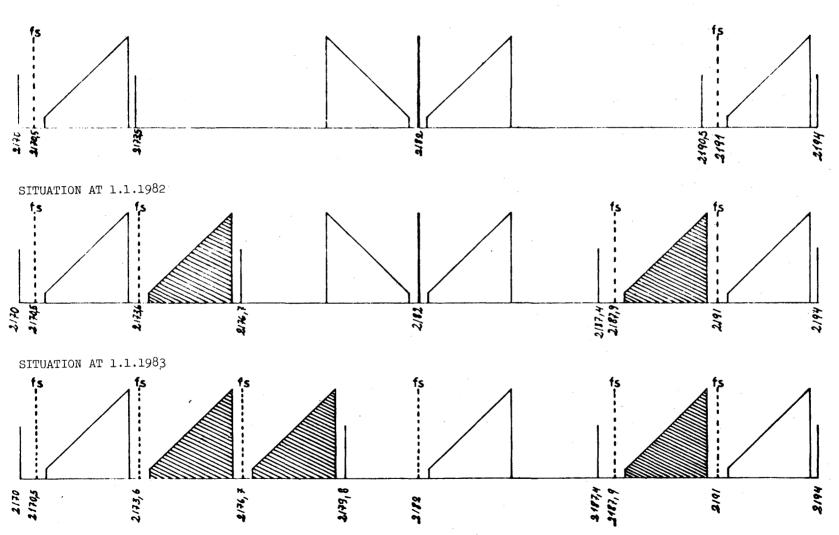
4.1.3 That from 1 January 1983, all transmissions on the carrier frequency 2 182 kHz should be of the single sideband type, while a new channel should be provided for the maritime mobile service in SSB:

### 2 176.7 - 2 179.8 kHz.

- 4.2 That, as a result of the reduction of the guard bands and the consequent provision of three new channels meeting the requirements of the Recommendations referred to in paragraph 2, the following use is proposed provisionally and subject to confirmation by a forthcoming specialized conference for the channels in question from the dates prescribed for each case:
- 4.2.1 That from 1 January 1982, the carrier frequency 2 182 kHz should be assigned internationally as the absolutely exclusive frequency for the transmission of the alarm signal, distress calls, distress messages and distress traffic; for the transmission of the urgency signal and urgency messages; for the safety signal and for the announcement of the working frequency in which the safety message motivating the above-mentioned signal will be transmitted, as well as for radiolocation transmissions.
- 4.2.2 That the channel 2 173.6 2 176.7 kHz should be reserved as a common international channel for communications between coast and ship stations and vice versa.
- 4.2.3 That the channel 2 176.7 2 179.8 kHz should be reserved as a common international channel for communications between ship stations.
- 4.2.4 That the channel 2 187.9 2 191.0 kHz should be reserved as an international channel for the exclusive use of radiotelephony calls and replies to be used by coast stations and all craft possessing radiotelephony, irrespective of their tonnage or the flag under which they are registered.
- 4.2.4.1 In case of need, aircraft may use this frequency to call coast stations of the maritime mobile service.
- 4.2.5 The attached diagram is given for greater clarity.
- 4.2.6 The distribution of the new channels between 2 170 and 2 194 maintains exactly the spacing of 3.1 kHz laid down in the World Plan for the Channelling of Maritime Mobile Radio Telephone Bands between 4 000 and 23 000 kHz given in Appendix 17-Rev. in accordance with the transmitter audio-frequency band specified in Appendix 17A, No. 3 (350 to 2 700 Hz).
- 4.2.7 These new channels should be governed by the power limitations laid down in Article N 35 8208/1341 Mar.

Ε×

SITUATION UNDER THE EXISTING RADIO REGULATIONS



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 130-E 9 July 1979 Original : French

PLENARY MEETING

### Republic of the Ivory Coast

PROPOSALS FOR THE WORK OF THE CONFERENCE

Proposals relating to Article N7/5 of the Radio Regulations

### 1. Introduction

These proposals by the Republic of the Ivory Coast have been formulated as a result of regional consultations among the countries Members of the African Posts and Telecommunications Union (UAPT) and between those countries and the countries of the European Postal and Telecommunications Conference (CEPT).

They also take into consideration the specific requirements of the Ivory Coast, the technical recommendations contained in the SPM Report with regard to the possibilities of sharing among the various services, and the conclusions of the regional seminar in Nairobi organized by the ITU for Arab and African countries.

The main feature of the proposals is the emphasis on exclusive world-wide allocations with a view to more efficient use of the radio frequency spectrum and the separation of services which might cause interference if they coexisted in the same band.

### 2. Bands below 3 000 kHz

With a view to uniform allocations on a world-wide basis and to provide additional allocations for the fixed and maritime mobile services, we allocate the band 20.05 - 90 kHz entirely to the fixed, maritime mobile and radionavigation services on a basis of equal rights.

In all other bands, the radionavigation service, which is an important safety service, has priority over the other services wherever it does not have an exclusive band.

Bearing in mind Recommendation No. 2 of the Regional LF/MF Broadcasting Conference, Geneva, 1975, for Regions 1 and 3, sharing between the broadcasting service and other services such as the maritime mobile service and the aeronautical navigation service has been avoided.

Finally, we have strengthened the position of the fixed and mobile services between 2 000 and 3 000 kHz to satisfy national requirements.

### 3. HF bands

The HF bands are in very wide use today for numerous reasons, including the level of development of different States. In developing countries in particular the inadequacy of national telecommunication networks means that the fixed service still uses many HF links. The same is true of the broadcasting service in our large States which have limited financial resources. For the long-distance mobile services, HF links are very often the only means of communication.

We therefore propose that the allocations to the fixed service in the HF bands be rigorously maintained, because our requirements will not lessen for many years to come.

For the land mobile service we propose additional allocations, certain bands being shared with the fixed service.

Our national broadcasting requirements for the HF broadcasting service are practically non-existent. However, we realize that many countries make considerable use of HF frequencies for their broadcasting services and we therefore propose only a very small reduction in the allocations to this service. We also consider that the change-over to SSB (to be spread over several years) will in the long term reduce the present congestion.

For the other services (the amateur service, for instance) we have tried to allocate exclusive bands on a world-wide basis in the interest of more efficient use of the frequency spectrum.

### 4. Bands above 30 MHz

Short-distance radiocommunications have been used much less than HF up to now. But due to the congestion of the HF band and the development of technique, VHF and UHF are now being used more and more in the various services. The fixed, mobile and FM broadcasting services make considerable use of these frequencies.

An important place in our proposals has been given to the fixed and mobile services. We have also, at the request of our national broadcasting organization, extended substantially the bands available for sound broadcasting between 75.2 and 108 MHz.

SHF and shorter waves are used in developing countries almost exclusively for radio relay links and satellite telecommunications. Our proposals therefore consist mainly in retaining the bands allocated to the fixed service in the 2, 4, 6 and 7 GHz bands and allocating an exclusive band for satellite broadcasting in the 12 GHz band.

kHz 10 - 14

		Allocation to Services		
	Ī	Region l	Region 2	Region 3
CTI/130/1	MOD	10 - 14	RADIONAVIGATION	
			Radiolocation	

kHz 20.05 - 90

CTI/130/2 MOD

20.05 - 90 <u>FIXED</u>

<u>MARITIME MOBILE</u> 3452/158

<u>MARITIME RADIONAVIGATION</u>

3453/159 3455/161

 $\frac{\text{Reasons}}{\text{service}}$ : 1) 10 - 14 kHz: To give exclusivity to the radionavigation service, for safety purposes.

2) 20.05 - 90 kHz: To ensure world-wide uniformity and exclusivity for the fixed, maritime mobile and maritime radionavigation services.

kHz 90 - 130

		Region l	Region 2	Region 3
CTI/130/3	MOD	90 - <del>110</del> <u>130</u>	90 - <del>110</del> <u>130</u>	90 - <del>110</del> <u>130</u>
(WW)	(ww)	F <del>IXED</del>	RADIONAVIGATION	Fixed
		Fixed	Fixed	Fixed
		MARITIME-MOBILE 158	Maritime mobile 158	MARITIME-MOBILE 158
		Maritime mobile 158		Maritime mobile 158
		RADIONAVIGATION		RADIONAVIGATION
		163 <del>166</del> 167	<del>166</del> 167	<del>166</del> 167

Reasons: 1) To avoid sharing on an equal rights basis between the radionavigation service and the fixed and maritime mobile services.

2) To extend the band to 130 kHz to meet the requirements of these services.

CTI/130/4 SUP 3460/166

Reasons: Consequence of the above proposal.

CTI/130/5 SUP 3462/168

Reasons: These communications are no longer used.

CTI/130/6 SUP 3463/169

CTI/130/7 SUP 3464/170

Reasons: These two provisions are no longer necessary in view of the above proposal.

kHz ' 130 - 160

CTI/130/8	0/8 MOD (WW)	130 - 150	130 - 150 (NOC)
		MARITIME MOBILE 172	FIXED
		∕ <del>FIXED/</del>	MARITIME MOBILE
		FIXED	
	MOD (WW)	3457/163 3461/167 3466/173	3461/167
CTI/130/9		150 - 160	150 - 160 (NOC)
		MARITIME MOBILE 167 ±74	FIXED
		BROADCASTING	MARITIME MOBILE
		FIXED	
		3 <del>468/175</del>	3461/167

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 $\underline{\text{Reasons}}$ : To allocate an exclusive world band to the fixed and maritime mobile services between 130 and 160 kHz to meet requirements.

CTI/130/10 SUP

3467/174

Reasons: Consequence of the above proposal.

kHz 160 - 284

	Region l	Region 2	Region 3	
	160 - 255 (NOC)	160 - 200 (NOC)	160 - 200 (NOC)	
	BROADCASTING	FIXED	FIXED	
	•	3472/179	Aeronautical radionavigation	
MOD	3469/176	200 - 285 <u>284</u> AERONAUTICAL RADIONAVIGATION  Aeronautical mobile		
MOD	255 - <del>28</del> 5 <u>284</u>			
	MARITIME-MOBILE 174			
	BROADCASTING			
	AERONAUTICAL RADIONAVIGATION			
	3469/176 3470/177 3471/178			

 $\overline{\text{Reasons}}$ : To avoid sharing between the radionavigation service and the LF broadcasting service.

CTI/130/13 MOD

CTI/130/11

CTI/130/12

3470/177 In the western part of the European Broadcasting Area, the band 255 - 285 284 kHz is used-solely-by-the allocated to the aeronautical radionavigation service. except-that-in-the-United-Kingdom frequencies-are-also-assigned;-by-special-agreement,-to-stations-of-the maritime-mobile-service:

Reasons: Consequence of the above proposal.

kHz 284 - 405

		Region l	Region 2	Region 3
CTI/130/14	MOD	<u>284</u> - 315	MARITIME RADIONAVIGATION (	Radiobeacons)
			Aeronautical radionavigati	on
CTI/130/15	MOD (WW)	315 - 325	315 - 325 (NOC)	
	(ww)	AERONAUTICAL RADIONAVIGATION	MARITIME RADIONAVIGATION (Radiobeacons)	
		MARITIME RADIONAVIGATION (Radiobeacons)	Aeronautical radionavigati	on
		Aeronautical radionavigation		
		3474/180		
CTI/130/16	MOD	325 - 405	AERONAUTICAL RADIONAVIGATI	ON
			Aeronautical-mobile	
			3474/181	

 $\underline{\text{Reasons}}$ : (284 - 315 kHz) To permit wider use of the maritime radionavigation service.

 $(315-325\ \mathrm{kHz})$  To make the use of maritime radiobeacons on a secondary basis with the aeronautical radionavigation service uniform in the three Regions.

(325 - 405 kHz) This band is no longer needed by the aeronautical mobile service.

kHz 415 - 505

CTI/130/17	MOD	415 - 490 495	MARITIME MOBILE
			3478/185 3479/186
CTI/130/18	MOD	495 - <del>510</del> 505	MOBILE (Distress and calling)
			3480/187

 $\overline{\text{Reasons}}$ : Reduction of the guardband of the distress and calling frequency 500 kHz as a result of technical evolution.

kHz 505 - 1 606.5

		Region 1	Region 2	Region 3
CTI/130/19	MOD	<u>505</u> - <del>525</del> <u>526.5</u>	<u>505</u> - <del>525</del> <u>526.5</u>	<u>505</u> - <del>525</del> <u>526.5</u>
	(WW)	MARITIME MOBILE 186	MOBILE	MARITIME MOBILE
		Aeronautical radionavigation	MARITIME MOBILE 186	Aeronautical-mobile
		Tautonavigation	/AERONAUTICAL RADIONAVIGATION/	Aeronautical radionavigation
			Aeronautical radionavigation 3481/188	Land-mobile
		3478/185		3482/189
CTI/130/20	MOD	<u>526.5</u> - 535	<u>526.5</u> - 535	<u>526.5</u> - 535
		BROADCASTING	MOBILE	MOBILE
		.*	/BROADCASTING/	/BROADCASTING/
·			/AERONAUTICAL RADIONAVIGATION/	·
CTI/130/21	MOD	535 - <del>1-605</del> <u>1 606.5</u>	BROADCASTING	

Reasons: (505 - 526.5 kHz) To have a uniform world-wide allocation.

Shifting by 1.5 kHz of the  $525-1\,605$  kHz band allocated to broadcasting in Region 1 : consequence of the Geneva 1975 Broadcasting Plan (Regions 1 and 3).

kHz 1 606.5 - 2 000

CTI/130/22	MOD (WW.)	1 606.5 - 2-000 1 860	1 606.5 - 1-800 1 860	1 606.5 - 1-800 1 860
	( 11 11.7	FIXED	FIXED	FIXED
		MOBILE except aeronautical-mobile	MOBILE	MOBILE
·		aeronauticai-modile	AERONAUTICAL RADIONAVIGATION	
			Radiolocation	3491/197
CTI/130/23	MOD (WW)	<u> 1860</u> - 2000	1 860 - 2 000	
	(ww)	FIXED	AMATEUR	
		MOBILE except aeronautical mobile	FIXED	
•		AMATEUR	MOBILE except aeronautical	mobile
		RADIONAVIGATION	RADIONAVIGATION	
		3485/192 3486/420 3487/193 3488/194		
		3489/195 3490/195A	3492/198	

Reasons: To ensure uniform world-wide allocation.

kHz 2 000 **-** 2 190

		Region 1	Region 2	Region 3
CTI/130/24		2 000 - 2 045	2 000 - 2 065 (NOC)	
	(WW)	FIXED	FIXED	
		MOBILE except aeronautical-mobile	MOBILE	
		3487/193 3490/195A		
CTI/130/25	MOD (WW)	2 045 - 2 065		
	(ww)	FIXED		
		MOBILE except aeronautical-mobile		·
		METEOROLOGICAL-AIDS	·	
		3487/193 3490/195A		
CTI/130/26	MOD (WW)	2 065 <b>- 2-170</b> <u>2 107</u>	2 065 - 2 107 (NOC)	
	("")	F <del>IXED</del>	MARITIME MOBILE	
		MARITIME MOBILE		j
		MOBILE-except aeronautical-mobile-(R)	3493/200	
CTI/130/27	MOD (WW)	2 107 - 2 175	2 107 - <del>2-170</del> <u>2 175</u>	
	( w w )	FIXED	FIXED	
		MOBILE except aeronautical-mobile-(R)	MOBILE	
		3487/193 3490/195A		
CTI/130/28	MOD	<u>2 175 - <del>2-194</del> 2 190</u>	MOBILE (Distress and calling)	
			3494/201 3495/201A	

Reasons: (2 000 - 2 065 kHz and 2 107 - 2 175 kHz) To allocate uniform world-wide bands to the fixed and mobile services.

(2 065 - 2 107 kHz) Extension of the band allocated to the maritime mobile service to Region 1 for the purpose of exclusive world-wide allocation.

(2 175 - 2 190 kHz) Reduction of the guardband of the international calling and distress frequency 2 182 kHz in view of technical evolution.

kHz 2 190 - 2 625

		Region l	Region 2	Region 3
CTI/130/29		2 190 - 2 300	2 190 - 2 300	
	(WW)	FIXED	FIXED	
		MOBILE except aeronautical-mobile-(R)	MOBILE	
		3487/193 3490/195A		
CTI/130/30	MOD (WW)	2 300 - 2 498	2 300 - <del>2-495</del> <u>2 498</u>	
	(WW)	FIXED	FIXED	
		MOBILE except aeronautical-mobile-(R)	MOBILE	·
		BROADCASTING 202	BROADCASTING 202	
		3487/193 3490/195A		
CTI/130/31	71/130/31 MOD (WW)	2 498 - 2 502	<u>2 498 - <del>2-5</del>05</u> <u>2 502</u>	
		STANDARD FREQUENCY	STANDARD FREQUENCY	,
		3497/203 3498/203A	3497/203 3498/203A	
CTI/130/32	MOD	2 502 - 2 625	<u>2 502</u> - 2 625	
	(WW)	FIXED	FIXED	
		MOBILE except aeronautical-mobile-(R)	MOBILE	
		3487/193 3490/195A		

 $\underline{\text{Reasons}}$ : 1) (2 190 - 2 300 kHz, 2 300 - 2 498 kHz, 2 502 - 2 625 kHz) To permit uniform world-wide allocation for the three Regions.

The exclusion of the aeronautical mobile (R) service is not necessary (SPM Report).

2) (2 498 - 2 502 kHz) To have a uniform band for the standard frequency service.

kHz 3 500 - 4 000

		Region 1	Region 2	Region 3
CTI/130/33		3 500 - <del>3-800</del> <u>3 520</u>	3 500 - 4-000 <u>3 520</u>	3 500 <b>-</b> <del>3</del> - <del>9</del> <del>00</del> <u>3 520</u>
	(WW)	AMATEUR	AMATEUR	AMATEUR
		FIXED	F±XED	FIXED
		MOBILE-except	MOBILE-except	MOBILE
		aeronautical-mobile	aeronautical-mobile-(R)	3501/206 3502/207
CTI/130/34	MOD	<u>3 520</u> - 3 800	<u>3 520</u> - 4 000	<u>3 520</u> - 3 900
		AMATEUR	AMATEUR	AMATEUR
		FIXED	FIXED	FIXED
		MOBILE-except aeronautical-mobile	MOBILE except aeronautical mobile (R)	MOBILE
		AERONAUTICAL MOBILE (OR)		
		LAND MOBILE		0.505 /0.05
		. 3 800 - 3 900 (NOC)		3501/206 3502/207
		3 900 - 3.950 (NOC)		3 900 - 3 950 (NOC)
		3 950 - 4 000 (NOC)		3 950 - 4 000 (NOC)

Reasons: To allocate an exclusive world-wide band to the amateur service.

CTI/130/35 SUP 3501/206

CTI/130/36 SUP 3502/207

Reasons : Consequence of the above proposal.

kHz 4 750 - 4 850

		Region 1	Region 2	Region 3
CTI/130/37	MOD (WW)	4 750 - <del>4</del> -850 <u>4 800</u>	.4 750 - <del>4</del> -850 <u>4 800</u>	
	(ww)	FIXED	FIXED	
		AERONAUTICAL-MOBILE-(OR)	BROADCASTING 202	
		LAND MOBILE	LAND MOBILE	
		BROADCASTING 202		
CTI/130/38	CTI/130/38 MOD (WW)	<u>4 800</u> - 4 850	<u>4 800</u> – 4 850	
		FIXED	FIXED	
		AERONAUTICAL-MOBILE-(OR)	BROADCASTING 202	
		LAND-MOBILE		
		BROADCASTING 202		

 $\underline{\text{Reasons}}$ : To avoid sharing with the broadcasting service and to provide an exclusive world-wide allocation.

kHz 4 850 - 5 250

		<u> </u>	
	MOD	4 850 - <del>4-995</del> <u>4 925</u>	FIXED
			LAND MOBILE
			BROADCASTING 202
CTI/130/40	MOD	<u>4 925</u> - 4 995	FIXED
			LAND-MOBILE
			BROADCASTING 202
	NOC	4 995 - 5 005	
CTI/130/41	MOD	5 005 - 5 060	FIXED
			BROADCASTING 202
			LAND MOBILE
CTI/130/42	MOD	5 060 - 5 250	FIXED
			LAND MOBILE

 $\frac{\text{Reasons}}{\text{service}}$ : To avoid sharing between the fixed service and the broadcasting service (SPM Report) and to meet the needs of the land mobile service.

kHz 5 730 - 5 950

		Region 1	Region 2	Region 3
CTI/130/43	MOD	5 730 - 5 950	FIXED	
			LAND MOBILE	

kHz 6 765 - 7 000

CTI/130/44 MOD 6 765 - 7 000 FIXED

LAND MOBILE

Reasons: To meet the needs of the land mobile service.

kHz 7 100 - 8 195

CTI/130/45	MOD (WW)	7 100 - <del>7-300</del> <u>7 150</u>	7 100 - <del>7-300</del> <u>7 150</u>	7 100 - <del>7</del> -300 <u>7 150</u>
	(ww)	BROADCASTING	AMATEUR	BROADCACTING
		AMATEUR		AMATEUR
		<del>3509/212</del>		
CTI/130/46	MOD	<u>7 150</u> - 7 300	<u>7 150</u> - 7 300	7 150 - 7 300
	(ww)	BROADCASTING	AMATEUR	BROADCASTING
		3509/212	BROADCASTING	
CTI/130/47	MOD	7 300 - 8 195	FIXED	
			LAND MOBILE	

 $\underline{\text{Reasons}}$ : (7 100 - 7 150 kHz) To allocate an exclusive world-wide band to meet the requirements of the amateur service.

(7 300 - 8 195 kHz) To meet the needs of the land mobile service.

CTI/130/48 SUP 3509/212

Reasons: No longer needed.

kHz 13 360 - 14 350

-		Region l	Region 2	Region 3
CTI/130/49	MOD	13 360 - ±4-000 <u>13 410</u>	FIXED	
			RADIO ASTRONOMY	
CTI/130/50	MOD	<u>13 410</u> - 14 000	FIXED	
			3513/217	
	NOC	14 000 - 14 250		
CTI/130/51	MOD	14 250 - 14 350	AMATEUR	·
			MOD 3514/218	

 $\frac{\text{Reasons}}{\text{(Recommendation No. Spa2 - 7)}}$ : To meet the requirements of radio astronomy between 10 and 15 MHz

CTI/130/52 MOD

3514/218 In the USSR and the Ivory Coast, the band 14 250 - 14 350 kHz is also allocated to the fixed service.

Reasons: To provide additional allocations for the fixed service.

kHz 21 870 - 22 000

CTI/130/53	MOD	21 870 - <u>21 924</u>	AERONAUTICAL FIXED
			AERONAUTICAL-MOBILE-(R)
CTI/130/54	MOD	21 924 - 22 000	AERONAUTICAL-FIXED
			AERONAUTICAL MOBILE (R)

Reasons: Application of Recommendation No. Aer2 - 5 regarding the inclusion of the band 21 924 - 22 000 kHz in the frequency allotment plan for the aeronautical mobile (R) service (Appendix 27 Aer 2 to the Radio Regulations).

kHz 26 100 - 27 500

CTI/130/55	MOD	26 100 - <del>27</del> -5 <del>00</del> <u>26 300</u>	FIXED
			MOBILE except aeronautical mobile
CTI/130/56	MOD	<u>26 300 - 26 350</u>	P <del>IXED</del>
			MOBILE-except-aeronautical-mobile
			RADIO ASTRONOMY

kHz 26 100 - 27 500 (cont.)

		Region 1	Region 2	Region 3
CTI/130/57	MOD	<u>26 350</u> - <u>26 900</u>	FIXED	
			LAND FIXED (Telecommand)	
			MOBILE except-aeronautical	-mobile
CTI/130/58	MOD	<u> 26 900</u> - 27 500	F±XED	
			LAND FIXED	
			MOBILE except-aeronautical	-mobile
			3522/225 3523/226 <u>3523A</u>	

Reasons: To meet the needs of the radio astronomy service in this part of the spectrum and to permit the use of this section (26 350 - 26 900 kHz) for telecommand purposes, separating "citizen" networks from other applications.

CTI/130/59 ADD

3523A In the Republic of the Ivory Coast, the use of the band 26 900 - 27 500 kHz is limited to portable equipment with a radiated power less than or equal to 500 mW.

Reasons: To prohibit abusive utilization of the band.

MHz 27.5 - 28

CTI/130/60	MOD (WW)	27.5 - 28	27.5 - 28
	( w w )	METEOROLOGICAL AIDS	METEOROLOGICAL AIDS
•		FIXED	FIXED
		MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile (R)
		3524/227	

Reasons : To provide uniform world-wide allocation by extending the use of the band to include the fixed and mobile, except aeronautical mobile (R), services.

CTI/130/61 SUP 3524/227

MHz 29.7 - 37.75

CTI/130/62 SUP 3525/228
CTI/130/63 SUP 3526/229
CTI/130/64 SUP 3527/230
CTI/130/65 SUP 3528/231
CTI/130/66 SUP 3529/232

 $\underline{\text{Reasons}}$ : Systems using ionospheric propagation are prohibited in order to prevent interference with other services.

MHz 37.75 - 50

· · ·		Region 1	Region 2	Region 3
CTI/130/67	MOD	37.75 - 38.25	FIXED 228 229 231	
			MOBILE	
			Radio astronomy	
			3531/233B	
CTI/130/68	MOD	38.25 - 41	FIXED 228 229 230 231	
			MOBILE	
		·	3532/235 3533/236 3534/236	A
CTI/130/69	MOD	41 - <del>4</del> 7 <u>50</u>	41 - 50	41 - 44
•	(ww)	BROADCASTING	FIXED 228 231 237	FIXED 228 237
•		Fixed 228 237	MOBILE	MOBILE
		Mobile	; · ·	3534/236A
CTI/130/70	MOD	FIXED		44 - 50
	(WW)	MOBILE		FIXED 228 231 237
		   3534/236A 3536/238   <del>3537/239</del>   3538/240		MOBILE
		3539/241 3540 <del>/24</del> 2	3530/233A 3534/236A	BROADCASTING
	,	Reasons: To make a wider	allocation to the fixed and	mobile services on a

Reasons: To make a wider allocation to the fixed and mobile services on a world-wide basis and separate these services from the broadcasting service.

CTI/130/71 SUP 3535/237

CTI/130/72 SUP 3537/239

Reasons: Consequence of the above proposal.

CTI/130/73 MOD 3536/238 In Rhodesia and Nyasaland, the band 41 - 44 MHz is allocated to the fixed, mobile and aeronautical radionavigation services; the bands 44 - 50 MHz and 54 - 68 MHz are allocated to the fixed, mobile and broadcasting services; -the-band-50 - 54-MHz-is-allocated-to-the-amateur

service.

Reasons: This sentence is no longer necessary.

		Region 1	Region 2	Region 3
CTI/130/74	MOD	<u>50 - 54</u>	50 - 54	
	(WW)	BROADCASTING	AMATEUR	
		AMATEUR		·
		3536/238 3537/239 3540/242		
CTI/130/75	MOD	<u>54</u> - 68	54 - 68	54 - 68
	(WW)	BROADCASTING	FIXED 228 237	FIXED 228 231 237
			MOBILE	MOBILE
		3536/238 <del>3537/239</del> 3539/241 3540/242	BROADCASTING	BROADCASTING
		3541/243 <u>3541A</u>		3544/246

 $\overline{\text{Reasons}}$ : To make amateur traffic uniform in all three Regions and to separate the broadcasting service from the other services.

CTI/130/76 MOD

3540/242 In Austria, the F.R. of Germany and Czechoslovakia, the band 47 50 - 68 MHz is also allocated, on a secondary basis, to the fixed service and mobile, except aeronautical mobile, service.

CTI/130/77 ADD

3541A In the Ivory Coast, the band 54-68 MHz is allocated to the fixed and mobile services.

Reasons: This band will not be used by the broadcasting service in the Ivory Coast.

MHz 68 - 75.4

CTI/130/78	MOD (WW)	68 - 74.8 (NOC)	68 - 73	68 - 70
	(ww)	FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	MOBILE <u>except</u> <u>aeronautical mobile</u>
		·	BROADCASTING	AERONAUTICAL- RADIONAVIGATION
				3553/254 3554/255 3555/256
				70 - 74.6 (NOC)
			73 - 74.6 (NOC)	
		74.8 - 75.2 (NOC)	74.6 - 75.4 (NOC)	

Reasons: Uniform world-wide allocation for the fixed and mobile, except aeronautical mobile, services between 68 and 70 MHz.

MHz 75.2 - 100

	•	Region l	Region 2	Region 3
CTI/130/79	MOD	75.2 - <del>87.</del> 5 <u>87.4</u> FIXED	75.4 - 88 (NOC)	75.4 - 78 (NOC)
:		MOBILE except aeronautical mobile  BROADCASTING  3546/248 MOD 3548/250 3550/252 3559/260 3560/261 3561/262 3562/263	88 - 100 (NOC)	78 - 80 (NOC) 80 - 87 (NOC) 87 - 100 (NOC)
CTI/130/80	MOD	87.4 - 100 BROADCASTING		

<u>Reasons</u>: Extension of the band 75.2 - 87.4 MHz to broadcasting to meet broadcasting service needs in Region 1.

CTI/130/81 MOD

3548/250 In Albania, Bulgaria, Hungary, Poland, Roumania and Czechoslovakia, the bands 68 - 73 MHz (sound broadcasting) and 76 - 87.5 87.4 MHz (television) are also allocated to the broadcasting service. In these countries ...... and-other-interested-countries-shall-participate in-the-conference.

Reasons: No longer necessary.

CTI/130/82

SUP

3562/263

Reasons: Consequence of the above proposal.

MHz 100 - 108

CTI/130/83 MOD (WW)

100 - 108	100 - 108 (NOC)
MOBILE-except aeronautical-mobile-(R)	BROADCASTING
BROADCASTING	
3568/269 3569/270 3570/271	

 $\frac{\text{Reasons}}{\text{service}}$ : Uniform world-wide and exclusive allocation to the broadcasting service to meet its requirements.

CTI/130/84

SUP

3568/269

CTI/130/85

SUP

3569/270

Reasons: Consequence of the above proposal.

MHz 136 - 138

		Region 1	Region 2	Region 3
CTI/130/86	MOD	136 - 137	SPACE RESEARCH (Space-to-	Earth)
			SPACE OPERATION (Space-to-Earth)	
CTI/130/87	MOD	137 - 138	SPACE OPERATION  (Telemetering and tracking)  (Space-to-Earth)	
			METEOROLOGICAL-SATTELITE	
			SPACE RESEARCH (Space-to-	Earth)

Reasons: To ensure sufficient bandwidth for the needs of space operation.

MHz 143.6 - 144

CTI/130/88	MOD (WW)	143.6 - 143.65	143.6 - 143.65	143.6 - 143.65
	("")	AERONAUTICAL MOBILE (OR)	FIXED	FIXED
		SPACE-RESEARCH (Space-to-Earth)	MOBILE	MOBILE
		/SPACE RESEARCH	/SPACE RESEARCH (Space-to-Earth)/	SPACE-RESEARCH (Space-to-Earth)
		(Space-to-Earth)/	SPACE-RESEARCH	/SPACE RESEARCH
		FIXED	(Space-to-Earth)	(Space-to-Earth)/
			/RADIOLOCATION/	3579/278 3580/279A
		3577/275 3587/283	3588/283A	3589/284.
CTI/130/89	MOD (WW)	143.65 - 144	143.65 - 144	143.65 - 144
	(ww)	AERONAUTICAL MOBILE (OR)	FIXED	FIXED
		/SPACE RESEARCH (Space-to-Earth)/	MOBILE	MOBILE
		FIXED	∕RAÐIOLOCATION∕	Space-research (Space-to-Earth)
			Space-research (Space-to-Earth)	/SPACE RESEARCH
			/SPACE RESEARCH	(Space-to-Earth)/
		3577/275 <del>3586/282A</del>	(Space-to-Earth)/	3579/278 3580/279A
		3587/283	3588/283A	3589/284
	•			<u></u>

 $\overline{\text{Reasons}}$ : To ensure uniform allocation in the three Regions, by extending the use of the band to include the fixed and mobile services in Region 1, where the need is felt.

			210 - 23)	
		Region 1	Region 2	Region 3
CTI/130/90	MOD	216 - <del>223</del> <u>220</u>	216 - 220 (NOC)	216 - 225 220
		AERONAUTICAL RADIONAVIGATION BROADCASTING	FIXED	AERONAUTICAL RADIONAVIGATION Radiolocation
		3605/297 3606/298 3607/299 3608/300	RADIOLOCATION	BROADCASTING  3615/306 3616/307
CTI/130/91	MOD (WW)	3609/301 220 - 223	220 - 225 (NOC)	3617/308 <u>220</u> - 225
		AERONAUTICAL RADIONAVIGATION BROADCASTING	AMATEUR RADIOLOCATION	AERONAUTICAL RADIONAVIGATION Radiolocation
		<u>AMATEUR</u>		AMATEUR
		RADIOLOCATION  3608/300 3609/301 3606/298		RADIOLOCATION
CTI/130/92	MOD (WW)	223 - 235 <u>225</u> AERONAUTICAL RADIONAVIGATION	·	
		AMATEUR Fixed		
		Mobile  RADIOLOCATION	:	
		3608/300 3609/301 3610/302 MOD 3612/304		3615/306 3616/307 3617/308
CTI/130/93	MOD (WW)	225 - 235  AERONAUTICAL  RADIONAVIGATION	225 - 235 FIXED	225 - 235 FIXED
		/AERONAUTICAL RADIONAVIGATION/ Fixed	MOBILE  /AERONAUTICAL  RADIONAVIGATION/	MOBILE  /AERONAUTICAL  RADIONAVIGATION/
		Mobile		AERONAUTICAL RADIONAVIGATION
		FIXED		
		MOBILE		
		3607/299 3608/300 3609/301 3610/302 MOD 3612/304 3613/305		

Reasons: To make the allocations in the three Regions uniform and to meet the needs of the fixed and mobile services in Region 1.

CTI/130/94 SUP 3605/297

Reasons: Consequence of the above proposal.

CTI/130/95 3607/299 SUP

Reasons: Consequence of the deletion of 3605/297.

CTI/130/96 3606/298 SUP

CTI/130/97 3612/304 MOD

In-the-Union-of-South-Africa-and-the-Territory-of South-West-Africa, In South Africa, Swaziland and Zimbabwe, the band 223 - 235 MHz is also allocated to the broadcasting service and the provisions of-No.-3605/297-concerning-the-introduction-of-that-service-will-apply-to-this

Reasons: Consequence of the deletion of No. 3605/297

MHz420 - 450

		Region 1	Region 2	Region 3
CTI/130/98	MOD	420 - 430	420 - <del>450</del> <u>430</u>	
RADIOLOCATION		RADIOLOCATION		
			Amateur	
		(MOD 3636/318)	MOD 3636/318 3641/319A 3 3644/320A 3647/323 3648/	
CTI/130/99	MOD (WW)	430 - 440	<u>430 - 440</u>	
	(ww)	AMATEUR	RADIOLOCATION	
		RADIOLOCATION	Amateur	
		MOD 3636/318 3640/319 3642/319B 3643/320	AMATEUR	
·		3644/320A 3645/321 3646/322	MOD 3636/318 3641/319A 36 3644/320A 3647/323 3648/3	
CTI/130/100	MOD	440 - 450	<u>440</u> – 450	
			RADIOLOCATION	·
			Amateur	
		·(MOD 3636/318)	MOD 3636/318 3641/319A 36 3644/320A 3647/323 3648/3	

Reasons : To separate two different services for operational purposes and to make the amateur service allocation uniform on an exclusive world-wide basis. CTI/130/101 MOD

3636/318 Radio altimeters may also be used until-31-December-1974 in the band 420 - 460 MHz:--However-after-this-date;-they-may-be-authorized te-eentinue-to-operate on a secondary basis except in the USSR where they will continue to operate on a primary basis.

Reasons : To bring the text up to date.

MHz 470 - 942

		Region 1	Pagion 0	Danier 2
			Region 2	Region 3
		470 - 582 (NOC)	(NOC)	
		BROADCASTING		
CTI/130/102	MOD	582 - 606		
		BROADCASTING		
		RADIONAVIGATION		
·		3651/325 3652/327 3653/328 3654/329	•	
CTI/130/103	MOD	606 - 790		
		BROADCASTING		
		FIXED		
		MOBILE		
		3654/329 <del>3656/330</del> 3657/330A 3659/331 3660/332 3661/332A		
CTI/130/104	MOD	790 - 890		
		FIXED		
•		BROADCASTING	·	
		MOBILE		
		3654/329 3659/331 3662/333 3663/334		
CTI/130/105	MOD	890 - 942		
		FIXED		
		BROADCASTING		
		MOBILE		
		Radiolocation		
		3654/329 3659/331 3662/333 3669/339A		

Reasons: 1) (582 - 606 MHz) To provide better protection for the radionavigation service.

2) To satisfy the increasing needs of the fixed and mobile services.

CTI/130/106 SUP 3656/330

Reasons: Consequence of the proposal for the band 606 - 790 MHz.

CTI/130/107 SUP 3662/333

Reasons: No longer needed.

MHz 1 215 - 1 300

		Region l	Region 2	Region 3
CTI/130/108	MOD	1 215 - <del>1-300</del> <u>1 260</u>	RADIOLOCATION	
			Amateur	
			3672/342 3673/343 3674/3	44 3675/345
CTI/130/109	MOD	<u>1 260</u> - 1 300	RADIOLOCATION	,
			Amateur	
			AMATEUR	
			AMATEUR-SATELLITE	
			3672/342 3673/343 3674/3	44 3675/345

Reasons: To separate the services for operational purposes.

MHz 1 542.5 - 1 543.5

CTI/130/110	MOD	1 542.5 - 1 543.5	AERONAUTICAL-MOBILE-SATELLITE-(R)
			MARITIME MOBILE-SATELLITE
			3685/352 3688/352D MOD 3690/352F

MHz 1 644 - 1 645

CTI/130/111	MOD	1 644 - 1 645	AERONAUTICAL MOBILE-SATELLITE (R)	
			MARITIME-MOBILE-SATELLITE	
			3685/352 3688/352D MOD 3693/352I	

 $\underline{\text{Reasons}}$ : To allocate separate exclusive bands to the aeronautical mobile-satellite (R) service and the maritime mobile-satellite service.

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CTI/130/112 MOD

3690/352F The use of the band 1 542.5 - 1 543.5 MHz is limited to transmissions from space-to-Earth stations in the aeronautical mobile satellite (R) and maritime mobile-satellite service for communication and/or radiodetermination purposes. Transmissions from land stations directly to mobile stations, or between mobile stations, of the aeronautical mobile-(R)-and maritime mobile services, are also authorized. The utilization of this band is subject to prior operational coordination between the two services.

CTI/130/113 MOD

3693/352I The use of the band 1 644 - 1 645 MHz is limited to transmissions from Earth-to-space stations in the aeronautical mobile-satellite (R) and-maritime-mobile-satellite services for communication and/or radiodetermination purposes. Transmissions from mobile stations directly to land stations, or between mobile stations of the aeronautical mobile (R) and maritime-mobile services, are also authorized. The utilization of this band is subject to prior operational coordination between the two services.

 $\frac{\text{Reasons}}{1\ 644}$  : Consequence of the proposals for the bands 1 542.5 - 1 543.5 MHz and  $\frac{1}{1}\ 644$  - 1 645 MHz.

MHz .1 670 - 1 710

		Region l	Region 2	Region 3
CTI/130/114	MOD	1 670 - 1 690	METEOROLOGICAL-AIDS	
			FIXED	
			METEOROLOGICAL-SATELLITE	(Space-to-Earth) 324A
		, a 4 1	MOBILE except aeronautical	mobile
			3697/354	
CTI/130/115	MOD (WW)	1 690 - 1 700	1 690 - 1 700 (NOC)	·
	( w w )	METEOROLOGICAL AIDS	METEOROLOGICAL AIDS	
		METEOROLOGICAL-SATELLITE (Space-to-Earth)	METEOROLOGICAL-SATELLITE (	Space-to-Earth)
		Fixed		
		Mobile-except aeronautical-mobile		
	MOD	3650/324B 3698/354A	3650/324B 3698/354A 3700/3	54C
CTI/130/116		1 700 - 1 710	1 700 - 1 710 (NOC)	
		FIXED	FIXED	
		SPACE RESEARCH (Space-to-Earth)	MOBILE	
		Mobile	SPACE RESEARCH (Space-to-E	arth)
,		3701/354D	3701/354D	

 $\underline{\text{Reasons}}$ : 1) (1 670 - 1 690 MHz) To strengthen the position of the fixed and mobile, except aeronautical mobile, services.

- 2) (1 690 1 700 MHz) To allocate a world-wide band to the meteorological aids and meteorological-satellite services.
  - 3) To allocate a uniform band in the three Regions.

MHz 1 710 - 2 300

		Region 1	Region 2	Region 3
CTI/130/117	MOD	1 710 - 1 770	1 710 - 1 770 (NOC)	
	(WW)	FIXED	FIXED	
		Mobile	MOBILE	
		MOBILE		
		3695/352к 3702/356		ŕ
CTI/130/118	MOD (WW)	1 770 - 1 790	1 770 - 1 790 (NOC)	
	(ww)	FIXED	FIXED	·
		Meteorological-satellite	MOBILE	
		Mobile	Meteorological-satellite	
		MOBILE		
		3702/356		
CTI/130/119	MOD	1 790 - 2 290	1 790 - 2 290 (NOC)	
	(WW)	FIXED	FIXED	
		M <del>obile</del>	MOBILE	
		MOBILE		
		3702/356 3705/356AB 3706/356ABA 3707/356AC		·
CTI/130/120	MOD	2 290 - 2 300	2 290 - 2 300 (NOC)	
	(ww)	FIXED	FIXED	•
		SPACE RESEARCH (Space-to-Earth)	MOBILE	
		Mobile	SPACE RESEARCH (Space-to-Ear	th)
	-	MOBILE		
		3708/356C		

 $\underline{\text{Reasons}}$ : To permit uniform world-wide allocations and to strengthen the position of the mobile service between 1 710 and 2 300 MHz.

MHz 2 300 - 2 450

		Region 1	Region 2	Region 3
CTI/130/121		2 300 - 2 450	2 300 - 2 450	
(ww)	FIXED	RADIOLOCATION		
		Amateur	Amateur	
		Mobile	Fixed	
		Radiolocation	FIXED	
	•	RADIOLOCATION	Mobile	
		3709/357 3710/358 3711/359	3709/357 3712/360	

Reasons: To make a uniform allocation in the band in the three Regions.

MHz 2 700 - 3 400

CTI/130/122	MOD	2 700 - 2 900	AERONAUTICAL RADIONAVIGATION 346
			Radiolocation
			3727/366
CTI/130/123	MOD	2 900 - 3 100	RADIONAVIGATION 367 367A 367B
			Radiolocation
	NOC	3 100 - 3 300	
CTI/130/124	MOD	3 300 - 3 400 (NOC)	3 300 - 3 400
	(WW)	RADIOLOCATION	RADIOLOCATION
			Amateur
			3739/379

 $\underline{\text{Reasons}}$  : To separate the radiolocation service from the radionavigation services.

MHz 3 400 - 4 200

		Region l	Region 2	Region 3
CTI/130/125	MQD	3 400 - 3 600	3 400 - 4 200 (NOC)	
		FIXED		
		FIXED-SATELLITE (Space-to-Earth)		
		MOBILE	•	
		Radiolocation	·	
·		3735/372 <del>3736/373</del> 3737/374 3738/375		
CTI/130/126	MOD	3 600 - 4 200		
		FIXED		
		FIXED-SATELLITE (Space-to-Earth)		
	_	Mobile		

Reasons: To allocate the band 3 400 - 4 200 MHz exclusively to the fixed and fixed-satellite services to meet their requirements in the 4 GHz band.

MHz 5 850 - 7 300

CTI/130/127 NOC

Allocations as shown in the boxes 5 850 - 7 300 MHz.

Reasons: To maintain these allocations to meet the requirements of the fixed service in the 6 GHz band.

MHz 8 750 **-** 9 500

CTI/130/128	MOD	8 750 - 8 850	RADIOLOGATION
			AERONAUTICAL RADIONAVIGATION 3773/396
			3774/397
	NOC .	8 850 - 9 000	
CTI/130/129	MOD	9 000 <b>- 9-<del>2</del>00</b> <u>9 150</u>	AERONAUTICAL RADIONAVIGATION 3676/346
			Radiolocation
			3774/397
CTI/130/130	MOD	<u>9 150</u> - 9 200	AERONAUTICAL-RADIONAVIGATION 346
			Radiolocation
			RADIOLOCATION
			3774/397

MHz 8 750 - 9 500 (cont.)

•		Region l	Region 2	Region 3
CTI/130/131	MOD	9 200 <b>- 9-<del>300</del> 9 250</b>	RADIOLOCATION	
			3774/397 3775/398	
CTI/130/132	MOD	<u>9 250</u> – 9 300 .	RADIOLOCATION	
			RADIONAVIGATION 3729/367A	<u>3730/367в</u>
			<u>3776/399</u>	
CTI/130/133	MOD	9 300 - 9 500	RADIONAVIGATION 3729/367A	3730/367В
			Radiolocation	
			MOD 3776/399	:

 $\overline{\text{Reasons}}$ : To separate the radiolocation service from the radionavigation services.

CTI/130/134 MOD

3776/399 The use of the band 9-300 9 250 - 9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In-this-band-ground-based-radars-used-for-meteorological purposes-have-priority-over-other-radiologation-devices.

Reasons: Consequence of the above proposal.

MHz 9 800 - 10 500

CTI/130/135	MOD	9 800 - 10 000	RADIOLOCATION
			Fixed
			FIXED
			3777/400 3778/401 3779/401A
CTI/130/136	MOD	10 000 - 10 500	RADIOLOCATION
			FIXED
			Amateur
			3779/401A 3780/402 3781/403

Reasons: To strengthen the position of the fixed service in the 10 GHz band.

GHz 11.7 - 12.5

		Region l	Region 2	Region 3
CTI/130/137	MOD	11.7 - <del>12.5</del> <u>12.2</u>	11.7 - 12.2	11.7 - 12.2
		FIXED	F <del>IXED</del>	F <del>IXED</del>
		MOBILE except aeronautical-mobile	FIXED-SATELLITE (Space-to-Earth)	MOBILE-except aeronautical-mobile
		BROADGASTING	MOBILE-except	BROADCASTING
		BROADCASTING-SATELLITE	aeronautical-mobile  BROADCASTING	BROADCASTING-SATELLITE
			BROADCASTING-SATELLITE	
	İ	3785/405BA	3786/405BB 3787/305BC	3785/405BA
CTI/130/138	MOD	<u>12.2</u> - 12.5	12.2 - 12.5 (NOC)	
		FIXED		
		MOBILE except aeronautical mobile		
		BROADCASTING		
		BROADCASTING-SATELLITE		-
		3785/405BA		٠.

Reasons: To separate the broadcasting-satellite service from the other services.

CTI/130/139 SUP 3785/405BA CTI/130/140 SUP 3786/405BB CTI/130/141 SUP 3787/405BC

 $\underline{\text{Reasons}}$ : The proposal made for the band 11.7 - 12.5 GHz makes it unnecessary to maintain these provisions.

# INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 131-E 18 July 1979

Original: French

PLENARY MEETING

### Kingdom of Morocco

# PROPOSALS RELATING TO ITEM 2.1 OF THE AGENDA

#### ARTICLE No. N7

Section IV. Table of Frequency Allocations - 10 kHz - 275 GHz

kHz 130 - 160

		Allocation to Services			
		Region 1	Region 2	Region 3	
MRC/131/1	MOD	130 - <del>150</del> <u>148.5</u>	130 - 150		
,		MARITIME MOBILE ±72	FIXED	•	
		/FIXED/	MARITIME MOBILE		
		163 <del>167</del> 173	1/7		
MRC/131/2	MOD	<u> 148.5</u> - 160	167		
		MARITIME-MOBILE	150 - 160	·	
		167 174	FIXED		
		BROADCASTING	MARITIME MOBILE		
		175	167		

 $\underline{\text{Reasons}}$  : To be able to adapt channel spacing in the LF broadcasting service to multiples of 9 kHz.

MRC/131/3	SUP	167
MRC/131/4	SUP	172
MRC/131/5	SUP	17h

Reasons: No longer required.



kHz 200 - 285

		Region 1	Region 2 Region 3
			200 - 285 (NOC)
MRC/131/6	MOD	255 - 285	AERONAUTICAL RADIONAVIGATION
	,	MARITIME-MOBILE 174	Aeronautical mobile
		BROADCASTING	
		AERONAUTICAL RADIONAVIGATION	
		176 177 178	

 $\overline{\text{Reasons}}$ : Elimination of the maritime mobile service according to Recommendation No. 2 of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975.

kHz 405 - 415

MRC/131	./7	MOD
THIO/ TOT	./	LUOD

		·	
ا۔ ا	405 - 415	405 - 415	405 - 415
	RADIONAVIGATION (Radio direction-	MARITIME RADIONAVIGATION	RADIONAVIGATION
	finding)	(Radio direction- finding)	Aeronautical mobile
ļ	MOBILE-except	• •	
	aeronautical-mobile	/AERONAUTICAL RADIONAVIGATION/	
	AERONAUTICAL RADIONAVIGATION	Aeronautical mobile	
	MARITIME RADIONAVIGATION		
	(Radio-direction- finding)		
	MOD 182 <del>183</del> 184	MOD 182	MOD 182

Reasons: This band is not used by the mobile services and the modification provides greater possibilities for the radionavigation service.

MRC/131/8 MOD

3475/182 The frequency 410 kHz is designated for the maritime radionavigation service (radio direction-finding). Other-allocated-services in-the-band-405 - 415-kHz-shall-not-cause-harmful-interference-to-radio direction-finding.—In-the-band-405 - 415-kHz-no-frequency-shall-be-assigned to-coast-stations.



]	cH2	3
415	_	505

		Region 1	Region 2	Region 3
MRC/131/9	MOD	415 - <del>490</del> <u>495</u>	MARITIME MOBILE	
			185 186	
MRC/131/10	MOD	<u>495 - <del>510</del> 505</u>	MOBILE (Distress and calli	ng)
			187	

Reasons: With present technology, a 20 kHz guardband is unnecessary.

kHz 505 - 526.5

					_
MRC/131/11	MOD	<u>505</u> - <del>525</del> <u>526.5</u>	<u>505</u> - 525	<u>505</u> - 525	
		MARITIME MOBILE 186	MOBILE	MARITIME MOBILE	
		Aeronautical radionavigation	/AERONAUTICAL RADIONAVIGATION/ 188	Aeronautical mobile	
		AERONAUTICAL RADIONAVIGATION	MARITIME MOBILE	Land modife	
		<u>188</u> 185	<u>186</u>	189	

Reasons: To meet requirements.

kHz 526.5 - 535

MRC/131/12	MOD	526. <u>5</u> - 535	525 - 535 (NOC)	525 - 535 (NOC)
., ., .,			MOBILE	MOBILE
		BROADCASTING	/BROADCASTING/ 191	/BROADCASTING/
		190	/AERONAUTICAL RADIONAVIGATION/ 188	
MRC/131/13	MOD	535 - <del>1-605</del> <u>1 606.5</u>	535 - 1 605 (NOC)	
		BROADCASTING	BROADCASTING	

 $\frac{\text{Reasons}}{\text{Region 1}}$ : In view of the 1975 Geneva Plan, the band 525 - 1 605 kHz in Region 1 should be reserved exclusively for broadcasting but should be made symmetrical, which yields the new band 526.5 - 1 605.5 kHz.

kHz 1 605 - 2 000

	Region 1	Region 2	Region 3
		1 605 - 1 800 (NOC)	1 605 - 1 800 (NOC)
MRC/131/14 MOD	<del>1-605</del> <u>1 606.5</u> - 2 000	FIXED	FIXED
	FIXED	MOBILE	MOBILE
	MOBILE except aeronautical mobile	AERONAUTICAL RADIONAVIGATION	
		Radiolocation	197
		1 800 - 2 000 (NOC)	
		AMATEUR	
·		FIXED	
		MOBILE except aeronautical	mobile
	100 102 10), 105	RADIONAVIGATION	×
	192 193 194 195 195A 420	198	

kHz2 065 - 2 170

MRC/131/15 NOC

Allocations appearing in boxes 2 065 - 2 170 kHz.

kHz 2 194 - 2 625

MRC/131/16	MOD	2 194 - 2 300	2 194 - 2 300 (NOC)
•		FIXED	FIXED
		MOBILE-except aeronautical-mobile-(R)	MOBILE
		MARITIME MOBILE	
		193 195A	
MRC/131/17	MOD	2 300 - 2 498	2 300 - 2 495 (NOC)
		FIXED	FIXED
		MOBILE except aeronautical mobile (R)	MOBILE
			BROADCASTING 202
		BROADCASTING 202	
		193 195A	·

kHz 2 194 - 2 625 (cont.)

		Region l	Region 2	Region 3
·			2 495 - 2 505 (NOC)	
		2 498 - 2 502 (NOC)		
MRC/131/18	MOD	2 502 - 2 625		
, , , , , , , , , , , , , , , , , , , ,		FIXED	2 505 - 2 625 (NOC) FIXED	
		MOBILE-except aeronautical-mobile-(R)	MOBILE	
		MARITIME MOBILE		
		193 195A		

Reasons: The fixed service must be maintained in this part of the spectrum in accordance with the Recommendations of ICPO, Panama, 1978.

kHz 3 155 - 3 200

			3 1// 3 200	
MRC/131/19	MOD	3 155 - 3 200	FIXED	
			MOBILE-except-aeronautical	k-mobile-(R)
			MARITIME MOBILE	
			kHz 4 700 – 4 750	
MRC/131/20	MOD	4 700 - 4 750	AERONAUTICAL MOBILE (OR)	·
			FIXED	
			kHz 5 005 - 5 430	
MRC/131/21	MOD	5 005 - 5 060 ·	Fixed	
			BROADCASTING 202	
MRC/131/22	NOC	5 060 - 5 250	FIXED	
MRC/131/23	MOD	5 250 - 5 430	5 250 - 5 450	5 250 - 5 430
		FIXED	FIXED	FIXED
		LAND-MOBILE	LAND-MOBILE	LAND-MOBILE
		MOBILE except aeronautical mobile	MOBILE except aeronautical mobile	MOBILE except aeronautical mobile

 $\frac{\text{Reasons}}{\text{to meet}}$ : To maintain the fixed service in this part of the spectrum in order to meet the communication requirements of ICPO (Panama, 1978).

MRC/131/34

NOC

kHz 6 200 **-** 6 525

			6 200 - 6 525	
		Region 1	Region 2	Region 3
MRC/131/24	MOD	6 200 - 6 525	MARITIME MOBILE	
			211 211A	
			kHz 14 000 - 14 350	
MRC/131/25	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
MRC/131/26	MOD	14 250 - 14 350	AMATEUR	
-			AMATEUR-SATELLITE	
			218	
			kHz 15 100 - 17 900	
MRC/131/27	NOC	15 100 - 15 450	BROADCASTING	
MRC/131/28	MOD	15 450 - <del>16-460</del> <u>15 600</u>	FIXED	
•			BROADCASTING	
MRC/131/29	MOD	<u>15 600 - 16 220</u>	FIXED	
MRC/131/30	MOD	<u>16 220</u> - 16 460	FIXED	
			MARITIME MOBILE	
MRC/131/31	NOC	16 460 - 17 360	MARITIME MOBILE	
			213	
MRC/131/32	MOD	17 360 - <del>1</del> 7-700 <u>17 600</u>	FIXED	
			MARITIME MOBILE	
MRC/131/33	MOD	<u>17 600</u> - 17 700	FIXEB	
			BROADCASTING	

17 700 - 17 900 BROADCASTING

kHz 21 450 - 21 850

	:	Region 1	Region 2	Region 3
MRC/131/35	NOC	21 450 - 21 750	BROADCASTING	
MRC/131/36	MOD	21 750 - 21 850	F∃XEÐ	
			BROADCASTING	·
			kHz 22 000 - 23 200	
MRC/131/37	NOC	22 000 - 22 720	MARITIME MOBILE	
MRC/131/38	MOD	22 720 <b>- 23-2</b> 00 <u>22 800</u>	FIXED	
·			MARITIME MOBILE	
MRC/131/39	MOD	22 800 - 23 200	FIXED	
			MARITIME MOBILE	
			Fixed	
			MHz 37,75 - 50	
MRC/131/40	MOD	37,75 - 38,25	FIXED <del>22</del> 8 229 <del>231</del>	
			MOBILE	
			Radio-astronomy	
			RADIO ASTRONOMY	
		·	233В	
MRC/131/41	MOD	38,25 - 41	FIXED 228 229 230 231	
			MOBILE	-
			235 236 236A	
MRC/131/42	MOD	41 - 47	41 - 50 (NOC)	41 - 44 (NOC)
		BROADCASTING	FIXED 228 231 237	FIXED 228 237
		F <del>ixed</del> 228 237	MOBILE	MOBILE
		Mobile		236A
	•	FIXED		44 - 50 (NOC)
		MOBILE		FIXED 228 231 237
		236A 238 239 240 241		MOBILE
	Ĺ		233A 236A	BROADCASTING

MHz 47 - 68

		Region 1	Region 2	Region 3
MRC/131/43	MOD	47 - <del>68</del> <u>61</u>		
		BROADCASTING	50 - 54 (NOC)	
		MOBILE except	AMATEUR	·
MRC/131/44 MOD		aeronautical mobile  Fixed  238 239 241	244 245 246 247	
	MOD		54 - 68	54 - 68
		242 243	FIXED <del>228</del> 237	FIXED <del>228</del> <del>231</del> 237
MRC/131/45	MOD	<u>61</u> - 68	MOBILE	MOBILE
		BROADCASTING	BROADCASTING	BROADCASTING
				246

MHz87 - 108

MRC/131/46 NOC	87 5 300		87 - 100 (NOC)	
MRC/131/40	rc/131/46 <u>noc</u>	87,5 - 100	88 - 100 (NOC)	FIXED
		BROADCASTING	BROADCASTING	MOBILE
				BROADCASTING
		264 265		254 267 268
MRC/131/47	MOD	100 - 108	100 - 108 (NOC)	
		MOBILE-except aeronautical-mobile-(R)	BROADCASTING	
		BROADCASTING		
		269 270 271	255 256 258 267 272	

MHz 156 - 174

		Region 1	Region 2	Region 3
MRC/131/48	MOD	156 - 174 156.7875	PIXED	<u> </u>
	(ww)		MOBILE except aeronautical mobile	
•			MARITIME MOBILE	
		·	Land mobile	
			. 285 287	· · · · · · · · · · · · · · · · · · ·
MRC/131/49	MOD (WW)	<u> 156.7875</u> - <u>156.8125</u>	FIXED	
	(nn)		MOBILE-except-aeronautical	t-mobile
			MARITIME MOBILE (Distress	, safety and calling)
			201A 287 <del>285</del>	
MRC/131/50	MOD (WW)	<u>156.8125</u> - 162.05	FIXED  MOBILE except aeronautical mobile	
	· / mu /			
			MARITIME MOBILE	
			Land mobile	e e e
			Fixed	
			.285 MOD .288	
MRC/131/51	MOD	<u>162.05</u> - 174	162.05 - 174	<u>162.05</u> - 170
		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	MOBILE
		aeronauticai modile		170 - 174 (NOC)
				FIXED
				MOBILE
		285 MOD 288	233A	BROADCASTING

MRC/131/52 MOD

3596/288 In France, Morocco and Monaco, the band 162 - 174 MHz is allocated to the broadcasting service. In Morocco, the band 162.05 - 174 MHz is also shared with the broadcasting service.

MHz 174 - 225

		Region 1	Region 2	Region 3
MRC/131/53	NOC	174 - 216	174 - 216 (NOC)	
		BROADCASTING		
•		291 292 293 294		
MRC/131/54	MOD	216 - 223	216 - 220 (NOC)	216 - 225 (NOC)
		AERONAUTICAL RADIONAVIGATION		AERONAUTICAL RADIONAVIGATION
		BROADCASTING	220 - 225 (NOC)	Radiolocation
			,	

#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 132-E 20 July 1979

Original : English

PLENARY MEETING

# Greece\*)

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

### Resolutions and Recommendations

(item 2.9)

GRC/132/485

#### RESOLUTIONS

SUP Res 1: Relating to the Establishment of the Master International Frequency Register.

Reasons: No longer required because the Master International Frequency Register has been compiled by the IFRB.

SUP Res 2: Relating to the Application from 1st March, 1960, to 30th April, 1961, of the Procedure specified in Article 10 of the Radio Regulations, Geneva, 1959, for the Bands allocated exclusively to the Broadcasting Service between 5 950 and 26 100 kHz.

Reasons: The procedure specified in Article 10 has been applied.

SUP Res 3: Relating to a Study by a Panel of Experts of Measures to Reduce Congestion in the Bands between 4 and 27.5 MHz.

Reasons: The study from the Panel of Experts has been terminated.

SUP Res 4: Relating to Certain Entries in the Master Radio Frequency Record in the Bands below 27 500 kHz.

Reasons: The entries in the Master Radio Frequency Record transferred to the Master International Frequency Register shall be brought into conformity with the provisions of the Radio Regulations, Geneva 1979.

SUP Res 6: Relating to Frequency Terminology.

Reasons: The terms listed in the table of this Resolution to be transferred in Article N1/1 as separate definitions: frequency allocation, frequency allotment and frequency assignment (see also our proposals ADD 3133A, ADD 3133B, ADD 3133C and ADD 3138A).

SUP Res 9: Relating to the Publication of Service Documents.

Reasons: These provisions have been implemented by the Secretary-General.



<sup>\*)</sup> See also Documents Nos. 86A and 86B.

- SUP Res 10: Relating to the Use of the Bands 7 000 to 7 100 kHz and 7 100 to 7 300 kHz by the Amateur Service and the Broadcasting Service.
  - $\underline{\text{Reasons}}$ : 1) Possible modification of the table of frequency allocation on this part of spectrum (see also our proposals GRC/86B/91 and GRC/86B/94).
    - 2) Radio Regulation 3282/117 covers the subject.
- SUP Res 11: Relative to the Convening of a Special Regional Conference.
  - Reasons: The special Regional Conference was convened in Geneva, 1960.
- SUP Res 12: Relating to the Establishment of a Manual for Use by the Mobile Services.
  - Reasons: The Manual became available to Administrations in 1961.
- SUP Res 13: Relating to the Preparation of revised Allotment Plans for the Aeronautical Mobile Service.
  - Reasons: Relating to Recommendation No. Aer2 8 of the WARC-78.
- SUP Res Mar 1: Relating to the Abrogation of Obsolete Recommendations of the Administrative Radio Conference, Geneva, 1959.
  - $\underline{\text{Reasons}}$ : The mentioned Recommendations in this Resolution have been abrogated.
- SUP Res Mar 2: Relating to the Establishment of a Manual for Use by the Maritime Mobile Service.
  - Reasons: The provisions of this Resolution have been implemented.
- SUP Res Mar 4: Relating to the Conversion of Single Sideband Technique of Stations of the Radiotelephone Maritime Mobile Service Operating in the Bands between 1 605 and 4 000 kHz.
  - Reasons: Provisions no longer necessary.
- SUP Res Mar 11: Relating to the Transfer of Frequency Assignments to Coast Radiotelephone Stations in the Frequency Bands allocated exclusively to the Maritime Mobile Service between 4 000 and 23 000 kHz.
  - Reasons: The provisions of this Resolution have been applied.
- SUP Res Mar 15: Relating to the Use of the New High Frequency Channels made available for Maritime Radiotelephony by the Present Conference.
  - Reasons: The provisions of this Resolution have been applied.
- SUP Res Mar 17: Relating to the Need for keeping adequate Watch by Ship Stations on the International Distress Frequency for Radiotelephony.
  - <u>Reasons</u>: IMCO has considered this matter as part of the study being undertaken on the maritime safety system.



SUP Res Spa2 - 2: Relating to the Establishment of Agreements and Associated Plans for the Broadcasting-Satellite Service.

Reasons: In accordance with this Resolution and Resolution No. 27 of the Plenipotentiary Conference, 1973 relevant agreements and plans have been established during the WARC-BC Geneva, 1977.

SUP Res Spa2 - 3: Relating to the Bringing into Use of Space Stations in the Broadcasting-Satellite Service, prior to the Entry into Force of Agreements and Associated Plans for the Broadcasting-Satellite Service.

Reasons: Appropriate actions have been established during the WARC-BC, 1977 and its Final Acts entered into force on 1 January 1979.

SUP Res Spa2 - 7: Relating to the Inclusion of additional Sections in List VIIIA (Article 20, Appendix 9).

Reasons: This has been done.

SUP Res Spa2 - 8: Relating to the Abrogation of obsolete Resolutions and Recommendations of the Extraordinary Administrative Radio Conference to allocate Frequency Bands for Space Radiocommunication Purposes, Geneva, 1963 and a Recommendation of the Administrative Radio Conference, Geneva, 1959.

Reasons: The mentioned Resolutions and Recommendations have been abrogated.

SUP Res Mar2 - 1: Relating to the Abrogation of obsolete Resolutions and Recommendations of the World Administrative Radio Conference, Geneva, 1967, and a Resolution of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971.

Reasons: All the said Resolutions and Recommendations have been abrogated.

SUP Res Mar2 - 2: Relating to the Implementation of the New Arrangement of Radiotelegraphy and Radiotelephony Bands allocated exclusively to the Maritime Mobile Service between 4 000 and 27 500 kHz.

 $\underline{\text{Reasons}}$ : The new arrangement has been implemented in accordance with the time schedule in Annexes 1 and 2 to this Resolution.

SUP Res Mar2 - 3: Relating to the Transfer of certain Frequency Assignments of Stations operating in the Bands allocated exclusively to Coast Radiotelegraphy in the Maritime Mobile Service between 4 000 and 23 000 kHz.

 $\underline{\text{Reasons}}$ : The said frequency assignments have been transferred in accordance with the provisions of this Resolution.

SUP Res Mar2 - 4: Relating to the Implementation of the New Channelling Arrangement for Al Morse Radiotelegraphy in the Bands allocated to the Maritime Mobile Service between 4 000 and 27 500 MHz.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 5: Relating to the Introduction of New Calling Procedures for HF Al Morse Telegraphy.

Reasons: These procedures became fully operational on 1 June 1977.

SUP Res Mar2 - 6: Relating to the implementation of the Rearrangement of the Coast Radiotelegraphy and Radiotelephony Bands between 4 000 and 27 500 kHz.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 9: Relating to the Power Limits for Coast Radiotelephone Stations operating in the Maritime Mobile Bands between 1 605 and 4 000 kHz.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 10: Relating to the Power Limits for Coast Radiotelephone Stations operating in the Maritime Mobile bands between 4 000 and 23 000 kHz.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 11: Relating to Coordination Prior to Notifying to the IFRB Frequency Assignments pursuant to Resolution No. Mar2 - 12.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 12: Relating to the Implementation of Appendix 17 Rev., Section A, and Appendix 25 Mar2.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 13: Relating to the Use of Single Sideband Technique in the Radiotelephone Maritime Mobile Service Bands between 4 000 and 23 000 kHz.

Reasons: The provisions of this Resolution have been implemented.

SUP Res Mar2 - 16: Relating to References in the Radio Regulations and Additional Radio Regulations to the Telegraph Regulations and the Telephone Regulations, Geneva, 1958.

Reasons: The provisions of this Resolution are no longer necessary.

SUP Res Mar2 - 21: Relating to the Use of Class A3A and A3J Emissions on the Carrier Frequencies 4 136.5 and 6 204 kHz used to Supplement the Carrier Frequency 2 182 kHz for Distress and Safety Purposes.

<u>Reasons</u>: The CCIR completed its work. Relevant decisions will be taken by the WARC-79.

SUP Res Mar2 - 22: Relating to Accounting for Public Correspondence in Maritime Radiocommunications.

<u>Reasons</u>: The purpose of this Resolution has been covered by CCITT Recommendation D.90/F.lll (named "Charging, accounting and refunds in the maritime mobile service").

SUP Res Mar2 - 23: Relating to the Interpretation of the Provisions affecting the Public Correspondence Services.

<u>Reasons</u>: The purpose of this Resolution has been covered by CCITT Recommendation E.190/F.110 (named "Operational provisions for the maritime mobile service").

#### GRC/132/486

#### RECOMMENDATIONS

- SUP Rec 7: Relating to Specifications of Broadcasting Receivers at Low Cost.
  - Reasons: No more relevant in its present form.
- SUP Rec 8: Relating to the Classification of Emissions.
  - Reasons: The purpose of this Recommendation has been covered by CCIR Recommendation 507 (with the title "Classification and designation of emissions").
- SUP Rec 12: Relating to the Use of the Band 9 300 9 500 MHz.
  - Reasons: The purpose of this Recommendation is covered by Radio Regulation 3729/367A, Radio Regulation 3730/367B and Radio Regulation 3776/399.
- SUP Rec 13: Relating to the Technical Standards to be applied when preparing Plans for the Broadcasting Stations in the Bands 68 73 MHz and 76 87.5 MHz.
  - <u>Reasons</u>: The purpose of this Recommendation has been covered in 1960 when a Regional Conference was held in Geneva for that reason.
- SUP Rec 14: To Administrations in Region 1. Relating to the Broadcasting Service in the Band 100 108 MHz.
  - $\frac{\text{Reasons}}{\text{band 100}}$ : The WARC-79 shall reconsider a new allocation to services in the band 100 108 MHz (see also our proposal GRC/86B/183).
- SUP Rec 18: Relating to Operator Certificates.
  - Reasons: The WARC-74 satisfied the subject of this Recommendation.
- SUP Rec 20: Concerning the Matter of providing a Suitable Frequency Allocation for a Collision Avoidance System in the Aeronautical Radionavigation Service.
  - Reasons: The WARC-Aer78 satisfied the provisions of this Recommendation.
- SUP Rec 29: Relating to the Pronunciation of Words in the Phonetic Alphabet.
  - Reasons: The provision of this Recommendation has been implemented.
- SUP Rec 32: Relating to the Radio Astronomy Service.
  - Reasons: The provisions of this Recommendation have been covered by previous Conferences (Spa 1963, 1971) and by actions of the Secretary-General.
- SUP Rec 33: Relating to the Meteorological Aids Service in the band 27.5 28 MHz.
  - Reasons: Relevant proposals to WARC-79 (see also our proposal GRC/86B/152).

SUP Rec 34: Relating to the Use of Radiotelegraph and Radiotelephone Links by Red Cross Organizations.

 $\underline{\text{Reasons}}$ : Relevant proposal to the WARC-79 (see also our proposals GRC/86B/69, GRC/86B/75, GRC/86B/91, GRC/86B/120 and GRC/86B/132).

SUP Rec 37: Relating to a Study by a Panel of Experts of Measures to Reduce Congestion in the Bands between 4 and 27.5 MHz.

Reasons: The panel of experts has terminated its work.

SUP Rec Spa 5 : To the CCIR Relating to the Broadcasting-Satellite Service.

Reasons: The CCIR has terminated and submitted its work as input document to the WARC-BC, 1977.

SUP Rec Spa 8: Relating to the Need to Cease Operations of the Fixed and Mobile Services in the Bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz Allocated to the Radionavigation-Satellite Service.

Reasons: As a consequence of relevant proposals for the Radio Regulation 3592/285B to the WARC-79.

SUP Rec Spa 11: Relating to the Radio Astronomy Service.

Reasons: Due to improved frequency allocations proposals to the WARC-79.

SUP Rec Mar 2: Relating to a Regrouping of the Radio Regulations and the Additional Radio Regulations appertaining to the Maritime Mobile Service.

Reasons: A final re-arrangement has been submitted by WARC-BC, 1977.

SUP Rec Mar 3: Relating to the Utilization of Space Communication Techniques in the Maritime Mobile Service.

Reasons: The provisions of this Recommendation are no longer necessary.

SUP Rec Mar 6: Relating to the Preparation of a new Frequency Allotment Plan for High Frequency Coast Radiotelephone Stations.

Reasons: The new frequency allotment plan has been established on the basis of single sideband operation and it has been implemented.

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

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

SUP Rec Spa2 - 3: Relating to the future Use of Bands allocated to the Inter-Satellite Service.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Spa2 - 4: Relating to the future Use of certain Frequency Bands between 40 and 275 GHz.

Reasons: As consequence of relevant proposals to the WARC-79.

SUP Rec Spa2 - 5: Relating to the future Use of the 41 - 43 GHz Band by the Fixed and Mobile Services.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Spa2 - 6: Relating to future Frequency Allocation Requirements for the Maritime Mobile-Satellite Service.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Spa2 - 7: Relating to the future Provision of a Band near 10 MHz for the Radio Astronomy service.

Reasons: As a consequence of relevant proposals to the WARC-79 (between 10 MHz and 15 MHz).

SUP Rec Spa2 - 8: Relating to the Protection of Radio Astronomy Observations on the Shielded Area of the Moon.

Reasons: The last CCIR Plenary Assembly (Kyoto 1978) provided a relevant Recommendation 479-1 with the title "Protection of frequencies for Radio Astronomical measurements in the shielded zone of the Moon" and preliminary guidelines (Report 539-1) for the frequency spectrum that should be used in the shielded zone of the Moon.

SUP Rec Spa2 - 13: Relating to the Use of Space Radiocommunication Systems in the Event of natural Disasters, Epidemics, Famines and similar Emergencies.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Spa2 - 14: Relating to a revised Presentation of the Sections of Article 1 of the Radio Regulations.

<u>Reasons</u>: As a consequence of relevant proposals to the WARC-79 based on the Re-arrangement of Radio Regulations adopted in WARC-BC, 1977.

MOD Rec Spa2 - 15: To the CCIR and to Administrations relating to Frequency Bands shared between Space Radiocommunication Services and between Space and Terrestrial Radiocommunication Services.

Reasons: Most of the provisions of this Recommendation have been studied and presented as CCIR Recommendations or Reports i.e. item 2.2 as Report 559-1, 2.9 as Report 382-3, 2.12 as new Recommendation, 2.14 as Recommendation 496-1, etc.

SUP Rec Mar2 - 1: Relating to the Use of Low Power Radiolocation Stations in the Bands between 1 605 and 2 850 kHz.

Reasons: As consequence of relevant proposals to the WARC-79 based on SPM conclusions (4.1.6).

SUP Rec Mar2 - 2: On the Choice of a Frequency in the Mobile Maritime Bands between 1 605 and 3 800 kHz to be reserved for Safety Requirements.

 $\underline{\text{Reasons}}$ : As a consequence of relevant proposals to the WARC-79 based on SPM conclusions (4.1.4.3).

SUP Rec Mar2 - 3: Relating to the Improvement of the Present Use by the Maritime Mobile Service of the Bands between 1 605 and 4 000 kHz.

Reasons: As a consequence of relevant proposals to the WARC-79.

MOD Rec Mar2 - 4: Relating to the Use of the Carrier Frequencies 4-136-3 4 125 kHz and 6-204 6 215.5 kHz to supplement the Carrier Frequency 2 182 kHz for Distress and Safety and for Call and Reply Purposes in the Zone of Regions 1 and 2 South of Latitude 15 North.

Reasons: The carrier frequencies 4 125 and 6 215.5 kHz replaced the frequencies 4 136.3 and 6 204 kHz from 1 January 1978 (see also SPM conclusions, 4.1.4.4).

SUP Rec Mar2 - 5: Relating to the Introduction of an Additional Tone after the Radiotelephone Alarm Signal transmitted by Coast Stations.

 $\frac{\text{Reasons}}{\text{Radio Regulation 6939/1466AA}}$ : The subject of this Recommendation is already included in

SUP Rec Mar2 - 6: Relating to the Frequencies in Appendix 17, Section C, and Appendix 17 Rev., Section B, of the Radio Regulations, provided for World-Wide Use by Ships of all Categories and by Coast Stations.

Reasons: The provisions of this Recommendation have been implemented.

SUP Rec Mar2 - 8: Relating to the Use of Frequency Bands between 23 000 and 27 500 kHz by the Maritime Mobile Service.

Reasons: As consequence of relevant proposals to the WARC-79.

SUP Rec Mar2 - 9: Relating to a Study of the Feasibility of expanding the High Frequency Bands allocated to the Maritime Mobile Service.

Reasons: As consequence of relevant proposals to the WARC-79.

SUP Rec Mar2 - 17: Relating to the Use of Radiocommunications for Marking,
Identifying, Locating and Communicating with the Means of Transport protected
under the Geneva Convention of 12 August 1949, concerning the Protection of War
Victims and any Additional Instruments of those Conventions as well as for
ensuring the Safety of Ships and Aircraft of States not Parties to an Armed
Conflict.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Mar2 - 18: Relating to Accounting for Public Correspondence in Maritime Radiocommunications.

Reasons: As a consequence of relevant proposals to the WARC-79.

SUP Rec Mar2 - 21: Relating to the Possible Re-arrangement of the Radio Regulations and the Additional Radio Regulations.

Reasons: The provisions of this Recommendation have been implemented.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 133-E 6 August 1979 Original : French

PLENARY MEETING

#### People's Republic of the Congo

PROPOSALS FOR THE WORK OF THE CONFERENCE

## Item 2.1 - Terminology

COG/133/1

The term "Overseas Territories" was introduced into the Radio Regulations at a time when certain countries of Africa, Asia, the Middle East etc. were still under colonial rule.

Since then, a number of these countries have assumed their national sovereignty, and the People's Republic of the Congo therefore considers that the retention of this term is no longer justified; it asks that the term be purely and simply deleted from the new Radio Regulations.

#### Item 2.2 - Frequency requirements

### Band 27.5 - 28 MHz

The People's Republic of the Congo proposes to use this band for the fixed and mobile services, as do Albania, Bulgaria, Hungary, Poland, Roumania, Switzerland, Czechoslovakia and the USSR.

COG/133/2

It therefore asks that No. 3524/277 be amended to include the People's Republic of the Congo in the list of countries.

## Band 47 - 68 MHz

COG/133/3

The poor quality obtained in this band has caused the Congo not to use it for broadcasting. It prefers to use it for the fixed services on a primary basis to that effect and for the mobile services on a permitted basis and asks that a new footnote 3540A be inserted in the Radio Regulations.

### Bands 87.5 - 100 MHz and 100 - 108 MHz

The People's Republic of the Congo requests:

COG/133/4

- the amalgamation of these two bands, to be used for broadcasting;

COG/133/5

- the addition of its name to the list of countries in No. 3568/269;

cog/133/6

- the inclusion of a footnote 3568A on the additional allocation to the fixed and land mobile services of the new band 87.5 - 108 MHz resulting from the amalgamation.

### Bands 150.5 - 151, 151 - 153, 153 - 154, 154 - 156 and 156 - 174 MHz

The People's Republic of the Congo is being confronted with more and more problems relating to the choice and allocation of frequencies to the fixed services on a primary basis and to the land mobile services on a permitted basis.

COG/133/7

To solve these problems, it asks that the above-mentioned bands be amalgamated and proposes to allocate the new band 150.5 - 174 MHz resulting from the amalgamation to the services referred to above.

The use of this band for services other than those mentioned above will be the subject of special footnotes.

## Band 174 - 216 MHz

COG/133/8

No. 3601/293 Add the People's Republic of the Congo, which wishes to use this band for the fixed and mobile services in order to meet the many outstanding requests for frequencies.

## Bands 406.1 - 410, 410 - 420 and 420 - 430 MHz

COG/133/9

The Peoples Republic of the Congo asks that these bands be amalgamated into one to be used by the mobile, except aeronautical mobile, service and the radiolocation service. The band would also be used by the low-capacity radio relay services of Posts and Telecommunications.

# Bands 470 - 582, 582 - 606, 606 - 790 and 790 - 890 MHz

COG/133/10

The People's Republic of the Congo requests the amalgamation of these bands in a single band 470 - 890 MHz, to be allocated exclusively to broadcasting (Region 1).

## INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 134-E 13 August 1979 Original : English

PLENARY MEETING

#### Note by the Secretary-General

SERVICE DOCUMENTS - VOLUME AND COST FACTORS

The ITU Administrative Council has, during recent Sessions, expressed some concern regarding the volume and cost of ITU publications and this especially with a view to ensuring that these publications correspond closely to the needs of the Member Administrations.

A significant part of the concern about publications arises from the increasing cost of producing printed books, the price per copy of which becomes all the higher if circulation drops, because the fixed costs (composition) have to be spread over a decreasing number of copies.

Consequently, greater interest is now being shown in possible alternative means of distributing information such as microfiche, microfilm or magnetic tape. Most ITU service documents are already prepared with the help of electronic data processing so that the supply of this information on magnetic tape would create no difficulty.

Similarly, microfiches are already being used at ITU Headquarters as the visual reference file for some data. Such microfiches are furthermore easily prepared if the publication concerned is available on magnetic tape file. In this connection, it is important to keep in mind that cost of simple microfilm reader would be relatively quickly amortized if it were used to consult the microfiche equivalent of voluminous publications the airmail or airfreight dispatch of which, to remote destinations, is expensive.

Council is, on the other hand, conscious of the fact that the decision to publish information (choice of publication, content and frequency of publication) rests with the respective organs of the Union, i.e. Administrative Conferences and Plenaries of the CCIs.

These factors also affect the costs borne by the Members both on the national budgets and through the ITU budgets and it was considered appropriate to draw the attention of the Conference to this matter bearing in mind the considerable volume of information, and its frequency of publication, provided for by the Radio Regulations.

M. MILI

Secretary-General



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 135-E 15 August 1979 Original: French

PLENARY MEETING

## Italy

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE N1/1

Terms and Definitions

SECTION 1

I/135/1

MOD 3003/3

General Network of Telecommunication Channels:

The whole of the existing telecommunication channels open to public correspondence, with the exception of the telecommunication channels of the mobile service, of the maritime mobile-satellite service and of the fixed-satellite service when used for connection between one or more earth stations and a satellite used for the maritime mobile-satellite service.

Reasons: Following the principle adopted by the World Maritime Administrative Radio Conference (Geneva, 1974), to complete the revision of this definition by excluding both the mobile-satellite service as a whole and all the pertinent feeder links.

I/135/2

ADD 3006A

Frequency Allocation:

Determination of the limits of a frequency band with a view to its use by one or more radiocommunication services in specified conditions.

Reasons: To define a term widely used in the field of frequency management.

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

I/135/3

ADD 3006B

Frequency Allotment:

Determination of a frequency and of an associated frequency band which may be used by one or more administrations in one or more predetermined countries or geographical areas.

Reasons: To define a term widely used in the field of frequency management.

 $\underline{\text{Note}}$ : If this proposal is adopted by the WARC-79, Resolution No. 6 of the WARC 1959 can be deleted.

I/135/4

ADD

3006C

Frequency Assignment:

Determination of a frequency and the associated characteristics which may be used by a radio station by virtue of a decision of the Administration which is responsible for that station.



Reasons: To define a term widely used in the field of frequency management.

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

#### SECTION II

I/135/5 SUP 5026/45

Reasons: See reasons for MOD 3027/48.

I/135/6 MOD 3027/48

Radionavigation Service:

Radiodetermination-used-for-the-purposes-of-navigation, including-obstruction-warning. A radiocommunication service using the properties of radio waves with a view to determining the presence of objects and their position or movement for the purposes of safety of aeronautical or maritime navigation and land traffic1).

Reasons: To remove ambiguity between the terms radiodetermination, radionavigation and radiolocation.

I/135/7 ADD 3027.1/48.1 <sup>1)</sup> In the Table, when a frequency band is allocated to radionavigation but must be used only by the aeronautical or maritime radionavigation service, land traffic should be explicitly excluded by the phrase "except land traffic".

I/135/8 MOD 3028/54

Radiolocation Service:

Radiodetermination-used for purposes other than those-of radionavigation. A radiocommunication service using the properties of radio waves with a view to determining the presence of objects and their position or movement for purposes other than those of the radionavigation service.

Reasons: As for 3027/48.

I/135/9 MOD 3029/69

Safety Radiocommunication Service:

A terrestrial or space radiocommunication service used permanently or temporarily for the safeguarding of human life and property on the Earth's surface, in the air or in space.

 $\underline{\text{Reasons}}$ : This type of radiocommunication is part of a radiocommunication service.

#### SECTION III

I/135/10 <u>NOC</u> 3044/78

I/135/11 NOC 3045/79

Reasons: Text satisfactory.

I/135/12 SUP 3049/46

I/135/13 SUP 3050/47

Reasons: Following SUP 3026/45.

I/135/14 SUP 3051/49

I/135/15 SUP 3056/55

Reasons: Following MOD 3027/48 and MOD 3028/54.

I/135/16 MOD 3059/58

Radar:

A radiodetermination radiocommunication system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the a point whose position is to be determined.

Reasons: Following SUP 3026/45.

I/135/17 MOD

3060/59 Primary Radar:

A radiodetermination radiocommunication system based on the comparison of reference signals with radio signals reflected from the  $\underline{a}$  point whose position  $\underline{is}$  to be determined.

Reasons: Following SUP 3026/45.

I/135/18 MOD 3061/60

Secondary Radar:

A radiodetermination radiocommunication system based on the comparison of reference signals with radio signals retransmitted from the a point whose position is to be determined.

Reasons: Following SUP 3026/45.

I/135/19 MOD

3062/60A

Radar Beacon (racon):

In-the-maritime-radionavigation-service, A receiver-transmitter device associated with a fixed navigational mark which, when triggered by a surface-search radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

Reasons: In accordance with the SPM Report.

I/135/20

MOD

3063/61

Instrument Landing System (ILS):

An <u>aeronautical</u> radionavigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

Reasons: To include the ILS in the aeronautical navigation service.

I/135/21

MOD

3067/65

Radio Altimeter:

An <u>aeronautical</u> radionavigation equipment, on board an aircraft, which makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the ground.

Reasons : To include the radio altimeter in the aeronautical radionavigation service.

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Page 4

I/135/22 MOD 3068/66

Radio Direction-Finding:

Radiodetermination-using Use of the reception of radio waves for the purpose of determining the direction of a station or object.

Reasons: Following SUP 3026/45.

1/135/23

MOD 3069/67

Radio Direction-Finding Station:

A radiodetermination station using radio direction-finding.

Reasons: Following SUP 3026/45.

I/135/24

MOD 3076/33

Aeronautical Mobile Service:

A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations and emergency position-indicating radiobeacon stations may also participate.

 $\frac{\text{Reasons}}{\text{part in this service}}$ : To enable emergency position-indicating radiobeacon stations to take

I/135/25

MOD 3079/36

Maritime Mobile Service :

A mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations (see No. 3082/39A); survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Reasons: To enable emergency precision-indicating radiobeacon stations to take part in this service.

1/135/26

ADD

3089A

Non-Professional Personal Service :

A service in which a number of low-power stations may use collective frequencies with simplex operation to establish communications the object of which is to transmit messages of a purely personal nature and of no financial interest. Messages of a public correspondence nature are excluded. Stations of this service are forbidden on board aircraft.

Reasons: It is desirable that the many purposes for which the band 27 MHz is used should be described clearly enough for a frequency allocation to be made in this band in specific operating conditions.

SECTION IV

I/135/27

MOD

3093/84AFC

Satellite Link:

A radio link between a transmitting earth station and a receiving earth station through one satellite.

A satellite link comprises one <del>up-path</del> up-link and one <del>down-path</del> down-link.

Reasons: In accordance with the CCIR SPM Report.

1/135/28

MOD 3094/84AFD

Multi-Satellite Link:

A radio link between a transmitting earth station and a receiving earth station through two or more satellites, without any intermediate earth station.

A multi-satellite link comprises one up-path up-link, one or more satellite-to-satellite paths links and one down-path down-link.

Reasons: In accordance with the CCIR SPM Report.

I/135/29

ADD 3094A

Feeder Link:

A radio link in the fixed-satellite service from an earth station situated at a specified fixed point to a space station in another service, or from a space station in another service to an earth station, for the routing of information of the fixed-satellite service.

Reasons: To define a term which may usefully be included in the Table of Frequency Allocations to simplify certain allocations to the fixed service.

I/135/30

MOD

3098/84AZ

Space Tracking:

Determination of the orbit, velocity or instantaneous position of an object in space by means of radiodetermination, excluding primary radar, for the purpose of following the movement of the object; by extension, any operation for the purpose of following the movement of an object in space.

Reasons: Improvement of the text.

I/135/31

MOD

3099/84ATD

Space Research Service:

A radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

The service is called passive when it employs solely radio waves produced either naturally or by sources outside these services.

Reasons: It would seem useful to specify that this service also includes passive space research.

I/135/32

MOD

3102/84AG

Fixed-Satellite Service:

A radiocommunication service between earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the inter-satellite service; this service also includes feeder links.

For-connection-between-one-or-more-earth-stations-at specified-fixed-points-and-satellites-used-for-a-service-other-than-the-fixed-satellite-service-(for-example,-the-mobile-satellite-service,-broadcasting-satellite-service,-etc.).

Reasons: Improvement of the text in view of ADD 3094A.

I/135/33

MOD 3106/84ASA

Earth Exploration-Satellite Service1:

A radiocommunication service between earth stations and one or more space stations in which :

- information relating to the characteristics of the Earth and its natural phenomena is obtained from instruments sensors on earth satellites;
- similar information is collected from air-borne or earth-based platforms;
- such information may be distributed by  $\underline{\text{down-links}}$  to Earth stations within the system concerned;
  - platform interrogation may be included.

I/135/34

ADD

3106.1 Where the word "passive" or "active" is added in the Table to describe a frequency band allocation to this service, passive or active sensors may be used accordingly.

Reasons : 1) To avoid including in the Earth exploration satellite service links between earth stations situated at specific points and space stations.

2) To specify the concept of "active" and "passive" research.

I/135/35

SUP

3111/84APC

Reasons: Following SUP 3026/45

I/135/36

MOD

3112/84AQ

Radionavigation-Satellite Service:

A radiodetermination-satellite space radiocommunication service having the same purpose as the radionavigation service; in certain cases this service includes transmission or retransmission of supplementary information necessary for the operation of radionavigation systems.

Reasons: Following SUP 3111/84APC

SECTION VI

I/135/37

NOC 3134/85

I/135/38

MOD

3135/86

Characteristic Frequency:

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

Note: A carrier frequency, for example, may be designated as a characteristic frequency.

Reasons: In accordance with the SPM Report.

1/135/39

ADD 3136A

Collective Frequency:

A frequency assigned to the stations of several users in a specified area or throughout the territory of a country, regardless of the density of occupation and the quality of service.

Reasons: To define a term used in frequency assignment.

I/135/40

MOD

Assigned Frequency Band:

The frequency band the centre of which coincides with the frequency assigned to the station and the width of which within which the emission of a station is authorized; the width of the band equals the necessary bandwidth plus twice the absolute value of the frequency tolerance.

Reasons: In accordance with the SPM Report.

I/135/41

MOD

3139/90

3140/91

3138/89

Occupied Bandwidth:

The frequency bandwidth such that, below the lower and above the upper frequency limits, the mean powers radiated emitted are each equal to a specified percentage  $\beta/2$  of the total mean power radiated by of a given emission. In-some-cases,-for-example-multichannel-frequency-division systems, the-percentage-of-0.5-%-may-lead-to-certain-difficulties-in-the practical-application-of-the-definitions-of-occupied-and-necessary-bandwidth; in-such-cases-a-different-percentage-may-prove-useful. In the absence of of specification by the CCIR for each class of emission, the value  $\beta/2$  should be assumed to be equal to 0.5 %.

I/135/42

MOD

Necessary Bandwidth:

For a given class of emission, the minimum-value width of the occupied-bandwidth frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required for-the-system-employed under specified conditions. Emissions-useful-for-the good-functioning-of-the-receiving-equipment-as,-for-example,-the-emission corresponding-to-the-carrier-of-reduced-carrier-systems,-shall-be-included in-the-necessary-bandwidth.

Reasons: In accordance with the SPM Report.

## ARTICLE N7/5

Section IV. Table of Frequency Allocations - 10 kHz - 275 GHz

kHz 130 - 160

		Allocation to Services
		Region 1
I/135/43	MOD	130 - <del>15</del> 0 <u>148.5</u>
		MARITIME MOBILE 3465/172
		/FIXED/
		3457/163 3461/167 3466/173
I/135/44	MOD	<u>148.5</u> - 160
		MARITIME-MOBILE 3461/167 3467/174
		BROADCASTING
		3468/175
		Reasons: Channel spacing in the broadcasting service must be based on multiples of 9 kHz.
I/135/45	MOD.	3457/163 In Albania, the band $8\theta - 15\theta = 80 - 148.5$ kHz is allocated (the remainder unchanged).
		Reasons : As a result of changes made in the Table.
I/135/46	MOD	3461/167 Only classes Al in the band $90 - \frac{160}{100} = \frac{90 - 148.5}{100}$ kHz for stations of the fixed service and in the band $\frac{110}{100} = \frac{160}{100} = \frac{110}{100} = \frac{148.5}{100}$ kHz for stations of the maritime mobile service.
		Reasons: As a result of changes made in the Table.
I/135/47	SUP	3465/172
		Reasons : No longer necessary.
I/135/48	MOD	3466/173 In Albania, the band $\frac{130}{130} - \frac{148.5}{130}$ kHz is allocated (the remainder unchanged).
		Reasons: As a result of changes made in the Table.
I/135/49	SUP	3463/175
•		December 1 As a manufacture of the state of

Reasons: As a result of changes made in the Table.

kHz 200 - 283.5

		Region 1	Region 2	Region 3
I/135/50	MOD		200 - <del>285</del> <u>283.5</u>	
I/135/51	MOD	255 - <del>28</del> 5 <u>283.5</u>	AERONAUTICAL RADIONAVIGATIO	DN .
		MARITIME-MOBILE 3467/174	Aeronautical Mobile	
	· .	BROADCASTING		
		AERONAUTICAL RADIONAVIGATION	•	
		3469/176 3 <del>470/177</del> 3471/178		•

Reasons: Elimination of the maritime mobile and aeronautical radionavigation services in accordance with Recommendation No. 2 of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3) Geneva, 1975.

I/135/51 SUP 3470/177

Reasons: As a result of changes made in the Table.

kHz 283.5 - 315

I/135/52 MOD

<del>285</del> <u>283.5</u> - 315	MARITIME RADIONAVIGATION (Radiobeacons)
	Aeronautical radionavigation

Reasons: As a result of changes made in the Table.

kHż 415 - 495

I/135/53	MOD	415 - <del>490</del> <u>445</u>	415 - <del>490</del> <u>445</u>
		MARITIME-MOBILE	MARITIME MOBILE
		AERONAUTICAL RADIONAVIGATION	
		3 <del>478/185</del> 3 <del>479/186</del>	<del>3478/185</del> 3479/186
I/135/54	MOD	445 - 495	MARITIME MOBILE
			<del>3478/185</del> 3479/186

I/135/55 SUP 3478/185

Reasons: To provide better protection for the maritime mobile and aeronautical radionavigation services in Region 1 in the band 415 - 445 kHz.

kHz 495 - 505

Region 1 Region 2 Region 3

1/135/56 MOD 499 495 - 510 505 MOBILE (distress and calling)
3480/187

 $\overline{\text{Reasons}}$ : Present technique permits a reduction in the protected bandwith for the distress and calling frequency.

kHz 505 - 535

I/135/57	MOD	5±0 <u>505</u> - <del>5</del> 25 <u>526.5</u>	5 <del>1</del> 0 <u>505</u> - 525 <u>526.5</u>	5±0 <u>505</u> - <del>525</del> <u>526.5</u>
		MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE
		Aeronautical	/AERONAUTICAL RADIONAYIGATION/	Aeronautical mobile
		radionavigation	3481/188	Land mobile
		3478/185		3482/189
1/135/58	MOD	<u>526.5</u> - 535	<u>526.5</u> - 535	<u>526.5</u> - 535
		BROADCASTING	MOBILE	MOBILE
			/BROADCASTING/ 3484/191	/BROADCASTING/
		3483/190	/AERONAUTICAL RADIONAVIGATION/ 3481/188	

kHz 535 - 1 606.5

I/135/59 MOD 535

535 - <del>1-605</del> <u>1 606.5</u> BROADCASTING

Reasons : Channel spacing in the broadcasting service must be based on multiples of  $9\ \mathrm{kHz}$ .

kHz 1 605 - 2 000

		Region l	Region 2	Region 3
I/135/60	MOD	1-6052-000 1 606.5 - 1 790	1-605 <u>1 606.5</u> - 1 800	1-605 1 606.5 - 1 800
		FIXED	FIXED	FIXED
		MOBILE-except	MOBILE	MOBILE
	• .	aeronautical-mobile	AERONAUTICAL RADIONAVIGATION	
		MARITIME MOBILE	Radiolocation	
		/FIXED/		
		/LAND MOBILE/ 3485/192 3486/420		
		3487/193 3488/194 3489/195 3490/195A	·	·
1/135/61	MOD	1 790 - 1 800		·
		FIXED		
		MOBILE-except aeronautical-mobile		
		RADIONAVIGATION		
	`.	RADIOLOCATION		
		3485/192		3491/197
1/135/62	MOD	1 800 - 1 820	1 800 - 2 000 (NOC)	
		FIXED		
		MOBILE-except aeronautical-mobile		
		AMATEUR		·
1/135/63	MOD	1 820 - 1 990		
		FIXEÐ		
	·	MOBILE-except aeronautical-mobile		
,	,	MARITIME MOBILE		
		/FIXED/		
		/LAND MOBILE/		

kHz 1 605 - 2 000 (cont.)

,	•	Region l	Region 2	Region 3
I/135/64	MOD	<u>1 990</u> - 2 000		
		FIXED		
		MOBILE-except aeronautical-mobile		
•	•	RADIONAVIGATION		
		RADIOLOCATION		
		Reasons: To improve the	status of the maritime mobil	e service.
1/135/65	SUP	3487/193		
		Reasons : As a result of o	changes made in the Table.	
1/135/66	SUP	3488/194	A A Section Control of the Control o	
		Reasons : As a result of o	changes made in the Table.	
1/135/67	SUP	3489/195		
	•	Reasons : As a result of o	changes made in the Table.	
1/135/68	SUP	3490/195A		
		Reasons : As a result of o	changes made in the Table.	
			kHz 2 000 – 2 176	
1/135/69	MOD	2 000 - <del>2-045</del> <u>2 176</u>	·	
		FIXED		
		MOBILE-except aeronautical-mobile		. •
		MARITIME MOBILE	· · ·	
		/FIXED/	2 107 - <del>2-170</del> <u>2 176</u>	
		/LAND MOBILE/	FIXED	
		3487/193 3490/195A	MOBILE	•

 $\underline{\mathtt{Reasons}}$ : To improve the status of the maritime mobile service.

# kHz 2 176 - 2 188

		Region 1	Region 2	Region 3
I/135/70	MOD	<del>2-170</del> <u>2 176</u> - <del>2-194</del> <u>2 188</u>	MOBILE (distress and calli	ng)
			3994/201 3995/201A	
		Reasons : Present techniqu for the distress and calli	e permits a reduction in th	e protected bandwidth
1/135/71	MOD .	and calling frequency for	frequency 2 182 kHz is the radiotelephony. The condit 2 188 kHz are prescribed i	ions for the use of the
		Reasons : As a result of c	hanges made in the Table.	
			kHz 2 188 - 2 498	
I/135 <b>/</b> 72	MOD	<del>2-194</del> <u>2 188</u> - 2 300	<del>2-194</del> <u>2 188</u> - 2 300	
	,	FIXED	FIXED	;
		MOBILE-except aeronautical-mobile-(R)	MOBILE	
		MARITIME MOBILE		
		/FIXED/		
		/LAND MOBILE/ 3487/193 3490/195A		
I/135/73·	MOD	2 300 - 2 498		
		FIXED		
		MOBILE-except aeronautical-mobile-(R)		
		MARITIME MOBILE		
		BROADCASTING 3496/202		
		/FIXED/		
		/LAND MOBILE/		

 $\underline{\mathtt{Reasons}}$ : To improve the status of the maritime mobile service.

kHz 2 502 - 2 850

			2 302 - 2 030	
		Region 1	Region 2	Region 3
1/135/74	MOD	2 502 - <del>2-625</del> <u>2 850</u>		
		F±XEĐ		
		MOBILE-except aeronautical-mobile-(R)		
		MARITIME MOBILE		
		/FIXED/		
		/LAND MOBILE/		
		3487/193 3490/195A		
	-	Reasons : To improve the s	tatus of the maritime mobile se	ervice.
I/135/75	SUP	3499/205		
	·	Reasons : As a result of o	hanges made in the Table.	
			kHz 3 155 - 3 200	· 
1/135/76	MOD	3 155 - 3 200	FIXED	
			MOBILE-except-aeronautical-mol	<del>pile-(R)</del>
			MARITIME MOBILE	
			/FIXED/	
		Reasons: To improve the s	tatus of the maritime mobile se	ervice.
		•	kHz 3 500 - 3 800	
1/135/77	MOD	3 500 <b>-</b> 3-800 <u>3 520</u>		
		AMATEUR		
		FIXED		
		MOBILE-except aeronautical-mobile		
1/135/78	MOD	3 520 - 3 800	Landing State (1997)	
		AMATEUR		
		FIXED		

 $\underline{\mathtt{Reasons}}$ : To improve the operating conditions of the amateur service.

MOBILE except

aeronautical mobile

kHz 5 730 - 6 200

		Region 1	Region 2	Region 3
I/135/79	MOD	5 730 <b>-</b> 5-950 <u>5 850</u>	FIXED	
1/135/80	MOD	<u>5 850</u> – 6 200	BROADCASTING	
		Reasons : Increase in dema	and for the broadcasting ser	vice.
		•	kHz 7 300 - 8 195	
I/135/81	MOD	7 300 - 8-195 7 500	FIXED	
			BROADCASTING	·
I/135/82	MOD	7 500 - 8 102	FIXED	
1/135/83	MOD	8 102 - 8 195	FIXED	
			MARITIME MOBILE	
		Reasons: Increase in dema	and for the broadcasting and	maritime mobile services.
			kHz 9 040 - 9 500	
1/135/84	MOD	9 040 - 9-500 9 133	FIXED	
		·	MARITIME MOBILE	
1/135/85	MOD	9 133 - 9 500	FIXED	
		Reasons : Increase in dema	and for the maritime mobile	service.
			kHz 9 775 - 9 995	
1/135/86	MOD	9 775 <b>-</b> 9- <del>995</del> <u>9 900</u>	FIXED	
•				
			BROADCASTING	

Reasons: Increase in demand for the broadcasting service.

kHz 11 400 - 11 700

		Region 1	Region 2	Region 3
1/135/88	MOD	11 400 - <del>11-700</del> <u>11 524</u>	Fixed	
			MARITIME MOBILE	
			3512/216	
1/135/89	MOD	11 524 - 11 600	FIXED	
I/135/90	MOD	11 600 - 11 700	FIXED	
			BROADCASTING	: : .

 $\underline{\text{Reasons}}$  : Increase in demand for the broadcasting and maritime mobile services.

kHz 11 975 - 12 330

1/135/91	MOD	11 975 - <del>12-330</del> <u>12 025</u>	FIXED	
	-		BROADCASTING	
1/135/92	MOD	12 025 - 12 206	FIXED	
1/135/93	MOD	<u>12 206</u> - 12 330	FIXED (	
			MARITIME MOBILE	

 $\underline{\text{Reasons}}$ : Increase in demand for the broadcasting and maritime mobile services.

kHz 13 360 - 14 000

I/135/9 <sup>4</sup>	MOD	13 360 - <del>14</del> - <del>000</del> <u>13 750</u>	FIXED
			3513/217
I/135 <b>/</b> 95	MOD	13 750 - 13 800	FIXED
			BROADCASTING
1/135/96	MOD	13 800 - 13 875	BROADCASTING
			FTXFD
1/135/97	MOD	13 875 - 14 000	FIXED

Reasons: Increase in demand for the broadcasting service.

1/135/98

MOD

3513/217 The frequency 13 560 kHz is designated for industrial, scientific and medical purposes. Emissions must be confined within the limits of ± 0.05 % of that frequency and to such a volume that harmful interference will not be caused to radiocommunication services operating outside those band limits. On the other hand, radiocommunication services operating within those band limits must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

<u>Reasons</u>: To impose limits on the emissions of ISM equipments in order to provide better protection for radiocommunication services operating outside the ISM band.

kHz 15 450 - 15 762

Region 1 Region 2 Region 3

I/135/99 MOD 15 450 - 15-762 15 550 FIXED

BROADCASTING

I/135/100 MOD 15 550 - 15 762 FIXED

Reasons: Increase in demand for the broadcasting service.

kHz 15 768 - 16 460

I/135/101 MOD 15 768 - ±6-460 16 305 FIXED

I/305/102 MOD 16 305 - 16 460 FIXED

MARITIME MOBILE

Reasons: Increase in demand for the maritime mobile service.

kHz 17 360 - 17 700

 1/135/103
 MOD
 17 360 - 17 700 - 17 515
 FIXED

 1/135/104
 MOD
 17 515 - 17 600 - 17 700
 FIXED

 1/135/105
 MOD
 17 600 - 17 700 - 17 FIXED

 BROADCASTING

 $\underline{\text{Reasons}}$ : Increase in demand for the maritime mobile and broadcasting services.

#### kHz 21 750 - 21 850

`	Region 1	Region 2	Region 3
I/135/106 . MOD	21 750 - 21 850	FIXED	•
		BROADCASTING	

Reasons: Increase in demand for the broadcasting service.

кнz 26 100 - 27 500

I/135/107	MOD	26 100 - 27 500	FIXED
			MOBILE except aeronautical mobile
			3522/225 <del>3523/226</del> <u>3523A</u>

I/135/108 MOD 3522/225 The frequency 27 120 kHz is designated for industrial, scientific and medical purposes. Emissions must be confined within the limits of + 0.6 % of that frequency and to such a volume that harmful interference will not be caused to radiocommunication services operating outside those band limits. On the other hand, radiocommunication services operating within those band limits must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

Reasons: To impose limits on the emissions of ISM equipments in order to provide better protection for radiocommunication services operating outside the ISM band.

I/135/109 SUP 3523/226

Reasons : Consequential on the proposed addition of footnote 3523A.

I/135/110 ADD 3523A The non-professional personal service can use the frequencies between 26 960 and 27 280 kHz when the power does not exceed 5 W.

Reasons: To meet the frequency requirements of this service.

I/135/111 MOD 3533/236 The frequency 40.68 MHz is designated for industrial, scientific and medical purposes. Emissions must be confined within the limits of ± 0.05 % of that frequency and to such a volume that harmful interference will not be caused to radiocommunication services operating outside those band limits. On the other hand, radiocommunication services operating within those band limits must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

Reasons: To impose limits on the emissions of ISM equipments in order to provide better protection for radiocommunication services operating outside the ISM band.

 $\mathtt{MHz}$ 41 - 47

1/135/112 MOD Region 1

41 - 47

BROADCASTING

Fixed 3525/228 3535/237

Mobile

FIXED 3525/228

MOBILE

3534/236A 3536/238 3537/239 3538/240 3539/241

Reasons: Elimination of the broadcasting service for the benefit of the fixed and mobile services.

1/135/113 MOD 3536/238 (Pro memoria : provision to be updated) I/135/114 MOD 3537/239 (Pro memoria : provision to be updated)

I/135/115 (Pro memoria : provision to be updated). MOD 3539/241

> MHz47 - 68

I/135/116 MOD 47 - 68

BROADCASTING

MOBILE

3536/238 3537/239 3538A 3539/241 3540/242 3541/243

I/135/117 ADD 3538A

As from a certain date, this band will no longer be allocated to the broadcasting service (see Resolution A).

Reasons: To take into account the need for the long-term expansion of the bands allocated to the mobile service.

I/135/118 3540/242 MOD (Pro memoria: provision to be updated)

3541/243 I/135/119 MOD (Pro memoria: provision to be updated)

MHz 87.5 - 100

Region 1

I/135/120 MOD 87.5 - 88

BROADCASTING

MOBILE except
aeronautical mobile
3563/264 3562A

I/135/121 MOD 88 - 100

BROADCASTING
3564/265

I/135/122 ADD

3562A As from a certain date, this band will no longer be allocated to the broadcasting service (see Resolution A).

Reasons: To take account of the need for the long-term expansion of the bands allocated to the mobile service.

MHz 100 - 104

I/135/123 MOD

100 - <del>108</del> 104

MOBILE-except
aeronautical-mobile-(R)

BROADCASTING

3568/269 3569/370 3570/271

Reasons: Urgent need to extend the broadcasting band.

MHz 104 - 108

I/135/124 MOD

<u>104</u> - 108

MOBILE except aeronautical mobile (R)

BROADCASTING

<u>3568A</u> 3568/269 <del>3569/270</del> 3570/271 I/135/125 ADD 3568A As from a certain date, this band will no longer be allocated to the mobile, except aeronautical mobile (R), service (see Resolution A).

 $\underline{\text{Reasons}}$ : To extend on a long-term basis the bands allocated to broadcasting in accordance with Recommendation N14 of the WARC 1959.

I/135/126 MOD 3568/269 (Pro mem.: provision to be updated.)

I/135/127 SUP 3569/270 As a result of change in the Table.

I/135/128 MOD 3570/271 Delete Italy from this footnote.

I/135/129 MOD 3591/285A The band 148 - 149.9 MHz ... shall not exceed  $\pm$ -15-kHz  $\pm$  25 kHz.

Reasons: To improve the conditions of use.

MHz 174 - 235

Region 1 174 - 216 I/135/130 MOD BROADCASTING MOBILE except aeronautical mobile <u>3598A</u> <u>3599/291</u> 3600/292 3601/293 3602/294 I/135/131 MOD 216 - 223 **AERONAUTICAL** RADIONAVIGATION BROADCASTING MOBILE except aeronautical mobile 3598A 3605/297 3606/298 3607/299 3608/300 3609/301 I/135/132 MOD 223 - 235 **AERONAUTICAL** RADIONAVIGATION Fixed Mobile FIXED MOBILE

<del>3607/299</del>

3609/301

3611/303

3613/305

3608/300

3610/302

3612/304

3598A	As from	a certain	date.	this	band	will	no	longer	be
			-						
allocated to the	broadcasting	service (	see Re	solut.	ion A	)			

Reasons: To take into account the need for the long-term expansion of the bands allocated to the mobile service.

1/135/134	SUP	3605/297	(Obsolete)
I <b>/</b> 135 <b>/</b> 135	SUP	3606/298	(Obsolete)
I <b>/</b> 135/136	SUP	3607/299	(Obsolete)

I/135/137 MOD 3610/302 (Pro mem.: provision to be updated)

MHz 420 - 440

FIXED

MOBILE except aeronautical mobile

Radiolocation

3636/318 3640/319 3642/319B 3643/320 3641/320A 3645/321 3646/322

MHZ 420 - 440 (cont.)

	Region 1'
I/135/140 MOD	<u>432 - 434</u>
	AMATEUR
	RADIOLOGATION
	FIXED
	MOBILE except aeronautical mobile
	Radiolocation
	3636/318 3640/319 3642/319B 3643/320 3644/320A 3645/321 3646/322
I/135/141 MOD	<u>434 - 435</u>
	AMATEUR
	RADIOLOCATION
	FIXED
	MOBILE except aeronautical mobile
	Radiolocation
	3636/318 3640/319 3642/319B 36 <del>43/320</del> 3644/320A 3645/321 3646/322
I/135/142 MOD	<u>435</u> - <u>436</u>
	AMATEUR
	RADIOLOCATION
	AMATEUR-satellite
	3636/318 3640/319 3642/319B 3643/320 3644/320A 3645/321 3646/322

MHz 420 - 440 (cont.)

		Region 1
1/135/143	MOD	<u>436</u> - <u>438</u>
		AMATEUR
		RADIOLOGATION
		AMATEUR-satellite
		FIXED
		3636/318 3640/319 3642/319B 3643/320 3644/320A 3645/321 3646/322
I/135/144	MOD	<u>438</u> - 440
		AMATEUR
	•	RADIOLOGATION
	·.	FIXED
	,	3636/318 3640/319 3642/319B 3643/320 3644/320A 3645/321 3646/322
		Ressons : To improve the of

 $\underline{\text{Reasons}}$ : To improve the conditions of sharing between the amateur service and other services.

I/135/145

MOD

3643/320

a) Delete Italy from this footnote.

Reasons: As a result of change in the Table.

b) (Pro mem. : provision to be updated)

I/135/146

SUP

3644/320A

As a result of change in the Table.

I/135/147

MOD

3646/322

(Pro mem. : provision to be updated)

1-1

MHz 470 - 854

		Region 1	
I/135/148	NOC	470 - 582	
		BROADCASTING	
I/135/149	MOD	582 - 606	
		BROADCASTING	
		RADIONAVIGATION	·
		3651/325 3652/327 3653/328 <u>3653A</u> 3654/329	
I/135/150	MOD	606 - 790	
		BROADCASTING	•
		3654/329 <del>3656/330</del> 3657/330A 3659/331 3660/332 3661/332A	
1/135/151	MOD	790 - <del>890</del> <u>838</u>	
		FIXED	
		BROADCASTING	
		3654/329 3659/331 <del>3662/333</del> 3663/334	•
1/135/152	MOD	<u>838</u> - <u>854</u>	
		FIXED	•
		BROADCASTING	
		3654/329 3659/331 <u>3661A</u> 3662/333 3663/334	
1/135/153	ADD •		ions of the radionavigation service may continue - 606 MHz until 1 January 1990.
I/135/154	SUP	3656/330 (Obs	olete)
I/135/155	ADD	3661A As fallocated to the fixed ser	rom a certain date, this band will no longer be vice (see Resolution A).
I/135/156	MOD	tropospheric scatter may of agreements between the Admi	egion 1, stations of the fixed service using perate in the band $790 \ \underline{838}$ - 960 MHz subject to inistrations concerned and affected. Such $\underline{838}$ - 860 MHz shall be on a secondary basis to service.

 $\underline{\text{Reasons}}$ : To obtain an exclusive broadcasting band between 470 and 854 MHz

on a long-term basis.

MHz 854 - 960

		Region 1
I/135/157	MOD	<del>790</del> <u>854</u> - 890
		FIXED
		BROADCASTING
		MOBILE
		3654/329 3659/331 3662/333 3663/334
I/135/158	MOD	890 - 942
		FIXED
		BROADCASTING
	•	Radiolocation
		MOBILE
		3654/329 3659/331 3662/333 3669/339A
1/135/159	MOD	942 - 960
•		FIXED
		<del>BROADCASTING</del>
		MOBILE
		3654/329 3659/331 3662/333 3669/339A

Reasons: To meet the requirements of the mobile service.

MHz 1 400 - 1 427

		Region 1	Region 2	Region 3	
I/135/160	MOD	1 400 - 1 427	RADIO ASTRONOMY		
			EARTH EXPLORATION-SATELLITE	(Passive)	

Reasons: Increase in demand for the Earth exploration-satellite service.

MHz 1 558.5 - 1 636.5

		Region 1	Region 2	Region 3
1/135/161	MOD	1 558.5 - <del>1-636.5</del> <u>1 611.5</u>	AERONAUTICAL RADIONAVIGA	TION
			3685/352 3686/352A 3687	/352B 3688/352D <del>3695/352K</del>
I/135/162	MOD	1 611.5 - 1 612.5	AERONAUTICAL RADIONAVIGA	TION
			Radio astronomy	
			3685/352 3686/352A 3687	/352B 3688/352D <del>3695/352K</del>
1/135/163	MOD	<u>1 612.5</u> - 1 636.5	AERONAUTICAL RADIONAVIGA	TION
			3685/352 3686/352A 3687	/352B 3688/352D <del>3695/352K</del>

Reasons: Important for observations on OH lines.

MHz 1 700 - 1 710

I/135/164	MOD	1 700 - 1 710	1 700 - 1 710
		FIXED	FIXED
		SPACE-RESEARCH (Space-to-Earth)	MOBILE
	*	METEOROLOGICAL-SATELLITE	SPACE-RESEARCH-(Space-to-Earth)
		(Space-to-Earth)	METEOROLOGICAL-SATELLITE (Space-to-Earth)
		Mobile	.*
		3701/354D	3701/354D

Reasons: Increase in demand for the meteorological-satellite service.

MHz 1 710 - 1 770

		Region 1	Region 2	Region 3
I/135/165	MOD	1 710 - <del>1-770</del> - <u>1 720</u>	1 710 - 1 770	
		FIXED	FIXED	
		Mobile	MOBILE	
1	•	<del>3695/352K</del> 3702/356		
1/135/166	MOD	<u> 1 720 - 1 721</u>		
		FIXED		
		Mobile		
	•	Radio astronomy		
		<del>3695/352K</del> 3702/356	-	
1/135/167	MOD	<u>1 721</u> - 1 770	•	
		FIXED		
		Mobile		
		<del>3695/352K</del> 3702/356	MOD 3695/352K 3703/356A	•

Reasons: Frequency band important for OH line observations.

I/135/168 MOD

3695/352K Radio astronomy observations on important spectral lines due to the hydroxyl radicle OH at frequencies 1-612.231 MHz and frequency 1 720.530 MHz are carried out in a number of countries in Regions 2 and 3 under national arrangements; the bands band observed being 1-611.5 - 1-612.5-MHz-and 1 720 - 1 721 MHz respectively. Administrations should bear in mind the needs of radio astronomy service in their future planning of the bands-1-558.5 - 1-636.5-MHz band 1 710 - 1 770 MHz.

Reasons: As a result of changes made in the Table.

I/135/169

MOD

3709/357 The frequency 2 450 MHz is designated for industrial, scientific and medical purposes except in Albania, Bulgaria, Hungary, Poland, Roumania, Czechoslovakia and the USSR, where the frequency 2 375 MHz is used. Emissions must be confined within + 50 MHz of the frequencies designated and to such a volume that harmful interference will not be caused to radiocommunications services operating outside these band limits. On the other hand, radiocommunication services operating within these band limits must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

Reasons: To impose limits on the emissions of ISM equipments in order to provide better protection for radiocommunication services operating outside the ISM band.

MHz 2 690 - 2 700

Region 1 Region 2 Region 3

I/135/170 MOD 2 690 - 2 700 RADIO ASTRONOMY

EARTH EXPLORATION-SATELLITE (Passive)

3531/233B 3717/363 3719/364A 3720/364B

Reasons: Increase in demand for the Earth exploration-satellite service.

MHz 3 600 - 4 400

I/135/171 I/135/171A	MOD	3 600 - <del>4-200</del> <u>4 200.5</u>	3 700 - <del>4-200</del> <u>4 200.5</u>
		FIXED FIXED-SATELLITE	FIXED
•*		(Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)
	•	Mobile	MOBILE
		3737/374 <u>3741A</u>	3742/379 <u>3741A</u> '
1/135/172	MOD	<u>4 200.5</u> - 4 400	AERONAUTICAL RADIONAVIGATION
			3686/352A 3743/379A 3744/381 3745/382 3748/383

I/135/173 ADD 3741A In the band 3 600 (or 3 700) - 4 200.5 MHz, down-links of the maritime mobile-satellite service shall be confined to the band 4 180 - 4 200.5 MHz.

 $\underline{\text{Reasons}}$ : To meet the feeder link requirements of the maritime mobile-satellite service.

MHz 5 925 **-** 6 425

1/135/174	MOD	5 925 - 6 425	FIXED
•			FIXED-SATELLITE 3761A (Space-to-Earth)
			MOBILE

I/135/175 ADD 3761A In the band 5 925 - 6 425 MHz, up-links of the maritime mobile-satellite service shall be confined to the band 6 405 - 6 425 MHz.

Reasons: To satisfy the feeder link requirements of the maritime mobile-satellite service.

MHz 6 425 - 7 250

		Region l	Region 2	Region 3
1/135/176	MOD	6 425 - 7 250	FIXED	
			MOBILE	
	•		3743/379A 3762/392AA 3763/	392B <del>3767/393</del>

 $\underline{\text{Reasons}}$ : Allocations in this band have been maintained in order to satisfy continuing requirements.

I/135/177 SUP 3767/393

Reasons: To protect the services listed in the Table.

MHz 8 025 - 8 400

			0 02) - 0 400	
1/135/178	MOD (WW)	8 025 - 8 175	8 025 - 8 175	8 025 - 8 175
	(,	FIXED	EARTH-EXPLORATION- SATELLITE	FIXED
		FIXED-SATELLITE' (Earth-to-space)	(Space-to-Earth)	FIXED-SATELLITE (Earth-to-space)
·		MOBILE	FIXED FIXED-SATELLITE	MOBILE
		Earth-exploration- satellite	(Earth-to-space)	Earth-exploration- satellite
		(Space-to-Earth)	MOBILE	(Space-to-Earth)
•		3770/394B <u>3770A</u>	3770A	3770A
1/135/179	MOD (WW)	8 175 - 8 215	8 175 - 8 215	8 175 - 8 215
		FIXED	EARTH-EXPLORATION- SATELLITE	FIXED
		FIXED-SATELLITE (Earth-to-space)	(Space-to-Earth)	FIXED-SATELLITE (Earth-to-space)
	•	METEOROLOGICAL-SATELLITE	FIXED	METEOROLOGICAL-SATELLITE
		(Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	(Earth-to-space)
		MOBILE	METEOROLOGICAL-SATELLITE	MOBILE
		Earth-exploration-	(Earth-to-space)	Earth-exploration-
		(Space-to-Earth)	MOBILE	(Space-to-Earth)
		3770/394B <u>3770A</u>	3770A	3770A

MHz8 025 - 8 400 (cont.)

I/135/180 MOD (WW)

Region 1	Region 2	Region 3
8 215 - 8 400	8 215 - 8 400	8 215 - 8 400
FIXED	EARTH-EXPLORATION SATELLITE	FIXED
FIXED-SATELLITE (Earth-to-space)	(Space-to-Earth)	FIXED-SATELLITE (Earth-to-space)
MOBILE	FIXED-SATELLITE	MOBILE
Earth-exploration satellite	(Earth-to-space)	Earth-exploration- satellite
(Space-to-Earth)	MOBILE	(Space-to-Earth)
3768/394 3770/394B 3770A	3770A	3763/394 <u>3770A</u> .

I/135/181 ADD

The band 8 025 - 8 400 MHz is also used for the down-links 3770A of the Earth exploration-satellite service, but in Regions 1 and 3 these links may be authorized subject to prior coordination and agreement with the Administrations whose services operate in accordance with the present Table, in view of the future development of these services.

After coordination of the technical characteristics of earth stations and space stations has been successfully carried out, the stations subject of an agreement following coordination shall be considered as belonging to a service having the status of a primary service.

Reasons: As a result of the proposals to amend the definition of the Earth exploration-satellite service under which feeder links are excluded from that service.

> GHz10.68 - 10.7

1/135/182

MOD

10.68 - 10.7	RADIO ASTRONOMY
	EARTH EXPLORATION-SATELLITE (Passive)
	3784/405в

Reasons: Increase in demand for the Earth exploration-satellite service.

GHz 12.75 - 13.25

I/135/183 NOC

12.75 - 13.25	FIXED	
	MOBILE	

Reasons: To prevent sharing of the band 12.75 - 13.25 CHz with other services which might impose unacceptable restrictions on the present and future development of the services listed in the Table.

GHz 14 - 14.5

I/135/184 MOD

Region l	Reg	gion 2	Region 3	
14 - <del>14.3</del> <u>14.5</u>	FIXED-SATE	FIXED-SATELLITE (Earth-to-space)		
	RADIONAVid	ATION-3795/408A		
	FIXED	•		
·	3792/407	3793/407A <u>3796/4</u>	08B <u>3797/408</u> C	

 $\frac{\text{Reasons}}{\text{fixed service requirements}}$ : Improved protection for the fixed-satellite service and increase in

GHz 15.35 - 15.4

I/135/185 . MOD

15.35 - 15.4	RADIO ASTRONOMY	
	EARTH EXPLORATION-SATELLITE (Passive)	
	3799/409C	

Reasons: Increase in demand for the Earth exploration-satellite service.

GHz 17.7 - 19.7

I/135/186

MOD

17.7 - 19.7	FIXED	
	FIXED-SATELLITE (Space-to-Earth)	
	MOBILE	
	3799A	-

I/135/187

ADD

3799A The band 18.3 - 19.1 GHz is also used for up-links of the broadcasting-satellite service in the 12 GHz band.

 $\overline{\text{Reasons}}$ : To permit the establishment of feeder links for the broadcasting-satellite service in the 12 GHz band.

GHz · 23.6 - 24

I/135/188 MOD

23.6 - 24 RADIO ASTRONOMY

EARTH EXPLORATION-SATELLITE (Passive)

3792/407

Reasons: Increase in demand for the Earth exploration-satellite service.

GHz 24.05 - 24.25

		Region 1	Region 2	Region 3
1/135/189	MOD	24.05 - 24.25	RADIOLOCATION	
			EARTH EXPLORATION-SATELLIT	E (Active)
			Amateur	
	-1		3792/407 3803/4100	

Reasons: Increase in demand for the Earth exploration-satellite service.

I/135/190 MOD

3803/410C The frequency 24.125 GHz is designated for industrial, scientific and medical purposes. Emissions must be confined within the limits of ± 125 MHz of that frequency and to such a volume that harmful interference will not be caused to radiocommunication services operating outside those band limits. On the other hand, radiocommunication services operating within those limits must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

 $\overline{\text{Reasons}}$ : To impose limits on the emissions of ISM equipments in order to provide better protection for services operating outside the ISM band.

GHz 27.5 - 29.5

I/135/191 MOD

27.5 - 29.5	FIXED
	FIXED-SATELLITE (Earth-to-space)
,	MOBILE

Reasons: To provide better protection for the services listed in the Table.

GHz 31.3 - 31.5

I/135/192 MOD

31.3 - 31.5	RADIO ASTRONOMY
	EARTH EXPLORATION-SATELLITE (Passive)
	3806/412A

Reasons: To meet the requirements of the Earth exploration-satellite service.

GHz 34.2 - 35.2

I/135/193 MOD

Region 1	Region 2	Region 3	
34.2 - 35.2	RADIOLOCATION		
	EARTH EXPLORATION-SATELLIT	E (Active)	
	Space research		
•	3792/407 3794/408 3805/4	12 3808/412C 3809/412D	

Reasons: To meet the requirements of the Earth exploration-satellite service.

I/135/194

#### RESOLUTION A

Concerning the use, with equal rights, of certain frequency bands allocated to the broadcasting service, the mobile service and the fixed service in the Table of Frequency Allocations

The World Administrative Radio Conference, Geneva, 1979, considering

- a) that because of physical limitations the mobile service relies to a great extent on frequency allocations between 30 and 1 000 MHz;
- b) that a considerable portion of this part of the spectrum is allocated to the broadcasting service and is used for television;
- c) that there is an increased need for adequate allocations in order to meet the growing requirements of users in the mobile service and the broadcasting service;
- d) that it is now possible to broadcast television programmes via satellite systems using SHF bands, whereas the mobile service and the sound broadcasting service, on the other hand, depend entirely on terrestrial networks, particularly for reception by portable equipments;
- e) that the planning of VHF/UHF broadcasting networks could be improved by the allocation of exclusive, continuous frequency bands and by the application of optimum standards which make due allowance for the need for spectrum economy;
- f) that arrangements should be made to draw up the necessary technical and administrative bases to carry out the transfers resulting from an increase in the frequency band allocations to the mobile service between 30 and 1 000 MHz;

g) that it has been considered necessary by the WARC, Geneva, 1979 to introduce in the Table of Frequency Allocations bands to be shared between the broadcasting service and other services, such as the mobile service, although in principle the broadcasting service requires exclusive allocations since it does not lend itself to sharing with other services;

#### invites

- 1. Administrations to use broadcasting-satellite systems on a short-term basis and so far as possible in accordance with the Broadcasting-Satellite Plan established by the WARC, Geneva, 1977;
- 2. the CCIR to draw up the bases for new standards which will enable the broadcasting service to standardize and plan terrestrial systems more efficiently in future;
- 3. the Administrative Council to take the action required to convene for Region 1, in 1992 at the latest, a Regional Administrative Radio Conference to draw up a detailed television plan based on the new standards and taking into account the new situation with regard to the frequency requirements of the broadcasting service following the introduction of operational broadcasting-satellite systems;

requests the Secretary-General

- to bring this Resolution to the attention of administrations;
- 2. to bring this Resolution to the attention of the CCIR;
- 3. to report to the Administrative Council, as from 1985, on the progress achieved in this field, particularly by administrations;

resolves

- 1. that the shared allocations to which this Resolution refers should be considered as a temporary measure until a Regional Administrative Conference has drawn up a new television plan requiring less extensive frequency bands than at present;
- 2. that in principle these frequency bands should be used by one service only;
- 3. that / .... / years after the date of the Conference mentioned in point 1 above :
  - the frequency band 47 68 MHz shall be allocated exclusively to the mobile service in the area concerned;
  - the frequency band 87.5 88 MHz shall be allocated exclusively to the mobile, except aeronautical mobile, service in the area concerned;
  - the frequency band 104 108 MHz shall be allocated exclusively to the broadcasting service in the area concerned;
  - the frequency band 174 223 MHz shall be allocated exclusively to the mobile, except aeronautical mobile, service in the area concerned;
  - the frequency band 838 854 MHz shall be allocated exclusively to the broadcasting service in the area concerned.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 136(Rev.1)-E

17 October 1979 Original : English

COMMITTEE 7

#### German Democratic Republic

PROPOSAL FOR THE WORK OF THE CONFERENCE

CHAPTER NVI

ARTICLE N23

#### Identification of Stations

The Administration of the German Democratic Republic requests the Conference to confirm the call sign series Y2A-Y9Z allocated to the German Democratic Republic, on a provisional basis, by the Secretary-General of the ITU under the provision of Radio Regulation No. 749.

DDR/136/96 MOD

C/3 747

ΑP

(Rev. 1)

Table of Allocations of International Call Sign Series

Call Sign Series	Allocated to :
<u> Y2A-Y9Z</u>	German Democratic Republic

The German Democratic Republic wishes to bring to notice that as <u>from coming into force</u> of the 1979 Radio Regulations it will be no longer be using any of the call signs in the series DAA-DTZ.



#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE **RADIO CONFERENCE**

(Geneva, 1979)

Document No. 136-E 17 August 1979

Original: English

PLENARY MEETING

PROPOSAL FOR THE WORK OF THE CONFERENCE

CHAPTER NVI

ARTICLE N23

Identification of stations

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DDR/136/96 MOD AP C/3 747

Table of Allocations of International Call Sign Series

Call Sign Series	Allocated to:
<u> </u>	German Democratic Republic



See also Document No. 20.

### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 137-E 20 August 1979 Original: English

PLENARY MEETING

#### Federative Republic of Brazil

PROPOSALS FOR THE WORK OF THE CONFERENCE

(ITEM 2.1 OF THE AGENDA)

CHAPTER NIII

ARTICLE N7/5

Section IV. Table of Frequency Allocations

#### 1. Introduction

- 1.1 In drawing up its proposals for the modifications of the Table of Frequency Allocations, Brazil has endeavoured to adopt positions designed to meet its present and future requirements together with the known requirements of other Administrations, particularly those of Region 2.
- 1.2 Brazil is of the opinion that, in order to meet the ever growing requirements for the use of the radio-frequency spectrum, chiefly in the most intensively used frequency bands, it is necessary to increase frequency band sharing among different services wherever such sharing is clearly and distinctly compatible with the characteristics of propagation, the characteristics of the services involved and the technology used. In the most controversial cases on which not even the SPM was able to reach any conclusions, the Conference will have to establish the sharing criteria and corresponding regulatory and administrative procedures. While a more intensive sharing of frequency bnads will increase flexibility in the use of the spectrum and enable Administrations to meet their requirements, it will also require suitable coordination with neighbouring countries, which would however not be very convenient for countries with many different borders. A determined effort should therefore be made to homogenize the use of shared frequency bands at the regional level.
- 1.3 Except in those cases where it was necessary to propose allocations common to the three Regions, the Brazilian proposals are confined to Region 2.
- 1.4 The Brazilian proposals are intended to allow sufficient flexibility for changes in the assignments to be implemented without the various national or international services being interrupted.
- 1.5 In acknowledgement of the fact that the CCIR Special Preparatory Meeting (SPM) held in October 1978 attained its objective of drawing up a report to constitute the technical basis for the Conference, even though no consensus was achieved on certain subjects either through lack of practical information or owing to the actual state of the art being still inadequate, the Brazilian proposals are broadly based on the SPM Report. Account has also been taken of the requests of ICAO, IMCO, INMARSAT, INTELSAT, IUACAF and IARU with a view to meeting their recommendations and/or requirements as far as possible.
- 1.6 In broad terms, the Brazilian proposals are based on the ITU guidelines given in Circular-letter No. 253 of the General Secretariat. The following symbols have been used:

- NOC Text for which no proposal has been made
- NOC (NOC underlined.) Proposal that a text should be maintained as it stands
- ADD Proposal for adding a new text
- SUP Proposal for deleting a text
- MOD Proposal for modifying a text either through deletion, addition or replacement of words and/or figures.
- 1.7 Although for some bands no reasons have been given for the proposal to maintain existing allocations ( $\underline{\text{NOC}}$ ), it should be understood that there are concrete grounds for not changing such allocations.
- 2. General comments on the proposed changes

#### 2.1 Frequency bands below 405 kHz

The only significant modification proposed is the extension of the band allocated to the aeronautical radionavigation service in order to meet the growing requirements of NDBs. In order to combine the need for low frequencies with the tuning flexibility of existing equipment, it is proposed that the lower limit of the band 200 - 285 kHz should be fixed at 190 kHz.

#### 2.2 Frequency bands between 405 and 2 000 kHz

In accordance with SPM conclusions, the band for the distress and calling frequency 500 kHz has been reduced from 20 to 10 kHz.

The requirements of the aeronautical radionavigation service and the use of the frequency 512 kHz for the maritime mobile service which is also used as supplementary calling frequency (Nos. N8088/1123 and N8090/1125) justify the sharing of the band 505 - 525 kHz between the two services.

It is proposed that the band 525 - 535 kHz should be shared between the broadcasting and aeronautical radionavigation services; however specific applications will be laid down for broadcasting in this band (e.g. for road safety purposes), which is why it is also proposed that the power of broadcasting stations should be limited to 50 W.

The most significant change proposed in this frequency band is the extension of the broadcasting service, for the following reasons:

- a) impossibility of assigning new frequencies in the major centres in view of the existing congestion;
- b) need to solve problems of interference with neighbouring countries by bilateral or multilateral agreement.

Since the band presently allocated (535 - 1 605 kHz) and the band proposed (1 605 - 1 800 kHz) are both intended exclusively for the broadcasting service, no power limits have been proposed. Administrations will thus be free to decide whether any limits are required and if so to establish such limits through agreements with neighbouring countries.

Yet another reason for proposing that the band 1 605 - 1 800 kHz should be allocated exclusively to the broadcasting service is the difficulty of coordination with neighbouring countries if it is shared with other services, particularly in countries with extensive frontiers such as Brazil.

It is proposed that the band 1 800 - 1 850 kHz should be allocated exclusively to the amateur service in the three Regions in order to enable it to improve operation.

There is a permanent need for frequencies in this band for the radiolocation service, which will have to be met through the exclusive allocation of the band 1 850 - 2 000 kHz. In the band 3 700 - 4 000 kHz a new footnote has been proposed in order to meet equipment characteristics in this service.

#### 2.3 Frequency bands between 2 000 and 2 850 kHz

No changes have been proposed in this band in which the present allocation should be maintained since it is extensively used by all the services involved.

The growing use of Tropical Zone frequency bands for the broadcasting service, chiefly in rural parts of the country, fully justifies the continued use of the corresponding services for domestic purposes.

Brazil is therefore opposed to any reduction in the protection granted to stations operating in the bands allocated to the Tropical Zone. Footnote No. 202 should therefore be maintained without any change in wording as far as the band 2 300 - 2 495 kHz is concerned.

#### 2.4 Frequency bands between 2 850 and 30 000 kHz

In broad terms, the proposal for this band involves the maintenance of the present allocations with some changes intended to meet the requirements of the various services.

#### 2.4.1 Fixed service

The HF bands allocated to the fixed service are used in Brazil purely for domestic purposes, military purposes (security) and civil purposes, and constitute the only means of communication among localities not yet equipped with a public network or where the public network does not meet the existing demand.

There is total congestion in this band and a considerable percentage of the demand has not yet been met. For this reason, Brazil would be extremely reluctant to agree to any further reductions in the HF bands allocated to the fixed service in addition to those given in the Brazilian proposals.

In order to fulfil Brazilian requirements in other services and to enable Administrations to fulfil their own requirements in the HF band, the possibility was examined of sharing between the fixed service and the other services, consideration having been given to geographical and time-sharing and the use of different sub-bands within the same band.

As far as sharing with the broadcasting service is concerned, no form of sharing would appear to be feasible in view of the wide disparity in protected field strength required and the full-time use of frequencies by the Brazilian fixed service.

With respect to sharing with the international maritime mobile service (to which exclusive bands have been allocated), it emerged from the studies conducted that such sharing would be practically impossible to achieve owing to the characteristics of both services. It is therefore proposed that some of the bands allocated exclusively to the maritime mobile service should be extended up to the maximum limits acceptable for any reduction in the fixed service bands.

In connection with sharing between the fixed service and the broadcasting or maritime mobile services, the findings of the SPM revealed a lack of information and practical experience of the matter.

Sharing between the fixed service and the mobile service, except the aeronautical mobile service, is considered possible in certain circumstances when mobile systems make a limited use of channels or when the users of the same band are the same for both services. This type of sharing is therefore proposed as a solution for the mobile services.

#### 2.4.2 Maritime mobile service

In the light of the unfavourable conclusion reached with regard to sharing between the maritime mobile service and the fixed service, as discussed above, and in view of the need for new exclusive channels for the maritime mobile service, Brazil proposes an extension of allocations to the maritime mobile service in the bands above 6 MHz to the extent that reductions in the allocations to the fixed service are acceptable.

#### 2.4.3. Mobile except aeronautical mobile (R) service

Sharing is proposed between the mobile except aeronautical mobile (R) service and the fixed service on a primary basis up to 8 MHz, with the exception of the sub-band 5 060  $\leftarrow$  5 250 kHz where such sharing would be restricted to the land mobile service.

In the bands between 8 and 15 MHz, sharing is proposed on a secondary basis for the mobile except aeronautical mobile (R) service in order to ensure adequate protection for the fixed service.

#### 2.4.4 Aeronautical mobile service

The Brazilian Administration endorses the recommendations of the 1978 Aeronautical Mobile (R) WARC without any further changes,

No modifications are proposed in the bands allocated exclusively to the aeronautical mobile (R) service.

#### 2.4.5 Broadcasting service

The use of this frequency band by the broadcasting service may be considerably improved through the adoption of measures such as power limits, use of only one frequency per programme and synchronized transmitters (SPM - 4.1.5.3).

The introduction of SSB operation, although it is a long-term scheme, would also contribute greatly towards a better use of the band.

However, when the decision is taken to introduce this system, which will require new receivers, consideration should be given to the cost of replacing existing equipment and the need to avoid causing economic problems, particularly for the developing countries.

Since the current broadcasting service allocations in this band are satisfactory for Brazil, only small changes have been suggested in order to rationalize spectrum utilization.

The 50 kHz vacated to make way for the maritime mobile service in the 6 MHz band have been duly compensated by a 100 kHz increase in the 7 MHz band.

It is considered that a seven-year transition period will be necessary for the introduction of such changes. In addition, it should be borne in mind that any extension for the benefit of the broadcasting service will have to be to the detriment of the fixed service, which is at present totally congested in Brazil where it is even impossible to meet current requirements.

The growing use of frequencies allocated to the Tropical Zone for the broadcasting service, particularly in rural parts of the country, fully justifies their continued use for domestic purposes.

Brazil is therefore opposed to any reduction in the protection granted to stations operating in the bands allocated to the Tropical Zone; Footnote No. 202 should therefore be maintained for the bands 3 200 - 3 400 kHz, 4 750 - 4 995 kHz and 5 005 - 5 060 kHz, without any changes.

#### 2.4.6 Amateur service

The broad criterion adopted with a view to meeting the requirements of the amateur service has been to make the existing allocations world-wide exclusive allocations.

It is proposed that the band 7 100 - 7 200 kHz should be allocated on a world-wide basis in order to remove existing problems in this band which is used by the broadcasting service in Regions 1 and 3.

It is also proposed that the bands 10 MHz and 18 MHz should be allocated on a world-wide basis to the amateur service in order to meet its requirements. The reason for this proposal is that the fixed service is used less extensively in these frequency bands.

#### 2.5 Frequency bands between 30 and 273 MHz

The band 30 - 273 MHz is used to a very great extent by the fixed and mobile and broadcasting services owing to the extremely favourable propagation conditions for short and medium range applications. Brazil proposes that the present allocations under Article N7/5 should basically be maintained.

The purpose of the modification proposed in the bands currently shared by the broadcasting, fixed and mobile services involving the down-grading of the fixed and mobile services to secondary status, is to provide protection for the broadcasting service in view of sharing difficulties and increasing requirements for television channel assignments in these bands. In addition, the requirements of the aeronautical mobile (R) service are to be met through the allocation of the band 136 - 137 MHz on an exclusive basis,

#### 2.6 Frequency bands between 273 and 1 350 MHz

The Brazilian proposals for modifications to the Table of Frequency Allocations in the band 273 - 1 350 MHz were drawn up with a view to allowing for the extension of the mobile and fixed services.

The Brazilian position in relation to the band 273 - 470 MHz is to maintain the present allocation, in view of its extensive use for short-range communications in various parts of the world. It is necessary to continue operating the various services in this band, particularly the fixed and mobile services. The sharing which now takes place is satisfactory.

Since it is considered necessary to extend the mobile and fixed services in the UHF band, a reduction in the exclusive broadcasting band 470 - 890 MHz is required, in order to allow for sharing with the mobile and fixed services, which would provide the Administrations with greater flexibility in allocating frequency bands to these services in accordance with their requirements. In the particular case of Brazil it is necessary in order to meet the requirements of the land mobile service, which is in the process of expansion.

In addition, it is proposed that Footnote No. 3660/332 should be replaced by a modification to the Table of Frequency Allocations in order to provide for the exclusive use of the band 608-614 MHz for continuous radio astronomy measurements.

The introduction of the mobile except aeronautical mobile service with primary status in the band 890 - 902 MHz is justified by the need for such frequencies for land mobile systems in the process of being installed.

#### 2.7 Frequency bands between 1 350 and 40 GHz

#### 2.7.1 Maritime mobile-satellite service

The basic aim of the proposal for allocations to the maritime mobile satellite service has been to meet the long term requirements of INMARSAT, i.e.:

- i) communications between satellites and ships :
  - in the direction satellite-to-ship : 15 MHz
  - in the direction ship-to-satellite: 15 MHz, in addition to the 5 MHz required for one-way high-speed data transmission.

In the above allocations, an attempt has been made not to modify the limits of the band 1 535 - 1 660 MHz currently allocated to the maritime mobile-satellite service, the aeronautical mobile-satellite service and the aeronautical radionavigation service. The increase in allocation proposed for the maritime mobile-satellite service results in a reduction in allocation for the aeronautical radionavigation service. The current 1 MHz allocation shared between the maritime mobile and aeronautical mobile-satellite services in both directions of transmission has been maintained but shifted;

- ii) communications between satellites and coast stations :
  - in the direction satellite-to-coast-station : 25 MHz, in addition to 5 MHz required for one-way high-speed data transmission,
  - in the direction coast-station-to-satellite : 25 MHz.

For the latter, which constitute the feeder links of the maritime mobile-satellite service, the bands allocated to the fixed-satellite service should be used.

The only system in the maritime mobile-satellite service currently in operation (MARISAT) makes use of the bands 6 420 - 6 424 MHz (Earth-to-space) and 4 195 - 4 199 MHz (space-to-Earth) for feeder links. In addition, INTELSAT has arranged for the modification of the last three units in the INTELSAT V series so that they can form part of the Maritime Communications System which will operate in the band 6 417.5 - 6 425 MHz (Earth-to-space) and 4 192.5 - 4 200.5 MHz (space-to-Earth).

Sharing between the feeder links of the maritime mobile-satellite service and the fixed-satellite service using the same INTELSAT V satellite would only be possible with the use of orthogonal polarization and with limits on the expansion of both services. However, the allocation of bands different from those mentioned above or the allocation of complementary bands in another part of the spectrum would entail even greater drawbacks for the maritime mobile-satellite service only and have repercussions on costs.

It has therefore been decided to propose priority use of the bands 4 170 - 4 200 MHz and 6 400 - 6 425 MHz for feeder links in the maritime mobile-satellite service using left-hand circular polarization (space-to-Earth) and right-hand circular polarization (Earth-to-space) respectively. This is the reason why the notes 3742A and 3767A have been inserted.

#### 2.7.2 Fixed-satellite service

As far as the frequencies below 10 GHz are concerned, Brazil proposes for the fixed-satellite service an additional world-wide 590 MHz allocation in the direction space-to-Earth and a 490 MHz allocation in the direction Earth-to-space. The difference of 100 MHz takes account of difficulties of sharing with the radiolocation service in the band 3 400 - 3 500 MHz, which in some cases may result in the band not being used by the fixed-satellite service. In addition, 500 MHz have been proposed in the band 1 790 - 2 290 MHz to be used by international systems in the direction space-to-Earth.

A counterpart for this band may be found in any other band allocated for the direction Earth-to-space.

The following modifications have therefore been proposed to the current allocations :

- a) downgrading of the radiolocation service to secondary status in the bands 3 500 3 700 MHz in Regions  $\bar{2}$  and  $\bar{3}$ ;
  - b) reversal of the direction of transmission in the band 4 400 4 700 MHz;

- c) allocation to the fixed-satellite service (space-to-Earth) of the band 4 700 4 990 MHz in all three Regions;
- d) allocation to the fixed-satellite service (Earth-to-space) of the band 5 825 5 850 MHz in Regions 2 and 3 and of the band 5 850 5 925 MHz in Region 2;
- e) downgrading of the radiolocation service to secondary status in the band 5 825 5 850 MHz in all three Regions and in the band 5 850 5 925 MHz in Region 2; and
- f) allocation to the fixed-satellite service (Earth-to-space) of the band 6 425 7 115 MHz in all three Regions.

The present allocation of the bands 4 170 - 4 200 MHz and 6 400 - 6 425 MHz to the fixed-satellite service for equal use with the feeder links of satellites in the maritime mobile-satellite service is discussed in paragraph 2.7.1 of the present document.

In each case, the indication of the direction of transmission has been maintained. Although bidirectional use in the fixed-satellite service would considerably increase the efficiency of spectrum and geostationary satellite orbit utilization, it was considered that the matter required further studies, particularly in connection with sharing, covering land services.

Allocations above 10 GHz call for a number of comments.

In order to make the entire band 10.7 - 11.7 GHz available for international systems in the fixed-satellite service, Brazil proposes that the bands 10.7 - 10.95 GHz and 11.2 - 11.45 GHz should be added to the 500 MHz already assigned for the direction space-to-Earth.

The proposal that the band 11.7 - 12.2 GHz should be maintained for the fixed-satellite service in the direction space-to-Earth is discussed in paragraph 2.7.5.

The additional allocation of the band 12.75 - 13.25 GHz shared with the fixed and mobile service is intended exclusively for uplinks in international systems, in view of sharing difficulties with domestic systems consisting of a large number of small earth stations.

The band 14 - 14.5 GHz, already allocated to the fixed-satellite service in the direction Earth-to-space, should be left as an option both for systems in the fixed-satellite service and for feeder links in the broadcasting-satellite service, given the more problematical propagation characteristics of higher frequencies.

It is also proposed that the band 17.2 - 17.7 GHz should be allocated to the fixed-satellite service in the direction Earth-to-space in order to provide an alternative band for systems in this service and for feeder links in the broadcasting-satellite service. Taking into account sharing difficulties, it is also proposed that the radiolocation service in this band should be downgraded to secondary status.

#### 2.7.3 Inter-satellite service

The inter-satellite service is scheduled to provide connections between different satellite networks. Taking into account the findings of the SPM according to which the most suitable bands for this service would be located between 15 and 35 GHz, it is proposed that the bands 22.6 - 23.6 GHz and 31.8 - 32.8 GHz should be allocated to the inter-satellite service.

#### 2.7.4 Fixed and mobile services

Since an additional 500 MHz have been included in the band 1 790 - 2 290 MHz for the fixed-satellite service, footnote 3701A has been inserted for the protection of existing and planned troposcatter systems in Brazil in the fixed and mobile services.

In the band 4 990 - 5 000 MHz, the fixed and mobile services have been added on a shared basis with the radio astronomy service to meet future land system requirements.

Footnote 3531/233B has been extended to cover Region 2 in order to protect radio astronomy observations from harmful interference.

The inclusion of the fixed service in the band 5 825 - 5 925 MHz will make it possible to meet its additional requirements. This change is facilitated by the proposed downgrading of the radiolocation service to secondary status.

It is proposed that the fixed and mobile services should be included on a secondary basis in the bands 7 250 - 7 300 MHz and 7 975 - 8 025 MHz in order to meet present requirements.

The comments on the allocation of the band 11.7 to 12.7 GHz to the fixed and mobile service are detailed in paragraph 2.7.5.

Taking into account future requirements for the expansion of land systems, the band 19.7 - 21.2 GHz should also be allocated to the fixed service.

#### 2.7.5 Band 11.7 - 12.7 GHz

The feasibility of sharing among systems in different services or even among different systems in the same service depends on the planning and characteristics of such systems. In view of existing difficulties in defining the use of this band by the various services and considering that it is used for domestic purposes, the basic aim of the Brazilian proposal is to allow administrations sufficient flexibility to decide subsequently which use would be most suitable. The problem has thus been viewed with a dual focus:

- a) international allocation: the international allocation of the band should not hinder the development of any services of interest to administrations;
- b) domestic use: on the basis of the allocation approved for Region 2, Administrations may decide on an internal basis how the band is to be used by the various services.

The fundamental premise being flexibility, the Brazilian Administration has established the following principles for the definition of its proposals for the allocation of the band 11.7 - 12.7 GHz:

- a) to facilitate the development of the fixed-satellite service and broadcasting-satellite service in Region 2, these two services must not share the same band; the need for the segmentation of the geostationary satellite orbit will thus be avoided;
- b) a growing need is foreseen for the transmission of digital signals over short and long distance links, requiring the use of high capacity digital radio systems; the maintenance of the present allocation for the fixed service from 10.7 to 13.25 GHz would permit the use of a band sufficiently wide to meet the requirements of such systems;
- c) in order to maintain the flexibility required in the case of sharing between the broadcasting-satellite service and the fixed service, the latter service should be introduced in the band 12.2 12.7 GHz only following the preparation and approval of plans for the broadcasting-satellite service in Region 2, in order to ensure compatibility whatever the uses decided subsequently by each administration for this band; the Brazilian Administration therefore proposes that footnote 3786/405BB should be modified to apply to the band 12.2 12.7 GHz;
- d) in the case of the mobile service, it is proposed that the allocation in the band 12.5 12.7 GHz should be maintained in order to meet existing requirements.

#### 3. <u>Proposals</u>

The Brazilian proposals to which the above comments relate are detailed in the following pages.

kHz 10 - 14

		Allocation to services	
•		Region 1	Region 2 Region 3
	NOC	Below 10	(Not allocated)
			3451/157
3/137/1	MOD	10 - 14	RADIONAVIGATION
		;	Radiolocation

B/137/2 NOC 3451/157

Reasons: The band 10 - 14 kHz is used for a world-wide radionavigation system (Omega) which currently provides a long-distance radionavigation service for maritime and aeronautical users. There is no known intention to use the secondary allocation to "Radiolocation", and its proposed deletion combined with NOC 3451/157, would protect the radionavigation system by precluding the possibility of harmful interference (Report of the ICAO Communications Divisional Meeting, Montreal, 1978).

kHz 110 - 130

B/137/2A SUP 3462/168

(in boxes 110 - 130 kHz)

Reasons: There is no known international civil aeronautical use of the bands between 110 - 130 kHz for high-speed communications to aircraft (Report of the ICAO Communications Divisional Meeting, Montreal, 1978).

kHz 160 - 285

в/137/3	MOD		160 - 200 190	160 - 200 (NOC)
•			FIXED	FIXED
			3472/179	Aeronautical radionavigation
B/137/4	MOD		<u>190</u> <b>-</b> 200	
	<b>.</b>	*** *	FIXED	
			AERONAUTICAL RADIONAVIGATION	
			3472/179	
			200 - 285 (NOC)	
* ***		: 	AERONAUTICAL RA	DIONAVIGATION
**.			Aeronautical mo	bile

Reasons: To meet the requirements of the aeronautical radionavigation service (NDBs) taking into consideration the tuning potential of existing avionics equipment.

B/137/8

B/137/9

kHz

			285 - 405	
	•	Region l	Region 2	Region 3
B/137/5	NOC	285 - 315	MARITIME RADIONAVIGATION (Radiobeacons)	
			Aeronautical radionavigation	· .
	NOC	315 - 325	315 - 325	
		AERONAUTICAL RADIONAVIGATION	MARITIME RADIONAVIGATION (Radiobeacons)	
		3473/180	Aeronautical radionavigati	on
в/137/6	NOC	325 - 405	AERONAUTICAL RADIONAVIGATI	ON
			Aeronautical mobile	
			3474/181	
	NOC	3473/180		
	йос	3474/181		
		Reasons : Allocations requ	ired as they stand.	đ.
			kHz 405 - <del>51</del> 0 <u>505</u>	
B/137/7	MOD	405 - 415 (NOC)	405 - 415	405 - 415 (NOC)
		MOBILE except aeronautical mobile	MARITIME RADIONAVIGATION (Radio-direction-finding)	RADIONAVIGATION
		AERONAUTICAL RADIONAVIGATION		Aeronautical mobile
		MARITIME RADIONAVIGATION (Radio direction-finding)	Aeronautical mobile	
		3475/182 3476/183 3477/184	3475/182	3475/182

MARITIME MOBILE

calling)

3480/187

3478/185 3479/186 <u>3479A</u>

MOBILE (Distress and

415 - <del>490</del> <u>495</u>

<del>490 - 510</del> <u>495 - 505</u>

MOD

MOD

NOC	3475/182
NOC	3476/183
NOC	3477/184
NOC	3478/185
NOC	3479/186
NOC	3480/187

B/137/10 ADD

3479A Ship stations and coast stations may use the frequency 492 kHz under the conditions set forth in Nos. 8032/437A and 8088/1123.

Reasons: 405 - 415 kHz - To meet the requirements of the radionavigation service.

 $^{1}$ 415 - 495 kHz - To meet the requirements of the maritime mobile service.

495 - 505 kHz - The technical characteristics of current equipment make it possible to reduce the 500 kHz distress and calling channel without it being detrimental to reception (see SPM Report, point 4.1.4.2.1.1).

3479A - To allow for the use of the new bands 490 - 495 and 505 - 510 in conformity with Article N57.

kHz <u>505</u> <del>510</del> - 1 605

	$\sim$	Region 1	Region 2	Region 3
B/137/11	MOD	<u>505</u> <del>510</del> - <u>525</u>	<u>505</u> <del>510</del> - <u>525</u>	<u>505</u> <del>510</del> - <u>525</u>
		MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE
		Aeronautical	MARITIME MOBILE	Land mobile
		radionavigation	AERONAUTICAL RADIONAVIGATION	·
			/AERONAUTICAL RADIONAVIGATION/ 3481/188	
		3478/185		3482/189
B/137/12	MOD	525 - 535 (NOC)	525 - 535	525 - 535 (NOC)
		BROADCASTING	MOBILE	MOBILE
	!		BROADCASTING	/BROADCASTING/
	. !	te u u ueluju±u.	#BROADCASTING/ MOD 3484/191 3484A	
			/AERONAUTICAL RADIONAVIGATION/ 3481/188	
		3483/190	AERONAUTICAL RADIONAVIGATION	
B/137/13	NOC	535 - 1 605	BROADCASTING	

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B/137/14	SUP	3481/188
	NOC	3482/189
	NOC	3483/190

B/137/15 MOD 3484/191 The carrier power of broadcasting stations on this band shall not exceed 50 watts.

B/137/16 ADD 3484A Special agreements among the administrations concerned shall determine the conditions for the introduction of aeronautical radionavigation in the vicinity of international frontiers in such a way as to avoid causing harmful interference to the broadcasting service.

Reasons: 505 - 525 kHz - To meet the requirements of maritime mobile and aeronautical radionavigation services.

525 - 535 kHz - It is proposed that the broadcasting service should be introduced in the band 525 - 535 with low power stations and specific applications (e.g. for road safety purposes).

MOD 3484/191 - To limit the type of broadcasting.

ADD 3484A - To allow for sharing between broadcasting and aeronautical radionavigation.

SUP 3481/198 - No longer required.

kHz 1 605 - 2 000

	ı		<del>                                     </del>	
		Region 1	Region 2	Region 3
B/137/17	MOD	1 605 - 2-000 1 800	1 605 - 1 800	1 605 - 1 800
•		FIXED	FIXED	FIXED
•		MOBILE except	MOBILE	MOBILE
		aeronautical mobile		• .
			AERONAUTICAL RADIONAVIGATION	
			Radiolocation	:
	•		BROADCASTING	
		3485/192 3487/193		·
		3488/194 3489/195 3490/195A 3486/420	·	3491/197
в/137/18	MOD (WW)	1 800 - 1 850	1 800 - <del>2-000</del> <u>1 850</u>	
	("")	AMATEUR	AMATEUR	
	* .	FIXED	FEXED	
MOBILE-except  aeronautical mobile  MOBILE-except-aeronautical-mobile		-mobile		
		der Augustour monite	RADIONAVIGATION	

kHz 1 605 - 2 000 (cont.)

		Region l	Region 2	Region 3
в/137/19	MOD	<u>1 850</u> - 2 000	<u>1 850</u> - 2 000	<u>1 850</u> - 2 000
		FIXED	AMATEUR	AMATEUR
		MOBILE except	F±XEĐ	FIXED
		aeronauticai modile	MOBILE-except aeronautical-mobile	MOBILE except aeronautical mobile
			RADIONAVIGATION	RADIONAVIGATION
		3485/192 3487/193 3488/194 3489/195	RADIOLOCATION	
		3490/195A 3486/420	3492/198	MOD 3492/198

NOC 3485/192; 3486/420; 3487/193; 3488/194; 3489/195; 3490/195A; 3491/197; 3491.1/197.1

B/137/20 MOD

3492/198 In-Region-2-the-boran-system-has-priority.--Other-services to-which-the-band-is-allocated-may-use-any-frequency-in-this-band-provided-that they-do-not-cause-harmful-interference-to-the-boran-system. (Rest without change

Reasons: 1 605 - 1 800 kHz - To meet broadcasting requirements in the MF bands.

1 800 - 1 850 kHz - To improve the operation of the amateur service.

 $1~850-2~000~\mathrm{kHz}$  - A new exclusive band has been proposed for radiolocation. This re-allocation will meet the requirements of the radiolocation service and allow for the planned expansion of the broadcasting service in  $1~605-1~800~\mathrm{kHz}$ .

MOD 3492/198 - To allow for the suppression of the Loran-A radionavigation system. With the new text, it is not necessary in Region 2.

kHz 2 065 - 2 194

B/137/21 NOC

The allocations in boxes 2 065 - 2 170 kHz.

B/137/22 NOC 3495/201A

Reasons: The present structure is necessary and adequate.

kHz 2 194 - 2 850

B/137/23 NOC

Allocations in boxes 2 194 - 2 498 kHz

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B/137/24

NOC 3496/202

Reasons: Continuing need for these allocations.

NOC 3496/202 - To maintain the internal domestic nature of the broadcasting service at the frequencies listed in No. 6218/425 for the countries of the Tropical Zone as defined in Nos. 3425/135 and 3426/136.

kHz 2 850 - 3 500

B/137/25

NOC

The allocations in boxes 2 850 - 3 500 kHz

B/137/26

NOC

3500/205A

Reasons: The present structure of allocations is necessary and adequate.

kHz 3 500. – 4 000

		Region l	Region 2	Region 3
B/137/27 M	IOD	3 500 - 3 800	3 500 <b>-</b> 4- <del>00</del> 0 <u>3 800</u>	3 500 <b>-</b> <del>3-900</del> <u>3 800</u>
· . ·		AMATEUR	AMATEUR	AMATEUR
		F <del>IXED</del>	F <del>IXED</del>	F <del>IXED</del>
		MOBILE-except aeronautical-mobile	MOBILE-except aeronautical-mobile(R) 3500A	MOBILE
B/137/28 MG	IQD	3 800 - 3 900	3 800 - 4 000	3 800 - 3 900
		FIXED	AMATEUR	AMATEUR
		AERONAUTICAL MOBILE (OR)	FIXED	FIXED
		LAND MOBILE	MOBILE except aeronautical mobile (R)	MOBILE
<b>*.</b>			aeronaucicai modile (K)	3501/206 3502/207
		3 900 - 3 950		3 900 - 3 950
•		AERONAUTICAL MOBILE (OR)		AERONAUTICAL MOBILE
				BROADCASTING
		3 950 - 4 000		3 950 - 4 000
•		FIXED		FIXED
		BROADCASTING	3500A	BROADCASTING

B/137/29

SUP

3501/206

B/137/30

SUP

3502/207

B/137/31

ADD

3500A The band 3 700 - 4 000 kHz is also allocated to the radiolocation service.

 $\frac{\text{Reasons}}{\text{service}}$ : 3 500 - 3 800 kHz - To improve the use of the band by the amateur

3 800 - 4 000 kHz - To meet the continuing requirements of the mobile and fixed services.

ADD 3500A - As a result of the re-allocation of the band 1 850 - 2 000 kHz to radiolocation.

SUP 3501/206 and 3502/207 - For the sake of conformity with the proposed re-allocations.

kHz 4 000 - 4 063

B/137/32

MOD

	Region l	Region 2	Region 3
	4 000 - 4 063	MOBILE except aeronautica	l mobile (R)
•		FIXED	<b>%</b>

B/137/33

NOC

The allocations in boxes 4 063 - 4 850 kHz.

Reasons: 4 000 - 4 063 kHz - To meet the growing requirements of the mobile services.

The other allocations must be maintained as they stand in view of continuing requirements.

kHz 4 850 - 5 480

B/137/33A

NOC

The allocations in boxes 4 850 - 5 060 kHz.

B/137/34

MOD

5 060 - 5 250

FIXED

LAND MOBILE

B/137/35

NOC

The allocations in boxes 5 250 - 5 480 kHz.

Reasons: The land mobile service has been introduced in the band 5 060 - 5 250 kHz in order to meet increasing requirements.

The other allocations must be maintained as they stand in view of continuing requirements.

kHz5 480 - 7 100

		Region 1	Region 2 Region 3
в/137/36	NOC	5 480 - 5 680	AERONAUTICAL MOBILE (R)
			3492/201A 3500/205A
	NOC	5 680 - 5 730	AERONAUTICAL MOBILE (OR)
			3495/201A 3500/205A
B/137/37	MOD	5 730 - 5 950	FIXED
			MOBILE except aeronautical mobile (R)
, в/137/38	MOD	5 950 - <del>6-200</del> <u>6 150</u>	BROADCASTING
<sup>6</sup> В/137/39	MOD	<u>6 150</u> <del>6-200</del> <b>-</b> 6 525	MARITIME MOBILE
			3507/211 MOD 3508/211A .
в/137/40	NOC	6 525 – 6 685	AERONAUTICAL MOBILE (R)
B/137/41	NOC	6 685 - 6 765	AERONAUTICAL MOBILE (OR)
в/137/42	MOD	6 765 - 7 000	FIXED
			MOBILE except aeronautical mobile (R)
B/137/43	NOC	7 000 - 7 100	AMATEUR
			AMATEUR-SATELLITE
D /1 27 /bb	MOC	2507/211	

B/137/44 3507/211 NOC

B/137/45 MOD

3508/211A Mar 2 For the use of carrier frequency 6-204-kHz-(as-from 1-January-1978-to-be-replaced-by-carrier-frequency 6 215.5 kHz) in the zone of Region 3 south of latitude 25° N, see No. 6648/1351F.

Reasons: The aim of the proposed allocations is to meet the increase in communications in the mobile except aeronautical mobile service and in the maritime mobile service.

The purpose of MOD 3508/211A is to update the note.

kHz 7 100 - 9 995

* -		Region 1	Region 2	Region 3
в/137/46	MOD (WW)	7 100 <b>-</b> <del>7-300</del> <u>7 200</u>	7 100 - <del>7-300</del> <u>7 200</u>	7 100 <b>- 7-<del>300</del> 7 200</b>
	(ww)	BROADCASTING	AMATEUR	BROADCASTING
	٠	AMATEUR		AMATEUR
		3509/212		
B/137/47	MOD (WW)	7 200 - 7 300	<u>7 200</u> – 7 300	<u>7 200</u> - 7 300
	( w w )	BROADCASTING	BROADCASTING	BROADCASTING
		<del>3509/212</del>	AMATEUR	
в/137/48	MOD	7 300 - <del>8-195</del> <u>8 095</u>	FIXED	
			MOBILE except aeronautical	mobile (R)
В/137/49	MOD	<u>8 095</u> 8 <del>-195</del> - 8 815	MARITIME MOBILE	
			3496/201A 3510/213	· ;
B/137/50	NOC	8 815 - 8 965	AFRONAUTICAL MOBILE (R)	
B/137/51	NOC	8 965 - 9 040	AERONAUTICAL MOBILE (OR)	
В/137/52	MOD	9 040 - 9 500	FIXED	
•			Mobile except aeronautical	mobile (R)
B/137/53	NOC	9 500 - 9 775	BROADCASTING	
B/137/54	MOD	9 775 - 9 995	FIXED	
			Mobile except aeronautical	mobile (R)

B/137/55 SUP 3509/212

NOC 3510/213

Reasons: To meet the growing requirements of the mobile services in general and of the maritime mobile and aeronautical mobile (R) services. The WARC on the aeronautical mobile (R) service confirmed this need.

The purpose of MOD 7 100 - 7 200 kHz is to make for a more efficient use of the band by the amateur service.

Note 3509/912 is no longer required under the new structure of allocations.

kHz 9 995 - 12-330 12 280

: :		Region l	Region 2	Region 3
	NOC	9 995 - 10 005	STANDARD FREQUENCY	
			3495/201A 3498/203A 3511/21	_4
B/137/56	NOC	10 005 - 10 100	AERONAUTICAL MOBILE (R)	
			3495/201A	
B/137/57	MOD	10 100 - <del>11-175</del> 10 300	FIXED	·
			AMATEUR	
в/137/58	MOD	10 300 11 175	FIXED	
			Mobile except aeronautical	mobile (R)
B/137/59	NOC	11 175 - 11 275	AERONAUTICAL MOBILE (OR)	
B/137/60	NOC	11 275 - 11 400	AERONAUTICAL MOBILE (R)	
B/137/61	MOD	11 400 - 11 700	FIXED	
			Mobile except aeronautical	mobile (R)
			3512/216	
в/137/62	NOC	11 700 - 11 975	BROADCASTING	
в/137/63	MOD	11 975 - <del>12-330</del> <u>12 280</u>	FIXED .	
			Mobile except aeronautical	mobile (R)

NOC 355/214

NOC 3512/216

> Reasons: To meet the growing requirements of the mobile services and the amateur service.

kHz <u>12 280</u> <del>12-330</del> - 14 990

		Region 1	Region 2	Region 3
в/137/64	MOD	<u>12 280 - <del>12-330</del></u> 13 200	MARITIME MOBILE	,
			3510/213	
в/137/65	NOC	13 200 - 13 260	AERONAUTICAL MOBILE (OR)	
в/137/66	NOC	13 260 - 13 360	AERONAUTICAL MOBILE (R)	
в/137/67	MOD	13 360 - 14 000	FIXED	. '
			Mobile except aeronautical mobil	e (R)
•			3513/217	
в/137/68	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
в/137/69	NOC	14 250 - 14 350	AMATEUR ,	
	•		3514/218	
B/137/70	MOD	14 350 - 14 990	FIXED	·
			Mobile except aeronautical mobil	e (R)

NOC 3513/217; 3514/218

Reasons: To meet the requirements of the mobile services and the maritime mobile, aeronautical mobile (R) and amateur services.

kHz 14 990 - 17 900

	NOC	14 990 - 15 010	STANDARD FREQUENCY
			3495/201A 3498/203A 3515/219
B/137/71	NOC	15 010 - 15 100	AERONAUTICAL MOBILE (OR)
В/137/72	NOC	15 100 - 15 450	BROADCASTING
В/137/73	MOD	15 450 <b>-</b> <del>16-460</del> <u>16 360</u>	FIXED
B/137/74	MOD	<u>16 360</u> - 17 360	MARITIME MOBILE
			3510/213
	NOC	17 360 - 17 700	FIXED
в/137/75	NOC	17 700 - 17 900	BROADCASTING

NOC 3515/219

Reasons: To meet increasing requirements in the maritime mobile service.

kHz 17 900 - 21 750

,		Region 1	Region 2	Region 3
в/137/76	NOC	17 900 - 17 970	AERONAUTICAL MOBILE (R)	`
в/137/77	NOC	17 970 - 18 030	AERONAUTICAL MOBILE (OR)	
в/137/78	NOC	18 030 - 18 052	FIXED	
	NOC	18 052 - 18 068	FIXED	
			Space research	
B/137/79	MOD	18 068 - <del>19-900</del> <u>18 400</u>	FIXED	
			AMATEUR	
в/137/80	MOD	<u>18 400</u> - 19 990	FIXED	
	NOC	19 990 - 20 010	STANDARD FREQUENCY	
			3495/201A 3498/203A 3516/2	220
	NOC	20 010 - 21 000	FIXED	
B/137/81	NOC	21 000 - 21 450	AMATEUR	
·			AMATEUR-SATELLITE	
в/137/82	NOC	21 450 - 21 750	BROADCASTING	
				· · · · · · · · · · · · · · · · · · ·

NOC 3516/220

Reasons: Continuing requirements.

The purpose of MOD 18 068 - 18 400 kHz is to improve the operation of the amateur service.

kHz 21 870 - 23 200

B/137/83	MOD	21 870 - <del>22-000</del> <u>21 924</u>	AERONAUTICAL FIXED	
•	·		AERONAUTICAL-MOBILE-(R)	-
B/137/84	MOD	<u>21 924</u> - 22 000	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (R)	
в/137/85	MOD ·	22 000 <b>-</b> <del>22-720</del> <b>22</b> 820	MARITIME MOBILE	
в/137/86	MOD	<u>22 820</u> - <del>22-720</del> 23 200	FIXED	

NOC 3517/221B; 3518/222; 3519/222A; 3520/223.

 $\overline{\text{Reasons}}$ : To meet the requirements of the maritime mobile and aeronautical mobile (R) services.

MOD 21 870 - 22 000 kHz takes into account the results of the WARC on the aeronautical mobile (R) service (1978).

kHz 25 010 - 27 500

·	•	Region 1	Region 2	Region 3
B/137/87	MOD	25 010 - 25 070	F±XED	
			MARITIME MOBILE	
			MOBILE-except-aeronautica	l-mobile
в/137/88	NOC	25 070 - 25 110	MARITIME MOBILE	
• ·			3521/224	
в/137/89	NOC	25 110 - 25 600	FIXED	
			MOBILE except aeronautica	l mobile
B/137/90	NOC	25 600 - 26 100	BROADCASTING	
B/137/91	MOD	26 100 <b>-</b> <del>27-500</del> <u>26 175</u>	FIXED	
	·		MARITIME MOBILE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			MOBILE-except-aeronautica	l-mobile
B/137/92	MOD	<u>26 175</u> - 27 500	FIXED	
	٠.		MOBILE except aeronautica	l mobile
			3522/225 3523/226	, , , , , , , , , , , , , , , , , , , ,

NOC 3521/224; 3522/225; 3523/226

 $\underline{\text{Reasons}}$ : To comply with Recommendation Mar2 - 8 of the WARC-74 on the maritime mobile service.

MHz 28 - 37.75

B/137/93	NOC	28 - 29.7	AMATEUR
•			AMATEUR-SATELLITE
B/137/94	MOD	30.01 - 37.75	FIXED 3525/228 3526/229 3527/230 3528/231
			MOBILE
•			3530/233A

NOC 3524/227

NOC 3525/228

NOC 3526/229

NOC 3527/230

NOC 3528/231

NOC 3529/232

MOD

B/137/95

3530/233A In Argentina and Uruguay, the bands 36.65 - 36.85 MHz, 41.15 - 41.35 MHz and 45.65 - 45.85 MHz and in-Argentina,-Brazil-and-Uruguay-the band 170.55 - 170.95 MHz are allocated to the radio astronomy service and no assignments shall be made to the fixed and mobile services in these bands.

Reasons: The band 170.55 - 170.95 MHz is used in Brazil exclusively for the fixed and mobile services.

MHz 38.25 - 50

B/137/96 NOC

The allocations in boxes 38.25 - 50 MHz.

Reasons : Continuing need for the present structure of allocations.

MHz 47 - 68

	Region 1	Region 2	Region 3
	47 - 68 (NOC)		
B/137/97 <u>NOC</u>		50 - 54	
		AMATEUR	
		3542/244 3543/245 3544/	246 3545/247
B/137/98 MOD	BROADCASTING	54 - 68	54 - 68
		BROADCASTING  FIXED  Fixed 3525/228 3535/237  MOBILE	FIXED 3525/228 3528/231 3535/237 MOBILE BROADCASTING
	3536/238 3537/239 3539/241 3540/242 3541/243	<u>Mobile</u>	3544/246

NOC 3540/242; 3541/243; 3542/244; 3543/245; 3544/246; 3545/247

Reasons: To ensure the necessary protection for the broadcasting service.

**MHz** 68 - 75.4

		Region l	Region 2	Region 3
B/137/99	MOD	68 - 74.8 (NOC)	68 - 73	68 - 70 (NOC)
,		FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	AERONAUTICAL RADIONAVIGATION
			BROADCASTING Fixed	3553/254 3554/255 3555/256
			Mobile	70 - 74.6 (NOC)
			73 - 74.6 (NOC)	FIXED
			RADIO ASTRONOMY	MOBILE
			3551/253A 3552/253B	3555/256 3556/257 3557/258
		3546/248 3547/249 3548/250 3549/251 3550/252		
B/137/100	NOC	74.8 - 75.2 (NOC)	74.6 - 75.4 AERONAUTICAL RADIONAVIGAT	ION
		AERONAUTICAL RADIONAVIGATION	·	
		3558/259		
		•	3558/259	

NOC 3546/248 to 3558/259

Reasons: To ensure the necessary protection for the broadcasting service.

The allocations for aeronautical radionavigation continue to be necessary.

MHz 75.2 - 100

	Region 1	Region 2	Region 3
	75.2 - 87.5 (NOC)		
B/137/101 MOD	FIXED	75.4 - 88	75.4 - 78
	MOBILE except aeronautical mobile	FIXED	FIXED
	acionadorcai mobile	BROADCASTING	MOBILE
		MOBILE	3554/255 <b>3555/256</b> 3556/257 <b>3565/266</b>
		Fixed	78 - 80
		Mobile	FIXED
	V.		MOBILE
			AERONAUTICAL RADIONAVIGATION
			355 <sup>4</sup> /255 3555/256 3556/257 <b>3560/261</b> 3565/266
			80 - 87
			FIXED
			MOBILE
	3546/248 3548/250		3553/254 3554/255 3555/256 3556/257 3560/261 3565/266
	3546/248 3548/250 3550/252 3559/260 3560/261 3561/262		87 - 100
	3562/263		FIXED
B/137/102 <u>NOC</u>	87.5 - 100		MOBILE
	BROADCASTING	88 - 100	BROADCASTING
	3563/264 3564/265	BROADCASTING	3553/254 3566/267 3567/268

NOC 3559/260 to 3567/268

 $\frac{\text{Reasons}}{\text{of the band 88 - 100 MHz}}$ : To ensure the necessary protection for broadcasting. The allocation

#### MHz 100 - 108

B/137/103 NOC

The allocations in boxes 100 - 108 MHz.

Reasons: Continuing need for this allocation.

#### MHz 108 - 138

•		Region 1	Region 2 Region 3	
B/137/104	NOC	108 - 117.975	AERONAUTICAL RADIONAVIGATION	
B/137/105	MOD	117.975 - <del>132</del> <u>136</u>	AERONAUTICAL MOBILE (R)	
			3495/201A 3572/273 MOD 3573/273A 3574/274 3576/274B	·
B/137/106	MOD	132136	AERONAUTICAL-MOBILE-(R)	
			3573/273A-3574/2743575/274A-3576/274B-3577/275	
B/137/107	MOD	136 - 137	AERONAUTICAL MOBILE (R)	
			SPACE-RESEARCH-(Space-to-Earth)	
			3581/281A 3582/281AA <u>3582A</u>	
B/137/108	NOC	137 - 138	SPACE OPERATION (Telemetering and tracking)	
			METEOROLOGICAL-SATELLITE	
	,		SPACE RESEARCH (Space-to-Earth)	
			3578/275A 3580/279A 3583/281C 3584/281E	

NOC 3572/273

B/137/109 MOD

3573/273A In the band 117.975 --132-MHz-and-in-the-band 132 - 136 MHz where the aeronautical mobile (R) service is authorized ..... (rest without change).

NOC 3574/274

B/137/110 St

SUP 3575/274A

NOC 3576/274B

MOD

B/137/111

3577/275 In Burundi, Ethiopia, Gambia, Malawi, Nigeria, the Portuguese Overseas Provinces in Region 1 south of the equator, Rhodesia, Rwanda, Sierra Leone and in the Republic of South Africa, the band 138 - 144 MHz is allocated to the fixed and mobile services. In these countries, existing stations in the fixed and mobile services may continue to operate in the band 132--136 MHz until-1 January 1976.

NOC 3578/275A; 3579/278; 3580/279A; 3581/281A; 3582/281AA

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B/137/112

ADD 3582A

3582A Until 1 January 1990, the band 136 - 137 MHz is also allocated to the space research service (space-to-Earth). After 1 January 1990, no new stations will be authorized in this service. Stations authorized before 1 January 1990 may continue to operate on a secondary basis after that date.

NOC 3583/281C; 3584/281E

Reasons: The band 108 - 117.975 MHz is still extensively used by the aeronautical radionavigation service.

MOD 3573/273A is adapted to the modification of the Table.

Footnote 3575/274A is no longer necessary and footnote 3577/275 has been modified since the date of application has expired for the band 132-136 MHz.

The aeronautical mobile (R) service has been introduced in the band 136-137 MHz in order to meet growing requirements.

Footnote 3582A has been added in order to set a date for the implementation of the new allocation of the band, its present use by the space research service also having been taken into account.

MHz 138 - 143.6

B/137/113 I

NOC

The allocations in boxes 138 - 143.6 MHz

Reasons: This allocation is still required; the band is extensively used by the fixed and mobile services.

MHz 143.6 - 150.05

B/137/114

NOC

The allocations in boxes 143.6 - 150.05 MHz

Reasons: Continuing need for the present structure of allocations.

MHz 150.05 - 174

B/137/115 NOC

The allocations in boxes 150.05 - 174 MHz

MHz 174 - 235

B/137/116 MOD

Region 1	Region 2	Region 3
174 - 216 (NOC)	174 - 216	
BROADCASTING	FIXED	
	BROADCASTING	
	MOBILE	
·	Fixed	
	Mobile .	
3599/291 3600/292 3601/293 3602/294	3602/294 3603/295 3604/29	96

B/	137/	117	NOC
υ,	+21/	1	1100

223 - 235 (NOC)		•
AERONAUTICAL RADIONAVIGATION	225 - 235	225 - 235
Fixed	FIXED	FIXED
Mobile	MOBILE	MOBILE
3607/299 3608/300 3609/301 3610/302 3611/303 3612/304 3613/305		AERONAUTICAL RADIONAVIGATION

### NOC 3590/285 to 3617/308

Reasons: The allocations in the bands between 143.6 - 235 MHz are still required as they stand. They are extensively used by the fixed, mobile and amateur services.

The purpose of MOD  $17^{14}$  - 216 MHz is to ensure the necessary protection for the broadcasting service.

MHz 235 - 335.4

B/137/118

NOC

The allocations in boxes 235 - 335.4 MHz

NOC 3618/308A

B/137/119

NOC 3619/309

NOC

3620/309A

NOC

3621/309B; 3622/310; 3623/310A

B/137/120

NOC

3624/311

MHz

335.4 - 401

B/137/121

NOC

The allocations in boxes 335.4 - 399.9 and

400.15 - 401 MHz

Reasons: The present allocations in the bands between 235 and 399.9 MHz are still extensively used by the fixed and mobile services.

The band 328.6 - 335.4 MHz allocated to aeronautical radionavigation should be maintained since it is extensively used to provide glide slope guidance signals for the ICAO standard instrument landing system (ILS). (Report of the Communications Divisional Meeting, Montreal, 1978.)

> MHz401 - 406

B/137/122

NOC

Reasons: These allocations continue to be necessary.

MHz406.1 - 420

B/137/123

NOC

The allocations in boxes 406.1 - 420 MHz

The allocations in boxes 401 - 406 MHz

Reasons: There is a continuing need for these allocations.

MHz420 - 470

B/137/124 MOD Region 2

Region 3

420 - 450

RADIOLOCATION

Amateur

3636/318 3641/319A MOD 3642/319B 3644/320A 3647/323 3648/324

B/137/125

NOC

The allocations in boxes 450 - 470 MHz

3636/318 to NOC 3640/319 NOC

B/137/126 <u>NOC</u> 3641/319A

B/137/127 MOD 3642/319B In France, and the French Department of Guyana (Region 2) and in Brazil, the frequency 434 MHz  $\pm$  0.25 MHz may be used for space operation

(Earth-to-space) until 1 January 1990 subject to agreement between the administrations concerned and those having services, operating in accordance

with the Table, which may be affected.

NOC 3643/320 to NOC 3650/324B

Reasons: To meet existing requirements until 1 January 1990.

MHz 470 - 942

		410 942
		Region 2
B/137/128	MOD	470 - <del>89</del> 9 <u>608</u>
		BROADCASTING
		3655/329A <del>3660/332</del> <del>3661/332A</del>
B/137/129	MOD	608 - 614
		BROADCASTING
		RADIO ASTRONOMY
		3655/329A 3660/332 3661/332A
ь/137/130	MOD	<u>614</u> -, <u>806</u>
		BROADCASTING
		3655/329A 3660/332 3661/332A
в/137/131	MOD .	806 - 890
		BROADCASTING
		FIXED
		MOBILE
		3655/329A 3660/332 3661/332A
B/137/132	MOD	890 - 942 <u>902</u>
		FIXED
•		RADIOLOCATION
		MOBILE except aeronautical mobile
		3669/339A <del>3670/3</del> 40

MHz 470 - 942 (cont.)

Region 2

B/137/133 MOD

902 - 942

FIXED

RADIOLOCATION

3669/339A 3670/340

NOC 3651/325 to 3659/331

B/137/134

MOD 3660/332

First paragraph (In Region 1 ...) - NOC

Second paragraph:

In-Region-2,-the-band-608---614-MHz-is-reserved-exclusively for the-radio-astronomy-service-until-the-first-Administrative-Radio-Conference after-1-January-1974-which-is-competent-to-review-this-provision;--however,-this provision-does-not-apply-to-Cuba.

NOC 3661/332A to 3670/340

Reasons: The aim of the proposed re-allocations is to meet the growing requirements of the mobile and fixed services. Radio astronomy has been included in the Table for Region 2 in place of footnote 3660/332 which has been modified.

Footnotes 3655/329A and 3661/332A have been deleted in some bands as a result of the proposed re-allocations. Footnote 3670/340 in band 890-902 MHz has been deleted for the same reason.

MHz 942 - 960

B/137/135 MOD

942 - 960

FIXED

MOBILE

3669/339A

MHz 960 - 1 350

B/137/136 NOC

The allocations in boxes 960 - 1 350 MHz

Reasons: There is a continuing need for these allocations.

In order to meet mobile service requirements.

MHz 1 350 - 1 427

•		Region 1	Region 2	Region 3
		1 350 - 1 400 (NOC)	1 350 - 1 400 (NOC)	
		FIXED	RADIOLOCATION	
		MOBILE		
		3679/349 3680/349A	3679/349 3680/349A	
B/137/137	NOC	1 400 - 1 427	RADIO ASTRONOMY	
	NOC	3679/349		
B/137/138	NOC	3680/349A		•
			MHz 1 535 - 1 660	
B/137/139	MOD	1 535 - <del>1-542-5</del> <u>1 549</u>	MARITIME MOBILE-SATELLITE	(Space-to-Earth)
			3685/352 3688/352D MOD 36	89/352E
B/137/140	MOD	1-542-51-543-5	AERONAUTICAL MOBILE-SATELL	ITE (R) ( <u>Space-to-Earth</u> )
		<u>1 549 - 1 550</u>	MARITIME MOBILE-SATELLITE	(Space-to-Earth)
	:		3685/352 3688/352D MOD 36	90/352F
B/137/141	MOD	1-543-51-558-5	AERONAUTICAL MOBILE-SATELLITE (R) (Space-to-Earth)	
		<u>1 550</u> - <u>1 565</u>	3685/352 3688/352D MOD 36	91/352G
B/137/142	MOD	1-558-51-636-5	AERONAUTICAL RADIONAVIGATIO	NC
	:	<u> 1 565 - 1 625</u>	3685/352 3686/352A 3687/35	2B 3688/352D MOD 3695/352K
B/137/143	MOD	<del>1-636.5</del> <u>1 625</u> - 1 644	MARITIME MOBILE-SATELLITE	( <u>Earth-to-space</u> )
			3685/352 3688/352D <del>3692/</del> 3	52H MOD <u>3689/352E</u>
B/137/144	MOD	1 644 - 1 645	AERONAUTICAL MOBILE-SATELL	ITE (R) ( <u>Earth-to-space</u> )
			MARITIME MOBILE-SATELLITE	(Earth-to-space)
			3685/352 3688/352D <del>3693/</del> 3	521 MOD <u>3690/352F</u>
B/137/145	MOD	1 645 - 1 660	AERONAUTICAL MOBILE-SATELL	TTE (R) (Earth-to-space)
			3685/352 3688/352D <del>3694/3</del> 4	524 MOD <u>3691/352G</u>
	1			

NOC

3685/352 to 3688/352D

B/137/146	MOD	3689/352E The use of the bands 1 535 - $\frac{1}{5}$ - $\frac{5}{42}$ - $\frac{5}{5}$ 1 549 MHz and
		1 625 - 1 644 MHz is limited-to intended for transmissions from-space-to-Earth
	٠, .	stations in the maritime mobile-satellite service for communication and/or
		radiodetermination purposes. Transmissions-from-coast-stations-directly-to-ship
		stations,-or-between-ship-stations,-are-also-authorized-when-such-transmissions
		are-used-to-extend-or-supplement-the-satellite-to-ship-links.

B/137/147 MOD 3690/352F The use of the bands 1-542-5---1-543-5 1 549 - 1 550 MHz and 1 644 - 1 645 MHz is-limited-to intended for transmissions from-space-to-Earth stations in the aeronautical mobile-satellite (R) and maritime mobile-satellite services for communication and/or radiodetermination purposes. Pransmissions from-land-stations-directly-to-mobile-stations,-or-between-mobile-stations,-of the-aeronautical-mobile-(R)-and-maritime-mobile-services,-are-also-authorized. The utilization of this band is subject to prior operational coordination between the two services.

B/137/148 MOD 3691/352G The use of the bands 1-543-5--1-558-5 1 550 - 1 565 MHz

and 1 645 - 1 660 MHz is limited to intended for transmissions from

space-to-Earth-stations in the aeronautical mobile-satellite (R) service for

communication and/or radiodetermination purposes. Transmissions-from-terrestrial

aeronautical-stations-directly-to-aircraft-stations,-or-between-aircraft-stations,
in-the-aeronautical-mobile-(R)-service-are-also-authorized-when-such-transmissions

are-used-to-extend-or-supplement-the-satellite-to-aircraft-links.

B/137/149 SUP 3692/352H B/137/150 SUP 3693/352I

B/137/151 SUP 3694/352J

B/137/152 MOD 3695/352K Radio astronomy observations on important spectral lines due to the hydroxyl radicle OH at frequencies 1 612.231 MHz and 1 720.530 MHz are carried out in a number of countries under national arrangements; the bands observed being 1 611.5 - 1 612.5 MHz and 1 720 - 1 721 MHz respectively. Administrations should bear in mind the needs of radio astronomy service in their future planning of the bands 1-558.5---1-636.5 1 565 - 1 625 MHz and 1 710 - 1 770 MHz.

 $\underline{\text{Reasons}}$ : To provide an additional allocation for the maritime mobile-satellite service.

The directions of transmission are given in the Table. Direct transmissions from coast stations to ship stations and between ships were considered inappropriate. Footnotes Nos. 3692/352H, 3693/352I and 3694/352J have been deleted as a result of the proposed changes in Footnotes Nos. 3689/352, 3690/352F and 3691/352G.

MHz 1 660 - 1 710

B/137/153 NOC

The allocations in boxes 1 660 - 1 700 MHz

		Region 1	Region 2	Region 3
B/137/154	MOD	1 700 - 1 710 (NOC)	1 700 - 1 710	
		FIXED	FIXED	
		SPACE RESEARCH (Space-to-Earth) Mobile	MOBILE SPACE RESEARCH (Space-to-Earth)	
		3701/354D	3701/354D <u>3701A</u>	

NOC 3696/353A to 3701/354D

B/137/155 ADD

3701A In Brazil, the band 1 700 - 1900 MHz is also used for transhorizon radio relay systems (troposcatter) in the fixed and land mobile services,

Reasons: Continuing need for these allocations.

The purpose of ADD 3701A is to meet the requirements of troposcatter systems in Brazil.

MHz 1 710 - 2 300

в/137/156	MOD	1 710 - 1 770 (NOC)	1 710 - 1 770
	-	FIXED	FIXED
		Mobile	MOBILE
1		3695/352K 3702/356	3695/352K 3703/356A <u>3701A</u>
B/137/157	MOD	1 770 - 1 790 (NOC)	1 770 - 1 790
		FIXED	FIXED
		Meteorological- satellite 3704/356AA	MOBILE
		Mobile	Meteorological-satellite 3704/356AA
		3702/356	3703/356A <u>3701A</u>

MHz 1 710 - 2 300 (cont.)

	•	Region l	Region 2	Region 3
B/137/158	MOD (WW)	1 790 - 2 290	1 790 - 2 290	
	( W W )	FIXED	FIXED	
		FIXED-SATELLITE (Space-to-Earth) 3708A	FIXED-SATELLITE (Space-to-Earth) 3708A	
		Mobile	MOBILE	
		3702/356 3705/356AB 3706/356ABA 3707/356AC <u>3701A</u>	3703/356A 3 <b>7</b> 05/356AB 3706/3	56ABA <u>3701A</u>

B/137/159 NOC

The allocations in boxes 2 290 - 2 300 MHz

NOC 3702/356 to 3708/3560

B/137/160 ADD

3708A The use of the band 1 790 - 2 290 MHz by the fixed-satellite service is limited to international systems.

<u>Reasons</u>: To meet the future long-term requirements of international systems in the fixed-satellite service.

The operation of systems in the fixed and mobils services in a portion of this band is such that coordination among a large number of terrestrial stations, as would occur in the case of a domestic system, would be impracticable.

MHz 2 300 - 2 450

B/137/161 MOD

2 300 - 2 450

RADIOLOCATION

Amateur

Fixed

FIXED

Mobile

MOBILE

3709/357 3712/360

NOC 3709/357; 3710/358; 3711/359; 3712/360

Reasons : To meet the requirements of the fixed and mobile services.

MHz 2 450 - 2 655

B/137/162 NOC

The allocations in boxes 2 450 - 2 655 MHz.

MHz

2 655 - 2 690

B/137/163 <u>NOC</u>

The allocations in boxes 2 655 - 2 690 MHz.

MHz

2 700 - 3 300

B/137/164 <u>NOC</u>

B/137/165

The allocations in boxes 2 700 - 3 300 MHz

MHz

3 500 - 4 700

3 700 4 100	
Region 2	Region l
3 500 - 3 700	3 500 - 3 700
FIXED	FIXED-SATELLITE (Space-to-Earth)
FIXED-SATELLITE (Space-to-Earth)	RADIOLOCATION
MOBILE:	Radiolocation
RADIOLOCATION	Fixed
Radiolocation	Mobile
:	3740/377 3741/378
3 700 - 4 200	
FIXED	

MOD

B/137/166

FIXED-SATELLITE (Space-to-Earth)

3742A

MOBILE

3742/379

MHz 3 500 - 4 700 (cont.)

		Region l	Region 2	Region 3
NOC .		4 200 - 4 400	AERONAUTICAL RADIONAVIGATION	
,		· ·	3686/352A 3743/379A 3744	/381 3745/382 3748/383
B/137/167	MOD	4 400 - 4 700	FIXED	
			FIXED-SATELLITE (Earth-to-	S <del>pace)</del> (Space-to-Earth)
			MOBILE	
•			MHz 4 700 - 5 000	
B/137/168	MOD	4 700 – 4 990	FIXED	
			FIXED-SATELLITE (Space-to-	Earth)
			MOBILE	
			3531/233B 3697/354 3746/3	82A 3747/382B
в/137/169	MOD	4 990 - 5 000 (NOC)	4 990 - 5 000	4 990 - 5 000 (NOC)
		FIXED	RADIO ASTRONOMY	FIXED
		MOBILE	FIXED	MOBILE
		RADIO ASTRONOMY	MOBILE	RADIO ASTRONOMY
		3531/233B	3749/383A 3531/233B	3531/233B

NOC 3740/377; 3741/378; 3742/379

B/137/169A

ADD

The use of the band 4 170 - 4 200 MHz by the 3742A fixed-satellite service in the direction space-to-Earth using left-hand circular polarization has primary status for feeder links in the maritime mobile-satellite service in relation to the other applications of the fixed-satellite service in this band.

NOC 3743/379A to 3748/383

B/137/170

SUP 3749/383A

NOC 3750/383B

> Reasons: In order to meet the requirements of the fixed-satellite, fixed and mobile services and of feeder links in the maritime mobile-satellite service.

In view of the fact that sharing between the radiolocation service and the fixed-satellite service is difficult, the radiolocation service has become a secondary service in the band 3 500 - 3 700 MHz in Regions 2 and 3. Future requirements for feeder links in the maritime mobile-satellite service have been accommodated in the band 4 170 - 4 200 MHz (see Footnote 3742A). The insertion of the direction of transmission in the band 4 400 - 4 700 MHz and the additional allocation of the band 4 700 - 4 990 MHz to the fixed-satellite service will provide a continuous allocation for this service in the direction space-to-Earth up to 4 990 MHz. Footnote 3531/233B has been included for Region 2 in order to provide the necessary protection for the radio astronomy service.

The purpose of ADD 3742A is to provide a priority allocation for feeder links in the maritime mobile-satellite service.

SUP 3749/383A reflects the change of allocation in the band 4 990 - 5 000 MHz.

> MH z 5 250 - 5 725

B/137/171 NOC The allocations in boxes 5 255 - 5 725 MHz.

Reasons: Continuing need for these allocations.

5 725 - 5 850

B/137/172 MOD

Region 1	Region 2	Region 3	
5 725 - 5-850 5 825  FIXED-SATELLITE  (Earth-to-space)  RADIOLOCATION	5 725 - 5-850 <u>5 825</u> RADIOLOCATION  Amateur		
Amateur  3697/354 3756/388  3759/390 3760/391  3761/391A	3757/389 3760/391 3761/3	391A	

MHz 5 725 - 5 850 (cont.)

	Region l	Region 2	Region 3
B/137/173 MOD	<u>5 825</u> - 5 850	<u>5 825</u> - 5 850	<u>5 825</u> – 5 850
	FIXED-SATELLITE (Earth-to-Space)	FIXED FIXED-SATELLITE	FIXED-SATELLITE (Earth-to-space)
	RADIOLOCATION	(Earth-to-space)	RADIOLOCATION
	Radiolocation	RADIOLOCATION	Radiolocation
	Amateur	Radiolocation	Amateur
	<del>3697/354</del> 3756/388	Amateur	
	3759/390 3760/391 3761/391A	3757/389 3760/391 3761/391A	3757/389 3 <del>760/391</del> 3 <del>761/391A</del>

NOC 3759/390; 3760/391; 3761/381A

Reasons: To meet the requirements of the fixed-satellite service.

The sharing of the band by the fixed-satellite and radiolocation services is very difficult and it is proposed that radiolocation should become a secondary service in the band 5 825 - 5 850. It is considered that its requirements will be met under the new structure of allocations.

Footnote 3757/389 is not applicable to Region 2.

Footnote 3760/391 and 3761/391A are not applicable to the band 5~825-5~850 MHz.

MHz 5 850 - 7 300

B/137/174	MOD	5 850 - 5 925 (NOC)	5 850 - 5 925	5 850 - 5 925 (NOC)
		FIXED	FIXED	FIXED
		FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)
		MOBILE	RADIOLOCATION	MOBILE .
•			Radiolocation	Radiolocation
	٠		Amateur	
		3760/391	3760/391	3760/391
B/137/175	MOD	5 925 - 6 425	FIXED	
•			FIXED-SATELLITE (Earth-to-	Space) <u>3767A</u>
			MOBILE	

MHz 5 850 - 7 300 (cont.)

			r		
		Region 1	Region 2	Region 3	
в/137/176	MOD	6 425 - <del>7-250</del> <u>7 115</u>	FIXED		
•			FIXED-SATELLITE (Earth-to-space)		
		-	MOBILE		
			3743/379A MOD 3762/392AA 3	<del>763/392</del> B 3767/393	
B/137/177	MOD	<u>7 115</u> - 7 250	FIXED		
			MOBILE		
			3743/379A MOD 3762/392AA 3763/392B 3767/393		
B/137/178	MOD	7 250 - 7 300 (NOC)	7 250 - 7 300	7 250 - 7 300 (NOC)	
		FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)	
			<u>Fixed</u>		
			Mobile		
		3764/392D 3765/392G	3764/392D 3765/392G	3764/392D 3765/392G	

MHz 7 300 - 7 750

B/137/179	NOC	The allocations in boxes 7 300 - 7 750 MHz.
B/137/180	MOD	3762/392AA In B <del>razil,</del> Canada and the United States of America, (rest without change).
	NOC	3763/392B to 3767/393
B/137/181	ADD	The use of the band 6 400 - 6 425 MHz by the fixed-satellite service in the direction Earth-to-space using right-hand circular polarization has primary status for feeder links in the maritime mobile-satellite service in relation to other applications in the

fixed-satellite service in this band.

Reasons: In order to meet the requirements of the fixed-satellite service, the fixed and mobile services and feeder links in the mobile-satellite service. In view of the fact that sharing is difficult between the radiolocation and fixed-satellite services, the radiolocation service has been downgraded to secondary status in the band 5 850 - 5 925 MHz in Region 2.

The future requirements of feeder links in the maritime mobile-satellite service have been accommodated in the band 6 400 - 6 425 MHz (see Footnote 3767A). The footnotes have been withdrawn from the bands where they were not applicable.

The purpose of MOD 7 250 - 7 300 MHz is to meet the requirements of the fixed and mobile services without it being detrimental to the fixed-satellite service.

Footnote 3672/392AA has been modified since there are no plans in Brazil for the band 6 625 - 7 125 MHz to be used by the fixed-satellite service in the direction space-to-Earth.

The purpose of ADD 3767A is to provide a priority allocation to feeder links in the maritime mobile-satellite service.

> MHz · 7 750 - 7 975

B/137/182 NOC

The allocations in boxes 7 750 - 7 975

		Region 1	Region 2	Region 3
B/137/183	83 MOD 7 975 - 8 025 (NOC)		7 975 - 8 025	7 975 - 8 025 (NOC)
		FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)
	•	·	<u>Fixed</u>	
			<u>Mobile</u>	
		3766/392н	3766/392н	3766/392н

Reasons: The purpose of MOD 7 975 - 8 925 MHz is to meet the requirements of the fixed and mobile services without it being detrimental to the fixed-satellite service.

> MHz8 025 - 8 400

B/137/184

NOC

Not used

The allocations in boxes 8 025 - 8 400 MHz.

B/137/185

MHz

8 400 - 8 500

B/137/186

NOC

The allocations in boxes  $8\,400 - 8\,500\,\text{MHz}$ .

MHz

8 500 - 9 500

B/137/187

NOC

The allocations in boxes 8 500 - 9 500 MHz.

GHz10.7 - 12.5

B/137

37/188	MOD	10.7 - 10.95	FIXED
			FIXED-SATELLITE (Space-to-Earth)
	•		MOBILE
	NOC	10.95 - 11.2	10.95 - 11.2
	·	FIXED	FIXED
		FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-Earth)
		(Earth-to-space)	MOBILE
		MOBILE	

GHz 10.7 - 12.5 (cont.)

	,		r	,
		Region 1	Region 2	Region 3
B/137/189	MOD	11.2 - 11.45	FIXED	
			FIXED-SATELLITE (Space-to-	Earth)
•			MOBILE	
B/137/190	NOC	11.45 - 11.7	FIXED	
			FIXED-SATELLITE (Space-to-	Earth)
			MOBILE	
B/137/191	MOD	11.7 - 12.5 (NOC)	11.7 - 12.2	11.7 - 12.2 (NOC)
·	,	FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	FIXED-SATELLITE (Space-to-Earth)	MOBILE except aeronautical mobile
		BROADCASTING	MOBILE-except aeronautical-mobile	BROADCASTING
		BROADCASTING- SATELLITE	BROADCASTING	BROADCASTING-SATELLITE
		·	BROADCASTING -SATELLITE	
			3786/405BB MOD 3787/405BC	3785/405BA
B/137/192	MOD		12.2 - 12.5	12.2 - 12.5 (NOC)
			FIXED	FIXED
			MOBILE-except aeronautical-mobile	MOBILE except aeronautical mobile
			BROADCASTING	BROADCASTING
			BROADCASTING-SATELLITE	
		3785 <b>/</b> 405BA	MOD 3786/405BB MOD 3787/405BC	

NOC 3785/405BA

B/137/193 MOD

3786/405BB The Fixed Service Terrestrial-radiocommunication-services in the band 11.7-- 12.2 - 12.7 GHz in Region 2 shall be introduced only after the elaboration and approval of plans for the space-radiocommunication-services, broadcasting-satellite service, so as to ensure compatibility between the uses that each country decides for this band.

B/137/194 MOD

MOD 3787/405BC The use of the band 11.7 - 12.2 GHz in Region 2 by the broadcasting-satellite and fixed-satellite services and of the band 12.2 - 12.7 GHz by the broadcasting-satellite service is limited to domestic systems and is subject to previous agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Articles N11 and N13/9A and Resolution No. Spa2 - 3).

 $\mathtt{GHz}$ 

#### 12.5 - 15.35

	Region 1	Region 2	Region 3
B/137/195 MO	12.5 - 12.75 (NOC)	12.5 - 12.75 12.7	12.5 - 12.75 (NOC)
	FIXED-SATELLITE	FIXED	FIXED
	(Space-to-Earth) (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Space-to-Earth)
		MOBILE except aeronautical mobile	MOBILE except aeronautical mobile
		BROADCASTING -SATELLITE	
		MOD 3786/405BB MOD 3787/405BC	·
B/137/196 MO	D	<u>12.7</u> - 12.75	·
		FIXED	
		FIXED-SATELLITE (Earth-to-space)	
	3788/405ED 3789/405BE	MOBILE except aeronautical mobile	
B/137/197 MC	D 12.75 - 13.25	FIXED	
		FIXED-SATELLITE (Earth-to-	space) 3798A
		MOBILE	

B/137/198

NOC

The allocations in boxes 14 - 15.35 GHz.

NOC

3788/405BD to 3794/408

B/137/199

NOC

ADD

3795/408A

NOC

3798/408B; 3797/408C; 3798/409

B/137/200

3798A In Region 2, the use of the band 12.75 - 13.25 GHz by the fixed-satellite service in the direction Earth-to-space is limited to international systems.

 $\frac{\text{Reasons}}{1 \text{ GHz}}$ : Bands 10.7 - 10.95 GHz and 11.2 - 11.45 GHz - To provide a continuous 1 GHz allocation for international applications in the fixed-satellite service.

Bands 11.7 - 12.2 GHz - To provide greater orbital capacity and greater flexibility in terms of satellite positioning in the fixed-satellite service for domestic applications in Region 2.

Bands  $12.2 - 12.7 \; \text{GHz}$  - To provide greater orbital capacity and greater flexibility in terms of satellite positioning in the broadcasting-satellite service in Region 2.

Band  $12.75 - 13.25~\mathrm{GHz}$  - This band may be shared by the fixed-satellite service in the direction Earth-to-space and by the fixed and mobile services. This additional allocation, together with the existing allocation in the band  $14 - 14.5~\mathrm{GHz}$  complements the necessary bandwidth corresponding to the allocation proposed in the direction Space-to-Earth.

The maintenance of the allocation in the bands 10.7 - 11.7 GHz, 12.5 - 13.25 GHz and 14.4 - 15.35 GHz to the mobile service is sufficient to meet requirements.

The maintenance of the allocation in the bands 10.7 - 13.25 GHz and 14.4 - 15.35 GHz to the fixed service provides the Administrations of Region 2 with flexibility in planning the services to be allocated on a domestic basis within their countries.

 $\tt MOD~3786/405BB$  and  $\tt MOD~3787/405B$  are due to the proposed re-allocations.

The purpose of ADD 3798A is to avoid limiting the development of land services in this band.

GHz 15.7 - 17.7

		Region 1	region 2	Region 3							
B <b>/</b> 137/201	MOD	15.7 - <del>17.7</del> <u>17.2</u>	RADIOLOCATION								
		3792/407 3794/408									
B/137/202	MOD	<u>17.2</u> - 17.7	<u>17.2</u> - 17.7	<u>17.2</u> - 17.7							
		RADIOLOCATION	RADIOLOCATION	RADIOLOCATION							
			Radiolocation								
			FIXED-SATELLITE (Earth-to-space)	<del></del>							
		3792/407 3794/408	3792/407 3794/408	3792/407 3794/408							

Reason: To provide an alternative allocation for the fixed-satellite service in the direction Earth-to-space for connections to the satellites in the broadcasting-satellite service or the fixed-satellite service.

Footnotes 3792/407 and 3794/408 are not applicable to Regions 2 and 3.

GHz 19.7 - 23.6

GHz 19.7 - 23.6 (cont.)

		Region 1	Region 2	Region 3
B/137/204	MOD	22,5 - 23 22,6	FIXED	22.5 - 23 22.6
	;		MOBILE	FIXED
:				MOBILE
		:		BROADCASTING-SATELLITE 3802/410B
B/137/205	MOD	22.6 - 23	FIXED	<u>22.6</u> - 23
			MOBILE	FIXED
			INTER-SATELLITE	BROADCASTING-SATELLITE 3802/410B
				INTER-SATELLITE
B/137/206	MOD	23 - 23,6	INTER-SATELLITE	
•			FIXED '	
			MOBILE	

GHz 23,6 - 24

B/137/207 NOC

The allocations in box 23.6 - 24 GHz

Reasons: To provide a continuous allocation in the band 17.7 - 23.6 GHz for use by high-capacity systems in the fixed service and for the inter-satellite service at frequencies lower than those presently allocated.

GHz 31.8 - 33

в/137/208	MOD	31.8 - 32.3	INTER-SATELLITE
· · · · · · · · · · · · · · · · · · ·			RADIONAVIGATION
			Space research
			3807/412B
B/137/209	MOD	32,3 - <del>33,3</del> <u>32.8</u>	INTER-SATELLITE
			RADIONAVIGATION
B/137/210	MOD	<u>32.8</u> - 33	RADIONAVIGATION

Reasons: To allocate lower frequencies for the inter-satellite service.

GHz 33 - 33.4

B/137/211

MOD

Region 1	Region 2	Region 3
33 - 33.4	33 - 33.4	V
RADIO ASTRONOMY	RADIONAVIGATION	
RADIONAVIGATION	MOD 3811/412F	

B/137/212

MOD

3811/412F In Cuba, India <u>and Brazil</u>, the band 33 - 33.4 GHz is also allocated to the radio astronomy service.

Item 2.2 of the agenda

#### APPENDIX 28

#### 1. Introduction

Both the present Appendix 28 and CCIR Report 382-3 relating to the determination of the coordination area of an earth station contain inaccuracies in the definition of factor J and in the comments on factor W. As these inaccuracies may stand in the way of a proper understanding of the procedure for determining permissible values of interference, the text relating to factors J and W needs to be amended.

As regards interference caused by a terrestrial carrier to an SCPC carrier, it is believed that there is sufficient evidence to warrant explicitly recommending values for reference bandwidth B (Table II of the present text of Appendix 28) for SCPC carriers. In the present text of Appendix 28, there is merely a vague reference to the possibility of using values for B different from those given in Table II. A footnote to Table II in CCIR Report 382-3 explicitly mentions SCPC systems. However, this note could be even more explicit.

It is therefore proposed that the present text of Appendix 28, should be modified as specified below.

#### 2. <u>Proposals</u>

B/137/213 MOD

APPENDIX 28

NOC Procedure for Determination of the Co-ordination Area around an Earth Station in Frequency Bands between 1 and 40 GHz Shared between Space and Terrestrial Radiocommunication Services

NOC

1. Objectives

#### MOD 2. Permissible values of interference

The permissible interference power (in dBW) in the reference bandwidth to be exceeded for no more than p percent of the time at the receiver input of a station suffering interference, from each source of interference, is given by the general formula below:

$$P_r(p) = 10 \log_{10} (kT_r B) + J + M(p) - W$$
 (1)

where

with

$$M(p) \equiv M(p_0/n) = M_c(p_0) \tag{13}$$

k = Boltzmann's constant (1.38 × 10<sup>-23</sup> joule per K);

 $T_r$  = thermal noise temperature of the receiving system (K);

B = reference bandwidth (in Hz) (bandwidth, of concern to the interfered with system, over which the interference power can be averaged);

J = ratio (in dB) of the permissible long term (20% of the time) interfering power to the thermal noise power in the receiving system (1);

po = percentage of the time during which the interference from all sources may exceed the permissible value;

n = number of expected entries of interference, assumed to be uncorrelated;

p = percentage of the time during which the interference from one source may exceed the permissible value; since the entries are not likely to occur simultaneously  $p = p_0/n$ ;

#### Notes

<sup>(1)</sup> The factor J (in dB) is defined as the ratio of total permissible long-term (20 % of the time) interference power in the system, to the long-term thermal noise power in a single receiver. For the interference considered in this definition, flat power spectral density, i.e. thermal noise, is assumed. For example, in a 50-hop terrestrial line-of-sight radio relay hypothetical reference circuit, the total allowable additive interference power is 1000 pWOp (CCIR Recommendation 357-1) and the mean thermal noise power in a single hop may be assumed to be 25 pWOp. Therefore, since in a FDM/FM system the ratio of the flat-type interference noise power to the thermal noise power in a-4-kHz the same band is the same before and after demodulation, J = 16 dB. In a satellite link in the fixed-satellite service, the total allowable interference power is also 1000 pWOp (CCIR Recommendation 356-2), but the thermal noise contribution of the down path is not likely to exceed 7000 pWOp, hence J > -8.5 dB. In digital systems it may be necessary to protect each communication path individually, and in that case, long term interference power may be of the same order of magnitude as long-term thermal noise, hence J = 0 dB.

- $M_o(p_o)$  = ratio (in dB) between the permissible interference powers during  $p_o\%$  and 20% of the time respectively, for all entries of interference (1);
- M(p) = ratio (in dB) between the permissible interference powers during p% of the time for one entry of interference, and during 20% of the time for all entries of interference, respectively;

Reasons: The explanatory note in its present form may lead to an erroneous interpretation of the entire expression for  $P_r(p)$ , since it is not clear that the expression "interference power" does not refer to the interference itself. This difference is only considered through the introduction of factor W. Factor W is the ratio of RF thermal noise power to RF interference power which produces the same effect in the baseband.

When W is subtracted in the expression

$$P_r(p) = 10 \log_{10}(kT_rB) + J + M(p) - W$$

an additional quantity is introduced over and above the permissible interference power as this interference is not in general equivalent to thermal noise.

Assuming that the comment proposed for the interference power is valid, it is not necessary to restrict the bandwidth to 4 kHz to maintain the ratio of the powers before and after demodulation. Since thermal noise and interference then have the same spectral characteristics, the ratio is maintained independently of the reference bandwidth.

<sup>(1)</sup>  $M_0(p_0)$  (in dB) is the "interference margin" between the long-term (20%) and the short-term  $(p_0\%)$  allowable interference powers. For analogue radio-relay and fixed-satellite systems in bands between 1 and 15 GHz, this is the ratio (in dB) between 50 000 and 1 000 pW0p (17 dB). In the case of digital systems,  $M_0(p_0)$  may tentatively be set equal to the fading margin which depends, inter alia, on the local ratio climate.

w = equivalence factor (in dB) relating the effect of interference to that of thermal noise of equal power in the reference bandwidth (1).

Tables I and II list values for the above parameters.

NOC 3. Determination of co-ordination distance for near great circle propagation mechanisms

(1) The factor W (in dB) is the ratio of thermal noise power to interference power, in the reference bandwidth, producing the same interference effect after demodulation (e.g. in a FDM/FM system it would be expressed for equal voice channel performance; in a digital system it would be expressed for equal bit error probabilities). For FM-signals, it is defined as follows:

 $W = 10 \log_{10}$ Interfering power in the receiving system after demodulation  $W = 10 \log_{10}$ Thermal noise power in the receiver input in the reference bandwidth

Thermal noise power in the receiver input in the reference bandwidth

Thermal noise power at the receiver input in the reference bandwidth

Thermal noise power at the receiver input in the reference bandwidth

The factor W depends on the characteristics of the wanted and the interfering signals. To avoid the need for considering a wide range of characteristics, upper limit values were determined for the factor W. Also when When the wanted signal uses FM modulation with r.m.s. modulation indices which are greater than unity, W is approximately-4-dB, not higher than 4 dB. In such cases, a conservative figure of 4 dB will be used for the factor W in (1), regardless of the characteristics of the interfering signal. For low-index FDM/FM systems a very small reference bandwidth (4 kHz) has-been used-in-order-to-avoid-the-necessity-of-dealing-with-a-large-range-of characteristics-of-both-wanted-and-unwanted-signals-upon-which,-for-greater reference-bandwidths,-the-value-of-W-would-depend. implies values of W not greater than 0 dB. In such cases, a conservative figure of 0 dB will be used for W in (1) regardless of the characteristics of the interfering signal.

When the wanted signal is digital, W is usually equal to or less than 0 dB, regardless of the characteristics of the interfering signal.

Reasons: For wanted signals with modulation indices greater than unity, the text in its present form gives the impression that W does not vary and is approximately equal to 4 dB, independently of the characteristics of the wanted and interfering signals. In fact, this is not the case, and calculations made with a large number of FDM/FM carriers show that W varies widely. The value 4 dB is merely an upper limit for the values observed for W and in this respect it is a suitable choice to be used in (1). The text should naturally reflect this concept which is the basic reason for the modifications proposed for modulation indices greater than unity. In connection with low-index FDM/FM systems, the text in its present form suggests that the choice of a 4 kHz reference bandwidth removes the dependence of W on the characteristics of the wanted and interfering signals. Calculations made with a large number of FDM/FM carriers have shown that this is not the case. Again it is the use of an upper limit for W, in (1), which eliminates this dependence. In addition, the choice of a very small reference bandwidth results merely in the upper limit for W being O dB. These ideas would be clearly expressed in the foregoing proposals for the text.

It should be noted that the text in its present form would be more acceptable if W were interpreted in note (1) as the upper limit for all possible values of W. Naturally, such an interpretation would not be consistent with the definition of W in the text.

- NOC 4. Determination of coordination distance for propagation mode (c) (scattering from hydrometeors)
- NOC 5. Minimum value of coordination distance
- NOC 6. The coordination distance
- NOC 7. Parameters for calculation

NOC TABLE I

TABLE II Parameters required for the Determination of Co-ordination Distance for a Receiving Earth Station

Space Radiocomm Service design	unication ation	Space Operation (Telemetering)(1)	Meteorological- Satellite (1)	Space	Deep Research Space; Manned	Fived Satellite		Tived Satellite		Eived Satellite		Earth Exploration- Satellite (1)	Near Earin Space	Deep Research	Tive A. Safellife	1.Acu-3alcillic	Five d. Satellite		Fix3d-Satellite	Earth Exploration- Satellite (1)
Frequency band (GHz)		1·525- 1·535	1·670- 1·690	1·70 1·71 2·29 2·30	0-	2·50 2·53		3-40 4-20		7·30 7·7:		8·025 8·400	8·4( 8·5(		10-9 11-2 11-4 11-	20 45	11- 12- 12- 12-	20 50	17·7- 19·7	21·2- 22·0
Modulation at earth station (*)						Λ	N	A	N	Α	N				Α	N	A	N	N	
	Po (%)			0.1	0.001	0.03		0.03	0.003	0.03	0 003		0-1	0.001	0.03	0.003	0.03	0.003	0.003	
·	n			2	1	3		3	3	3	3		2	ı	2	1	2	1	1	
Interference parameters	p (%)			0.05	0.001	0.01		0.01	0.001	0.01	0.001	,	0.05	0.001	0.015	0 003	0.015	0.003	0.003	
and criteria	J (dB)			_	_	-8		-8	0	8	0			_	8	0	-8	0	0	
	$M_o(p_o)$ (dB)			_		17		17	5 ( <sup>3</sup> )	17	5 (a)			_	17	5 (3)	17	5 (3)	5 (3)	
	W (dB)			_	_	4		4	0	4	0				. 4	0	4	0	0	
. • .	E (dBW) in B	55	<b>55</b>	62(4)(6)	62(4)(6)	92 (*)		55	55	55	55		25(4)	25(4)	55	55	55	55	35 (5)	
Terrestrial station	$P_{i'}$ (dBW) in $B$	13	13 -	10(4)(6)	10(4)(6)	40 (6)		13	13	13	13		-17(4)	17(t)	5	5	5	5	15 (8)	
parameters	ΔG (dB)	0	0	10 (6)	10 (*)	10 (6)		O	0	0	0		0	2	0	0	0	0	0	
Reference bandwidth	B (Hz)			1	1	10 <sup>6</sup>		10 <sup>6</sup>	106(7)	106(7)	106		1	1	106(1)	106(7)	10677	10 <sup>6</sup> (7)	1067	
Permissible interference power	$P_r(p)$ (dBW) in $B$			-220	-220	_		_	_	_	l –	-	220	-220	_	<b>—</b>	_	-	_	<b>T</b>

Parameters associated with these services may vary over a rather wide range. Further study is required before representative values become available.

 $<sup>^{2}</sup>$   $\Lambda =$  analogue modulation; N = digital modulation.

We have (2) in Section 2.  $M_0(\rho_0)$  may assume values between 5 and 40 dB, depending on frequency, rain-climatic zone and system design. These values are estimated for 1 Hz bandwidth and are 30 dB below the total power assumed for emission. These values assume an r.f. bandwidth of no less than 100 MHz, and are 20 dB below total power assumed per emission.

<sup>1.</sup> In these bands, the parameters for the terrestrial stations associated with transhorizon systems have been used.

ADD (7) For SCPC systems the reference bandwidth B should be assumed to be equal to the bandwidth occupied by the wanted carrier.

Reasons: As far as SCPC systems are concerned, there is sufficient evidence for an explicit reference to be made to the need for using a different value for B in Table II and for proposing, such a value. In its present form, Appendix 28 merely contains a reference in item 7 that "for specific systems the bandwidth B.... may have to be changed...". CCIR Report 382-3 (Section 2.3.5) establishes that for a 4-phase SCPC/PSK transmission at 64 kbit/s the value of B would be 38 kHz. In addition, calculations carried out for interference with FM SCPC carriers showed that a value of B equal to the bandwidth occupied by the carrier would be a suitable choice. The selection of a different value for B would be equivalent to maintaining B equal to 10 Hz and determining a value for W different from 4 dB. For W = 4 dB, the value for B is approximately equal to the bandwidth occupied by the carrier, which is undeniably a very suitable choice.

NOC Figure 1 to Figure 23

NOC

ANNEX A

TO APPENDIX 28

Determination of Coordination Distance in Allocated Frequency Bands

NOC

ANNEX B

TO APPENDIX 28

Determination and Use of Auxiliary Contours

#### INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 138-E 29 August 1979 Original : English

PLENARY MEETING

GENEVI

#### Report by the Secretary General

### THE PUBLICATION OF THE RADIO REGULATIONS

The General Secretariat publishes the Radio Regulations in a consolidated form so that the additions, substitutions and amendments effected by successive administrative radio conferences are incorporated in a single book.

Users of the Radio Regulations, consequently, do not need to refer separately to the Final Acts of the individual administrative radio conferences which have amended the Regulations in order to know the currently valid texts.

The decision to issue the Radio Regulations in this way (including the use of loose-leaf binders so as to facilitate the updating of the printed Regulations) was taken following the consultation of all administrations, in accordance with Recommendation No. 1 of the World Administrative Radio Conference to deal with Matters relating to the Maritime Mobile Service, Geneva, 1967.

It should be mentioned in this connection that the loose-leaf A5 format, which is the same as is used for the "Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services", has proved most convenient especially as the publication "Radio Regulations" may be needed in a variety of different working environments.

The most recent edition of the Radio Regulations dates from 1976 when, because of the large amount of material which had to be accommodated (both the 1971 Space Conference and the 1974 Maritime Conference had taken place since the previous edition in 1968), it was necessary to issue the Regulations in two volumes:

Volume 1 : Radio Regulations and Additional Radio Regulations

Volume 2 : Appendices, Resolutions, Recommendations and the Analytical Table

A set of additional and replacement pages resulting from the decisions of administrative radio conferences held since 1976 and covering also other changes which have taken place since then, has recently been issued.

The General Secretariat has, in the course of the work of preparing the publication "Radio Regulations", noted two matters related to the updating of the publication which it believes the Conference might wish to consider.

### 1. The referencing of individual frequency bands in the Table of Frequency Allocations by separate provision numbers

The Radio Regulations are divided into chapters, articles, sections of articles, paragraphs and provisions. These provisions are numbered sequentially so that each provision has a unique number. It is this number which is widely used as a reference both within the body of the Regulations as well as in correspondence, etc.

The provision number is also, if the provision has been updated or amended since the Ordinary Administrative Radio Conference, Geneva, 1959, followed by a symbol (e.g. Mar2) to indicate the most recent conference which has taken such action.

The Table of Frequency Allocations itself, however, even though it spreads over 110 pages interspread by footnotes, is referenced by only a single provision number (Radio Regulation 3450/156). The symbol showing the most recent conference which has updated a particular part of the Table is also not shown against the actual band affected.

It might consequently be useful, both with a view to facilitating reference to individual parts of the Table of Frequency Allocations and also to show more clearly amendments to the Table which might be made by future administrative radio conferences, if the individual boxes of the Table (band for a Region or group of Regions) were each given a separate provision number.

#### 2. Abrogation of Resolutions and Recommendations of administrative radio conferences

The action foreseen by Resolutions and Recommendations of administrative radio conferences may vary considerably and it may often require detailed consideration by a conference to determine whether this action has been completed so that the text concerned can be abrogated.

There would, however, appear to be certain Resolutions and Recommendations for which it should not be difficult to determine whether the required action has been completed or not. This could be the case of Resolutions and Recommendations requiring some definite action with respect to a conference or meeting (e.g. Resolution No. 11 and Recommendation No. 13 of the Ordinary Administrative Radio Conference, Geneva, 1959).

The General Secretariat believes that it would save both the time and effort of future conferences, as well as material and labour when re-issuing or re-printing the Radio Regulations, if a way could be found by which Resolutions and Recommendations of the kind referred to above were made self abrogating after the action they provided for has been completed.

M. MILI

Secretary-General



INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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PLENARY MEETING

### Federative Republic of Brazil\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

(Agenda item 2.1)

ARTICLES N3/2 AND N4/12 AND APPENDICES B, 3, 4 AND 5

1. Article N3/2 (Designation of emissions), Appendix NB (Table of classification of typical emissions) and Appendix 5 (Examples of necessary bandwidths and designations of emissions)

The SPM considered CCIR Recommendation 507 (XIVth Plenary Assembly, Kyoto, 1978) and concluded that it could replace Article N3 in the Re-Arrangement of the Radio Regulations.

Brazil supports Recommendation 507 and the SPM's conclusion and proposes that Article N3/2 should be amended in accordance with CCIR Recommendation 507.

It also proposes, in accordance with point 3.3 of the Report of the SPM, that WARC should consider the possibility of combining new Appendix B of the Re-Arrangement of the Radio Regulations and Appendix 5, with a view to simplifying the regulations in their new form.

The date of the entry into force of the proposed amendments should allow for the necessity of bringing each Administration's national registers up to date. Bearing in mind the difficulties of this process, especially for Administrations which do not yet use computers to plan and manage the use of the radio frequency spectrum, Brazil proposes that a minimum period of three years should be allowed for the necessary adjustments.

2. Appendix 3 (Table of Frequency Tolerances) and Appendix 4 (Table of Tolerances for the Levels of Spurious Emissions)

With respect to Appendices 3 and 4, Brazil agrees on the need to introduce changes which will reflect technological developments and permit more efficient use of the radio frequency spectrum. It therefore proposes that the two Appendices should be amended on the basis of the conclusions of the SPM (points 8.1 and 8.2 of the Report of the SPM).

As far as the date of application is concerned, Brazil considers a minimum period of five years essential in order to adapt new equipment to the new characteristics. In addition, as regards all transmitters in service, Brazil proposes a minimum period of ten years for the application of the amendments, so that Administrations can get rid of such transmitters without any major economic problems.

RCHIVES

<sup>\*)</sup> See also Document No. 137.

(Agenda item 2.2)

### TECHNICAL BASIS FOR THE BRAZILIAN PROPOSAL ON APPENDIX 28 OF THE RADIO REGULATIONS

#### 1. <u>Introduction</u>

The Brazilian proposal for WARC-79 includes specific proposals for changes to Appendix 28 of the Radio Regulations. The reasons given for these amendments refer, in passing, to interference calculations on which the amendments are based. The purpose of the present document is to give details of these interference calculations as the technical basis for the Brazilian proposal on Appendix 28.

The proposal deals basically with three points: the definition of factor J; the comments in the explanatory note on factor W; the reference bandwidth for interference with SCPC carriers. On the amendment proposed in the definition of J, there is nothing to add. As regards the amendments proposed to the note on factor W, the reasons mention the fact that for a large number of FDM/FM carriers, W varies widely. The detailed calculations are given in Section 2.

Finally, in order to choose the reference bandwidth B, when considering interference with SCPC carriers, it was stated that the calculations carried out for interference with FM SCPC carriers showed that a value of B equal to the bandwidth occupied by the carrier would be a suitable choice. The detailed calculations are given in Section 3.

#### 2. Interference between FDM/FM carriers

The first case considered is that where the wanted carrier has modulation indices greater than unity, which corresponds to interference by terrestrial carriers with a satellite network carrier. Such calculations are necessary in order to determine the reception contours of an earth station. The Brazilian proposal tried to make it quite clear that the value of W = 4 dB suggested in Appendix 28 is appropriate, but that contrary to what is stated at present in Appendix 28, this value has a wide range of variation, when different pairs of carriers, interfering and wanted, are considered. The aim here is to give specific examples of interference which will bring out this point. For this purpose we consider a number of typical carriers of a satellite telecommunications network and two typical carriers of a terrestrial system. The characteristics of these carriers are given in Tables 1 and 2 respectively.



No. of channels	Band allocated (MHz)	Occupied bandwidth (MHz)	Maximum frequency of baseband (MHz)	Multi-channel RMS deviation (MHz)	Modulation index
24	2.5	2.0	108	275	2.55
60	5.0	4.0	252	546	2.17
132	10.0	7.5	552	1020	1.85
252	10.0	8.5	1052	1009	0.96
432	20.0	18	1796	2276	1.27
672	25.0	22.5	2788	2678	0.96
972	36.0	36.0	4028	4417	1.10
1200	36.0	36.0	5340	4006	0.75

Table 1 - Characteristics of carriers of a typical satellite telecommunication network

No. of channels	Occupied bandwidth (MHz)	Minimum frequency of baseband (kHz)	Maximum frequency of baseband (kHz)	Multi-channel RMS deviation (kHz)	Modulation index
960	15.6	60.0	4288	1102	0.26
1800	23.3		8248	1056	0.13

<u>Table 2</u> - Characteristics of typical terrestrial carriers

For each of the 16 possible pairs corresponding to the interference of each carrier in Table 2 with each carrier in Table 1, we calculated, in accordance with the procedure described in  $\sqrt{1}$ , the carrier-interference ratio C/I corresponding to 50,000 pWOp in the highest channel of the baseband. This C/I value corresponds to the worse of the following two situations: co-channel interference or separation between the two carriers equal to the maximum frequency of the baseband of the wanted carrier. From the C/I values, we then calculate the value C/P (p) of the carrier-interference ratio when the interference is restricted to the 1-MHz reference bandwidth. The value of P<sub>r</sub>(p) is thus the interference power within the 1-MHz reference bandwidth, which must not be exceeded for more than 0.01 % of the time. The value of C/P<sub>r</sub>(p) is related to the value of C/I by a factor equal to the fraction of the power of the interfering carrier which is within the 1-MHz reference bandwidth.

We now calculate the carrier-thermal noise ratio C/N which produces 50,000 pWOp in the highest channel of the baseband of the wanted carrier, this ratio being determined for the thermal noise within the 1-MHz reference band. We can then write:

$$W(dB) = / C/P_r(p) / (dB) - / C/N / (dB)$$

The result is the values of W given in Table 3 for the various pairs of carriers considered, interfering and wanted.

		WANTED CARRIERS (No. OF CHANNELS)										
		24	60	132	252	432	672	972	1200			
G CARRIERS CHANNELS)	960	1.2	-1.0	-3.2	-4.7	-5.6	-8.5	-10.4	-9.9			
INTERFERING (No. OF C	1800	1.9	-0.9	<b>-3.</b> 5	-4.9	-6.1	-9.0	-11.0	-10.3			

<u>Table 3</u> - Values of W corresponding to interference with carriers of a satellite network

As an example, we may take the calculation of W for interference by an 1800-channel terrestrial carrier (characteristics in Table 2) with a 24-channel satellite carrier (characteristics in Table 1).

By means of a computer program for the procedure described in  $/1/\sqrt{1}$ , the value of C/I corresponding to 50,000 pWOp in the baseband was calculated. The result was:

$$\frac{C}{T} = 8.2 \text{ dB}$$

Bearing in mind the fact that for an 1800-channel carrier with the characteristics given in Table 2, the power within a 1-MHz band around the centre frequency is less than the total power by no more than 0.6 dB, we get:

$$\frac{C}{P_r(p)} = 8.8 \text{ dB}$$

Then, calculating the carrier-thermal noise ratio required to get 50,000 pWOp in the last channel of the baseband and then reducing the thermal noise power for the 1-MHz reference bandwidth, we get the C/N value which has to be used in the expression for W in  $\frac{1}{2}$  1.

$$\frac{C}{N} = 6.9 \text{ dB}$$

thence :

$$W(dB) = 8.8 - 6.9 = 1.9 dB$$

It can be seen from Table 3 that W does in fact vary over a wide range of values, which are all less than 4 dB. Although the greatest value of W in the Table is 1.9 dB, for wanted carriers with a small number of channels and lower modulation indices, W approximates to 4 dB. Thus, for example, for a 24-channel carrier and a 1.5 modulation index interfered with by the 1800-channel carrier in Table 2, the result is W = 3.1 dB.

We next consider the situation in which the wanted carrier has modulation indices less than unity, which corresponds to interference by satellite network carriers with a terrestrial carrier. Here we shall also give specific examples showing that W has a wide range of variation and that the value W = 0 dB is an upper limit for these values when a reference bandwidth of 4 kHz is taken. The 16 pairs of carriers derived from Tables 1 and 2 are again considered. The procedure for obtaining W is just like that described above, with a reference bandwidth of 4 kHz. This gives the values of W shown in Table 4 for the various pairs of carriers considered, interfering and wanted.

	:			INTERFERING CHANNELS (No. OF CHANNELS)									
	;	24	60	132	252	432	672	972	1200				
WANTED CARRIERS	960	-4.2	-3.4	-2.8	-3.0	-2.1	-2.3	-1.1	-0.9				
(No. OF CHANNELS)	1800	-3.1	-2.6	-2.4	-2.4	-2.1	-2.2	-2.1	-2.3				

Table 4 - Values of W corresponding to interference with terrestrial carriers

Once again, W is found to have a wide range of variation. As we wished to demonstrate, the choice of the 4-kHz reference bandwidth simply makes W = 0 dB a suitable upper limit.

#### 3. <u>Interference with SCPC/FM carriers</u>

Here we consider interference by two terrestrial carriers, with characteristics as in Table 2, with an SCPC/FM carrier. The separation between the centre frequencies of the SCPC/FM carriers is 30 kHz with an r.m.s. deviation of the test tone of each carrier amounting to 5.2 kHz. The power spectral density of the SCPC/FM carrier was measured by the methods described in  $\frac{1}{2}$ .

A similar procedure to that described in connection with the analysis of interference between FDM/FM carriers yields the values of W given in Table 5, taking a reference bandwidth of 1 MHz. Reducing the reference bandwidth to 25 kHz (bandwidth occupied by the SCPC carrier) we correct the value of W to a value W25, which takes into account the reduction of thermal noise power in RF. The reduction for the power of the interfering carrier takes into account the fact that for the 960-channel and 1800-channel carriers in question, the power in a 25-kHz band around the centre frequency is 6.9 dB and 0.3 dB respectively less than the power in a 1-MHz band around the centre frequency. Naturally, for thermal noise, the corresponding reduction is 16 dB.

INTERFERING TERRESTRIAL CARRIER (No. OF CHANNELS)	W	W <sub>25</sub>		
960	13.2	4.1		
1800	20.1	4 . Ա		

Table 5 - Values of W for interference with an SCPC/FM carrier.

We thus find that when we consider interference with SCPC/FM carriers, the value of W = 4 dB is still suitable, because the reference bandwidth is the bandwidth occupied by the carrier interfered with (25 kHz in the examples considered). In addition, in accordance with CCIR Report 382-3 (Section 2.3.5), the choice of a reference bandwidth of 38 kHz would adequately protect the digital SCPC carriers of the INTELSAT system which have precisely this occupied bandwidth. Since that is the case, it may be suggested that the bandwidth occupied by an SCPC carrier, digital or analog, should be taken as the reference bandwidth when considering interference with this type of carrier, with the result that the value W = 4 dB can be maintained.

We now consider the impact on coordination distance values that would result from maintaining a 1-MHz reference bandwidth when dealing, for example, with interference by an 1800-channel carrier with an SCPC/FM carrier. To this end, and in accordance with the results in Table 5, it would be equivalent to analyze the effect on the coordination distance of a variation in the value of W of 4 dB to approximately 20 dB. The corresponding results are given in Table 6 for propagation modes a and c, different climatic zones and different angles of elevation ( $\epsilon$ ). Typical values for the other characteristics were considered, except the transmission power for mode c, which was taken as -3 dBW.

Mode a								Mode c						
ε	< 0.2°			ı°.										
CLIMATIC ZONE	A	В	С	А	В	С		Climate	1	2 .	3	14	5	
W = 4 dB	280	400	700	220	240	400		W = 4 dB	220	280	130	130	100	
W = 20 dB	400	650	1100	320	390	620		W = 20 dB	530	450	320	320	310	

<u>Table 6</u> - Coordination distance values in km for  $W = \frac{1}{4} dB$  and W = 20 dB

We thus find that variations in W of the order of those found in Table 5 lead to substantial variations in the coordination distances necessary in order to determine the reception contours associated with earth stations transmitting SCPC/FM carriers. Thus the present text of Appendix 28 does not protect such carriers adequately.

#### 4. References

- B.A. Pontano, J.C. Fuenzalida y N.K.M. Chitre, "Interference into Angle Modulated Systems Carrying Multichannel Telephony Signals", IEEE Transactions on Communications, June 1973.
- S.J. Campanella, H.G. Suyderhoud y M. Wachs, "Frequency Modulation and Variable-Slope Delta Modulation in SCPC Satellite Transmission", Proceedings of the IEEE, March 1977.

#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 140-E 4 September 1979 Original : French

PLENARY MEETING

### Kingdom of Morocco\*)

#### CONTRIBUTION OF THE MOROCCAN ADMINISTRATION TO WARC-1979

The Committee responsible for technical preparations for WARC-1979 in the Moroccan Administration has prepared a document indicating the Administration's position.

First and foremost, it has to be said that ever since a plan was first drawn up for the frequency spectrum, by the International Telecommunication and Radiocommunication Conferences at Atlantic City back in 1947, a plan which has gradually been amended in accordance with the requirements of new telecommunication technology, it has always been the industrialized countries right up to the present day, that have gone on planning the frequency spectrum, and thus monopolized it for themselves, while the developing countries have confined themselves to approving or abstaining through ignorance of the nature of the problem or lack of resources.

Thus since 1947, the countries signatories of the agreement, the only users of the radio spectrum, have always had all frequencies within the scope of their technology registered in their names alone, disregarding the countries they colonized, even if the frequencies were used in those territories. When the countries in question gained political independence, they found themselves faced with a congested spectrum which left them only scant chance of getting frequencies registered, recognized by the rest of the world and protected against interference.

In order to meet this situation, the Moroccan Administration wishes to put forward certain proposals and recommendations which might help to solve the problem.

#### MRC/140/55

#### 1) Recommendation for the ITU General Secretariat

The ITU General Secretariat should publish, as part of the working documents for WARC-1979, all the recommendations made at preparatory conferences of the non-aligned, Arab, African and other countries, together with the recommendations of the seminars held by the ITU for the benefit of the developing countries.

#### 2) Recommendation on the distribution of the frequency spectrum

MRC/140/56

2.1 In future frequency-band allocations, allowance should be made for the fact that services shared by all countries throughout the world, in particular, the maritime, aeronautical mobile (R) and broadcasting services, should be allocated the same bands in all three Regions of the world.

MRC/140/57

2.2 As far as possible, each band allocated should have only one service, or two services that are compatible as regards interference.



<sup>\*)</sup> See also Document No. 131.

MRC/140/58

2.3 If a frequency band is changed from one service to another (or expanded), we ask the IFRB to carry out studies in order to allocate, in the new bands allocated to a service, frequencies which will replace those lost by the developing countries as a result of the reallocation of the band.

#### 3) Proposals concerning the HF part of the spectrum and procedures

In order to plan frequency distribution in the HF range of the spectrum, it is essential to take account of the paramount importance of this part of the spectrum for the developing countries. The use of fixed HF links is still very widespread in many of these countries, since it is the most economical method both for international links and for their own national links.

Considering that the industrialized countries have been getting their frequencies registered in the HF part of the spectrum for nearly 30 years and that the developing countries' chances of obtaining new frequencies in that band are thus very limited.

MRC/140/59

We ask the industrialized countries to show understanding for the vital needs of the developing countries and accordingly to undertake not to register frequencies in that part of the spectrum for a period of 5 years.

MRC/140/60

We ask the industrialized countries to give up all the frequencies registered on their behalf in the HF band which they do not use.

#### 4) Proposals concerning the VHF part of the spectrum

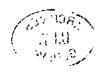
MRC/140/61

In view of the possibility of interference resulting from the use of maritime frequencies by stations in neighbouring countries, we ask the CCIR to carry out studies with a view to a fair distribution of the radiotelephone channels used in the VHF band by the maritime service of neighbouring countries.

#### 5) Proposals concerning the SHF band

MRC/140/62

The "first come, first served" principle for the notification of positions in the geostationary orbit should be abolished and at least one position in the geostationary orbit should be reserved for each country or group of countries belonging to the ITU.



INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

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Addendum No. 1 (Rev.) to
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COMMITTEE 7

(Concerns the French text only)



#### INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to

Document No. 141-E

12 November 1979

Original : English

COMMITTEE 7

#### The Democratic People's Republic of Korea

#### INTERNATIONAL CALL SIGNS

Proceeding a wish to make a successful progress of the conference work, the delegation of the Democratic People's Republic of Korea initiated the negotiation between the parties concerned, north and south, through the intervention of the General Secretariat at many interviews with its high-ranking officers from before the conference (17 and 24 September in particular), with a view to solving the call sign series of Korea quietly outside of the conference.

The negotiation, however, came to failure after one month due to the lack of sincerity and unjust demand of the South Korean authorities, and the problem of the international call sign series of Korea could not be solved outside of the conference.

The delegation of the Democratic People's Republic of Korea presented the just and fair proposal for dividing the international call sign series HLA-HMZ now in use in accordance with the decision of the 1947 conference into the HL and HM series for separate use. (Conference Document No. 141.)

On the contrary to this, the South Korean authorities presented the proposal for dividing only the HM series on halves, that is, 25 per cent of the entire international call sign series for the Democratic People's Republic of Korea, while setting aside for them 75 per cent of the whole series. (Conference Document No. 387.)

- 1. The proposal of the delegation of the Democratic People's Republic of Korea is the most just and fair one and acceptable to everyone.
- 1.1 This proposal reflects the historical situations occurred during the past 30 years from 1947 conference up to this date and the reality of today in a most scientific way when Korea has been divided artifically into two parts, north and south.
- 1.2 Based on the principle of equality of the international practice, this proposal is envisaged to divide the two sets of the international call sign series HLA-HMZ allocated to Korea in the 1947 conference for the separate use of north and south.
- 1.3 Proceeding from such a principle of equality, the Democratic People's Republic of Korea proposed to be allocated only the HM series while conceding the HL series completely to the South Korean side although it has used the HL series as well as the HM series in greater amount than the South Korean authorities.
- 2. The proposal of the South Korean authorities is an unjust one which distorts the historical facts and denies the actual condition of Korea.
- 2.1 The designation of the international call sign series HLA-HMZ allocated to Korea in accordance with the decision of the 1947 conference, was changed unilaterally at the 1959 conference by the deceptive actions of the South Korean authorities.

As is made known in the course of studying close the document of the 1959 conference with the help of the General Secretariat, there is neither proposal nor discussion as to the problem of the international call sign series of Korea.



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 141(Rev.1)-E

26 October 1979 Original : English

COMMITTEE 7

Démocratic Péople's Republic of Korea

Concerns the French and Spanish texts only.



It is originally illegal to deal with such an important problem as the change of the designation of the international call sign series without any proposal. This change is also violation to the Provision No. 418 of the Chapter VII of the 1947 conference document that the same call sign is not allotted more than once.

In order to give some justification to their misdoing made at the 1959 conference, the South Korean authorities allege that they had represented Korea in the ITU during the past 23 years from 1952 to 1975 and therefore they had the right to make a monopoly of the international call sign series allocated to Korea. ("Memoir" circulated in September 1979 to the governments of those countries in which their embassies are located, and the "position of the 'Republic of Korea' on the use of HMA-HMZ" issued on 12 October 1979.)

Any one and any conference of the international organizations, did not, could not and will not recognize the South Korean authorities as representing Korea.

2.3 The South Korean authorities now claims a whole of the HL series and a half of the HM series, that is, 75 per cent of the international call sign series, and it is said that they are ready "to give up" the remainder of 25 per cent to the Democratic People's Republic of Korea.

In the interest of their allegation, they distort the facts as if they make a heavy use of this series, arguing that the Democratic People's Republic of Korea has not a call sign registered with the international organizations.

It is clear to every one that the Democratic People's Republic of Korea could not register its call signs with the international organizations before the mistakes made at the 1959 conference be corrected.

Although the South Korean authorities has used the 6KA-6NZ series in addition to the HLA-HMZ series, the Democratic People's Republic of Korea has used for 30 years only the HLA-HMZ series which results in our greater use of this series than the South Korea.

If we do the way the South Korean authorities insists, then the Democratic People's Republic of Korea may propose to use a whole HM series and a half of the HL series as well.

But we consider that this is not proper method to solve the question. And so the Democratic People's Republic of Korea is prepared to give up a whole of the HL series although it uses this series in greater amount than the South Korea and suggests a just and fair proposal that the HM series only be allocated to it on the principle of dividing and using equally.

2.4 Now the South Korean authorities rave in their proposal that the Democratic People's Republic of Korea refuses to apply the P5A-P9Z series allocated on a provisionary basis to it. But we already started to use this call sign series from 1978.

As for the P5A-P9Z series, it was allocated by the General Secretariat to the Democratic People's Republic of Korea at its request to meet the increasing demand of the call sign series.

Now we the delegation of the Democratic People's Republic of Korea propose to divide the call sign series HLA-HMZ on equal halves for separate use. It is rightful demand put forward by the owner of the call sign series who has used it since the 1947 conference with a view to restoring to itself the lost call sign series by the deceptive action of South Korean authorities at the 1959 conference. It is quite different from the problem of the P5A-P9Z series.

For the South Korean authorities to bring up the P5A-P9Z series at this moment is no more than their attempt to cover up the unjust attitude with regard to the HLA-HMZ series.



3. The South Korean authorities proposes clamorously something like "negotiation" now even after they themselves failed the negotiation conducted through the General Secretariat which was held on the initiative of the delegation of the Democratic People's Republic of Korea.

As for the "negotiation" suggested by the South Korean authorities, it is not the negotiation for dividing the HL and HM series as a whole but a "conditional negotiation" over dividing only the HM series.

The delegation of the Democratic People's Republic of Korea is, of course, opposed to such a "conditional negotiation" but not to a negotiation in general.

Why would the Democratic People's Republic of Korea refuse the negotiation? It is the Democratic People's Republic of Korea that initiated and conducted the recent negotiation.

If the South Korean authorities responded from the outset to the negotiation over the HL and HM series as a whole, the negotiation through the General Secretariat which had been conducted on the initiative of the Democratic People's Republic of Korea would not be failed but lead to a fine result.

It is due to the unjust demand of the South Korean authorities that the negotiation was failed and the Democratic People's Republic of Korea could not choose but present its proposal for the conference.

The delegation of the Democratic People's Republic of Korea is convinced that all the delegates who value the lofty ideas of the Union and the principle of equality will make every possible effort to solve the problem of the international call sign series equally.

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 141-E 18 October 1979

Original : English

COMMITTEE 7

#### Democratic People's Republic of Korea

AMENDMENT TO NEW APPENDIX C

ARTICLE N23/19

Identification of Stations

AP C/3 747 Table of Allocation of International Call Sign Series

The call sign series HMA-HMZ, a half of the international call sign series HLA-HMZ, is allocated to the Democratic People's Republic of Korea.

- Reasons: 1) The international call sign series HLA-HMZ was allocated to a whole of Korea at the 1947 Conference.
- 2) The Democratic People's Republic of Korea has used over 30 years an overwhelming majority of HM series and a considerable portion of HL series and commanded the international recognition thereupon.
- 3) At the 1959 Conference, the South Korean authorities changed the designation Korea into the "Republic of Korea" at the Table of Allocation of International Call Sign Series in violation of the provisions of the Convention of the ITU and without any proposal and discussion.

The Democratic People's Republic of Korea has used the call sign series HLA-HMZ in accordance with the decision of the 1947 Atlantic City Conference.

4) The Democratic People's Republic of Korea proposes to allocate only HMA-HMZ series to it, proceeding from the constructive position to register precisely the call sign in order to avoid confusion in the international telecommunication services although we have also used a considerable portion of HLA-HLZ series over 30 years.

Accordingly, the Conference should allocate the call sign HMA-HMZ to the Democratic People's Republic of Korea.

Annex: 1 (with three attachments)



#### ANNEX

### EXPLANATION OF THE PROPOSAL OF THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

The Democratic People's Republic of Korea submitted the proposal for allocating the call sign series HMA-HMZ to the Democratic People's Republic of Korea to the General Secretariat on 18 October 1979. The international call sign series HLA-HMZ was decided to be allocated to Korea at the 1947 Atlantic City Conference. (1) (2) It was allocated on the understanding that the international call sign series HLA-HMZ be used throughout Korea.

The posts and telecommunications authorities and other telecommunications organs of the Democratic People's Republic of Korea have used over 30 years an overwhelming majority of HMA-HMZ and a considerable portion of HLA-HLZ in conformity with the decision of the 1947 Atlantic City Conference. It is a stark fact that the usage of these call signs has commanded international recognition.

The South Korean authorities, however, changed the designation Korea on HLA-HMZ series into the "Republic of Korea" without any proposal and discussion, even violating the provisions of the Convention of the ITU and fabricating a document at the 1959 Conference. (3)

The Democratic People's Republic of Korea has used the call sign series HLA-HMZ in accordance with the decision of the 1947 Atlantic City Conference.

After its admission into the ITU in 1975, the Democratic People's Republic of Korea submitted many times the problem of this international call sign series in order to solve it correctly in accordance with the actual condition.

Taking into consideration the provision of the Radio Regulations that the international call sign series can be solved only at the general competent World Administrative Radio Conference, we have waited for this Conference with patience.

The Democratic People's Republic of Korea is convinced that its proposal for allocating the international call sign series HMA-HMZ to the Democratic People's Republic of Korea out of the international call sign series HLA-HMZ allocated to Korea is a fair and just one which reflects the actual condition of Korea, and is acceptable to everyone. Therefore, we expect that all the member countries who value the ideas of the ITU and the cooperation between the member countries shall give a full support to it.

Attachments: 3

# DES CONFÉRENCES INTERNATIONALES DES TÉLÉCOMMUNICATIONS ET DES RADIOCOMMUNICATIONS

ATLANTIC CITY, 1947



# FINAL ACTS OF THE

# INTERNATIONAL TELECOMMUNICATION AND RADIO CONFERENCES

ATLANTIC CITY, 1917

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS INTERNATIONAL TELECOMMUNICATION UNION

ATLANTIC CITY, 1947

Country	Call Signs	Country	Call Signs
Ecuador	HCA HDZ	Notherland, Indies	PKA-POZ
Switzerland	HEA HEZ	Brazil	PPA PYZ
Poland	HFA RFZ	Surinatu	PZA~PZZ
Hungary	HGA HGZ	(Service abbreviations).	QAA QZZ
Republic of Haiti	1111A -1111Z	Union of Soviet	1,
Dominican Republic.	IIIA-IIIZ	Socialist Republica .	RAA-RZZ
Republic of Colombia.	HJA-HKZ	Sweden	SAA-SMZ
Korea	HLA-HMZ	Poland	SNA 5RZ
Iraq	HNA-HNZ	Egypt	SSA-SUZ
Republic of Panama	MOV HEX	Greece	SVA-SZZ
Republic of Honduras .	HQA-HRZ	Turkey	TAA-TCZ
Siam	HSA-HSZ	Guatemala	TDA-TDZ
Nienragua	RTH ATH	Costa Rica	TEA-TEZ
Republic of El Salvador	HUA-HUZ	Iceland	TFA-TFZ
Vatican City State	HVA-HVZ	Guatemala	TGA-TGZ
France and Colonies and		France and Colonies and	
Protectorates	HWA-HYZ	Protectorates	XIIT-AHT
Kingdom of Saudi		Costa Rica	TIA-TIZ
Arnbin	HZA-HZZ	Franco and Colonies and	
Italy and Colonies	IAA-IZZ	Protectorates	TJA-TZZ
Japan	JAA-JSZ	Union of Soviet	
Mongolian		Socialist Republics .	UAA-UQZ
People's Republic	JTA-JVZ	Ukrainian Soviet	
Norway	JWA-JXZ	Socialist Republic	URA-UTZ
(Not allocated)	JYA-JZZ	Union of Soviet	
United States of America	KAA KZZ	Socialist Republics .	UUAUZZ
Norway	LAA-LNZ	Canada	VAA-VGZ
Argentina Republic	LOA-LWZ	Commonwealth of	*****
Luxemburg.	LXA-LXZ	Australia	VIIA-VNZ
Lithuania	LYA-LYZ	Newfoundland	VOA-VOZ
Bulgaria	LZA-LZZ MAA-MZZ	British Colonies and	VDA VOZ
Great Britain	MAA-NZZ NAA-NZZ	Protectorates	VPA-VSZ VTA-VWZ
Peru	OAA-OCZ	India	VXA-VYZ
Republic of Lebanon .	ODA-ODZ	Commonwealth of	**************************************
Austria	OEA-OEZ	Australia	VZA-VZZ
Finland	OFA-OJZ	United States of America	WAA-WZZ
Czechoslovakia	OKA-OMZ	Mexico :	XAA XIZ
Belgium and Colonies .	ONA-OTZ	Canada	XJA -XOZ
Denmark	OHA-OZZ	Denmark	XPA XPZ
Netherlands	PAA 11Z	Clale	XQA NRZ
Curacao	'PJA PJZ	China	XSA XSZ
		France and Colonies and	
		Protectorates	XTA-XWZ

(2)

### **PROPOSALS**

FOR THE

# INTERNATIONAL RADIO CONFERENCE

**GENEVA**, 1959



PUBLISHED BY THE
INTERNATIONAL TELECOMMUNICATION UNION
1959

#### 335. 1

#### (Continuation of Art. 19)

#### **Present Provisions**

Proposals

418 (2) The Secretary General of the Union shall ensure that the same call sign is not allotted more than once and that call signs which might be confused with distress signals, or with other signals of the same nature, are not allotted.

#### United States of America

4027

418. After: Secretary General, delete: of the Union.

Reasons

Editorial.

#### 4028

Sub-heading. Delete:

Section II. Allocation of International Series

Section II. Allocation of International Series

419 § 4. The first character or the first two characters of the call signs given in the following table show the nationality of the stations.

1408 Note by the S.G.

#### Table of Allocation of Call Signs

Subject to confirmation by the forthcoming Administrative Radio Conference, the Administrative Council has authorised the Secretary-General, by its Resolution No. 151 (amended) to deal provisionally with questions relating to call signs. The series hereafter, followed by the

#### **Present Provisions**

#### Proposals

#### Table of Allocation of Call Signs

Country	Call Signs
United States of America	AAA-ALZ
(Not allocated)	AMA-AOZ
Pakistan	APA-ASZ
India Commonwealth of Australia	ATA-AWZ AXA-AXZ
Argentina Republic	AYA-AZZ
China	BAA-BZZ
Chile	CAA-CEZ CFA-CKZ
Canada	CLA-CMZ
Cuba	CNA-CNZ
Cuba	COA-COZ
Bolivia	CPA-CPZ CQA-CRZ
Portugal	CSA-CUZ
Uruguay	CVA-CXZ
Canada	CYA-CZZ DAA-DMZ
Germany	· DNA-DQZ
Biclorussian Soviet Socialist Republic	DRA-DTZ
Republic of the Philippines	DUA-DZZ
Spain	EAA-EHZ EIA-EJZ
Union of Soviet Socialist Republics	EKA-EKZ
Republic of Liberia	ELA-ELZ
Union of Soviet Socialist Republics	EMA-EOZ
Iran	EPA-EQZ ERA-ERZ
Eston a	ESA-ESZ
Ethiopia	ETA-ETZ
Union of Soviet Socialist Republics	EUA-EZZ
France and Colonies and Protectorates Great Britain	FAA-FZZ GAA-GZZ
Hungary	HAA-HAZ
Switzerland	HBA-HBZ
Ecuador	HCA-HDZ
Switzerland	HEA-HEZ HFA-HFZ
Hungary	HGA-HGZ
Hungary Republic of Haiti Dominican Republic Republic of Colombia	HHA-HHZ
Dominican Republic	HIA-HIZ HJA-HKZ
Korea	HLA-HMZ
Iraq	HNA-HNZ
Republic of Panama	HOA-HPZ
Republic of Honduras	HQA-HRZ HSA-HSZ
Nicaragua	HTA-HTZ
Republic of El Salvador	HUA-HUZ
France and Colonies and Protectorates	HVA-HVZ HWA-HYZ
Kingdom of Saudi Arabia	HZA-HZZ
Italy and Coionies	IAA-IZZ
Japan	JAA-JSZ
Mongolian People's Republic	JTA-JVZ JWA-JXZ
(Not allocated)	JYA-JZZ
United States of America	KAA-KZZ
Norway	LAA-LNZ
Argentina Republic	LOA-LWZ LXA-LXZ
Lithuania	LYA-LYZ
Bulgaria	LZA-LZZ
Great Britain	MAA-MZZ NAA-NZZ
Peru	OAA-OCZ
Republic of Lebanon	ODA-ODZ

reference<sup>1</sup>) has been provisionally allocated, under the conditions mentioned in Resolution No. 151 (amended).

Besides, it would be advisable to bring up to date all the names of the countries appearing in the Table.

Country	Call Signs
Spain	AMA-AOZ1)
Hashemite Kingdom of Jordan	JYA-JYZ-)
Netherlands New Guinea	JZA-JZZ')
United Arab Republic (Egyptian Region)	\$3.A-\$\$M
Sudan	SSN-STZ <sup>1</sup> )
Sudan	SUA-SUZ
France and Colonies and Protectorates	TJA-TRZ
Tunisia	TSA-TSM <sup>1</sup> )
France and Colonies and Protectorates	TSN-TZZ
France and Colonies and Protectorates	XTA-XTZ
Cambodia	XUA-XUZ¹)
Vict-Nam	XVA-XVZ <sup>3</sup> )
Laos	$XMA$ - $XMX_{1}$ :
United Arab Republic (Syrian Region)	YKA-YKZ
Tunisia	3VA-3VZ <sup>1</sup> )
Vict-Nam	3W.4-3W.Z.1)
(Nct allocated)	3XA-3XZ
Ceylon	42A-45Z )
Israel (State of)	4XAXZ )
International Civil Aviation Organization	
(I.C.A.O.)	4YA-4YZ <sup>2</sup> )
United Kingdom of Libya	5A.A-5.AZ <sup>-1</sup> )
Morocco	5CA-5CZ -)
Liberia	5LA-5MZ ()
Denmark	5P4-5QZ )
Japan	ひ4-ジ25)
Japan	8/A-9/Z3
San-Marino	9AA-9AZ 1
Ghana	9GA-9GZ 1
Kuwait	9KA-2KZ )
Malaya (Federation of)	9MA-9MZ <sup>1</sup>
Nepal	9NA-9NZ 1
Federal German Republic	9S.A-9SZ -,

(3)

### ADMINISTRATIVE RADIO CONFERENCE

CENEVA, 1959

Document No. 202-E 8 September 1959

PLEVARY MEETING CONNECTED A

KOREA (REPUELIC CF)

Proposal

ARTICLE 19

Humbur of proposal

5163

419. Add in the table of allocation of call signs as follows:

horea

6XA - 6PZ

#### Reasons:

The international series HLA-HEZ allocated to the Republic of Morea presently are insufficient to meet the requirements for call signs due to the rapid increase in number of various radio stations. The proposed amendment is to accommodate actual requirements and to cope with the increasing number of radio stations.

E.

ADMINISTRATIVE RADIO CONFERENCE GENEVA, 1959 Document No. DT 808-E 20 November 1959

SUB-COMMITTEE 7A

#### FIFTH AND FINAL REPORT

#### by Working Group 7A4 to Sub-Committee 7A

- 1. This report gives the results of Sub-Committee 7A's work on:
  - a) bringing up to date the names of all the countries appearing in the Table of Allocation of Call Signs, as proposed in Note No. 1408 by the Secretary-General (pages 336 and 337 Rev. 1 of the Collection of Proposals);
  - b) examining requests for allocation of new series of call signs made in the form of Proposals to the Conference;
  - c) inserting a new number in the Radio Regulations, following the Table of Allocation of Call Signs under No. 419,§ 4 and incorporating the provisions of Resolution No. 151 of the Administrative Council which authorized the Secretary-General until the present Conference to make provisional allocation of call signs requested to meet new needs.
- 2. The Working Group examined Item a) above at its ninth meeting on 10 November. Annex I gives the complete list of all call signs, amended in accordance with their present allocation and the designation of the countries, territories or international organizations using them.

During the discussion, the Delegation of the U.S.S.R. asked for the following alterations to be made in the Table:

Country	Call sign	New designation of country
Estonia Lithuaria Latvia	ES:-ESZ LYA-LYZ YIA-YLZ	Estonian Soviet Socialist Republic  Lithuanian Soviet Socialist Republic  Latvian Soviet Socialist Republic

Document No. DT 808-E Page 2

The Delegate of Indonesia requested that the report mention the statement by the Delegation of his country at the fourth Plenary Meeting regarding the inclusion of New Guinea under the title of "Metherlands" in I.T.U. documents.

The Delegate of the Netherlands referred the previous speaker to the reply already given by the Delegation of his country, as reproduced in the sunnary record of the same meeting.

At the beginning of the tenth meeting, Annex 1 was distributed as a Working Document, for consideration of proposed modifications to the Table, concerning the designation of countries and of international organizations opposite each series of call signs.

After this second reading, the Delegate of the United States expressed certain doubts in connection with the Proposal of the U.S.S.R. and requested that this report mention his intention to expatiate thereon when the Proposal came up for examination by Sub-Committee 7A.

In view of the fact that some series are allocated to international organizations, the Working Group agreed on the following amendments:

- a) to replace "Country" by "Allocated to" at the head of the relevant column of the Table;
- t) to put an asterisk before series of call signs allocated to international organizations;
- c) to add a new section to No. 419 which would read as proposed in Annex 3.
- 3. At its minth meeting, the Working Group examined requests for allocations made in the form of Proposals to the Conference.

An Ad Hoc Group consisting of Mr Keith of the Australian Delegation and Mr. J.A. Kunz of the Secretariat had previously considered every request, together with a Delegate of the country concerned in the light of the use made of call signs already allocated to that country and of new requirements to be met.

As a result of these deliberations, the series to be allocated were reduced to 58. With the present method of formation of call signs, there would thus remain 51 series available to neet requests submitted to the Secretary-General between now and the next Conference.

Document No. DT 806-E Page 3

In this connection, I am most pleased to put on record the spirit of understanding shown by the Delegations concerned in proposing or agreeing to cut down their original requests.

At its tenth meeting, the Morking Group ratified the Proposals submitted to it by Mr. Kunz and the Chairman, who had been instructed to work out which series should be allocated to each of the requesting countries.

Annex 1 is drawn up in the alphabetical order of call signs and constitutes the draft Table to be inserted under No. 419. It also includes the new series of call signs allocated.

In response to a wish expressed by several Delegations, the Secretariat has propored a Table of Allocation in alphabetical order of countries' names, showing the number of series allocated to each country. The Table is reproduced as Annex 2.

4. There being no such provision in the Radio Regulations, the Limitative Council had adopted Resolution No. 151 (modified) which gave the Secretary-General authority until the present Conference provisionally to deal with questions concerning call signs, subject to confirmation by the next conference.

So that the Secretary-General may subsequently satisfy requests for the allocation of new series submitted to him between two Administrative conferences, the Working Group proposes that a new number be inserted after the Table, incorporating the provisions of the Resolution mentioned.

The text adopted for that number is reproduced as Annex 3.

In connection with the work of Ad Hoc Group 7A, Working Group 7A4 also considered what alteration should be made in the wording of all the numbers making up Article 19, if one of the temporary arrangements suggested by Ad Hoc Group 7A is adopted, concerning the formation of new series of call signs.

The solution would be to use some figure other than 0 or 1 to replace the second letter of certain series of call signs identifying countries.

The adoption of this measure would mean that only No. 420 would have to be amended and a proposed new wording is given in hanex 3.

M. Sannier Chairman

#### Antend 1 At Doogs M. No. 808-E Page 6

Call signs	Allocated to:
HEA-HEZ	Switzerland (Confederation)
HFA-HFZ	Poland (People's Republic of)
HGA-HGZ	Hungarian People's Republic
нна-ннг	Haiti (Republic of)
HIA-HIZ	Dominican Republic
HJA <i>-</i> HKZ	Colombia (Republic of)
HLA-HMZ	Korea (Republic of)
HNA-HNZ	·Iraq (Republic of)
HOA-HPZ	Panama (Republic of)
HQA_HRZ	Honduras (Republic of)
HSA-HSZ	Thailand
HTA-HTZ	Nicaragua
HUA-HUZ	El Salvador (Republic cf)
HVA-HVZ	Vatican City State
HWA-HYZ	France and Group of the different States and
	Territories represented by the French Overseas
	Postal and Telecommunication Agency
HZA-HZZ	Saudi Arabia (Kingdom of)
IAA-IZZ	Italy and Torritories under mandate of U.N.C.
JAA-JSZ	Japan
JTA-JVZ	Mongolian People's Republic
JWA-JXZ	Norway
JYA-JYZ	Jordan (Hashemite Kingdom of)
JZA-JZZ	Netherlands New Guinea
KAA-KZZ	United States of America
LAA-LNZ	Norway
ICA-IWZ	Argentine Republic

Annez 2 to Document No. DT 808-E Page 17

Country	Call signs	Number of series
International Civil Aviation Crganization (I.C.A.O) *)	4YA-4YZ	1
Irar	EPA-EQZ ) 9BA-9DZ )	5
Itac	HNA-HNZ ) YIA-YIZ )	2
Ireland	EIA-EJZ	2
Israel (State of)	4XA-4XZ ) 4ZA-4ZZ )	2
Italy	IAA-IZZ	26
Joyar	JAA-JSZ	20
Jordan	JYA-JYZ	1
Korea	HLA-HMZ )	6
Kuwait	9KA-9KZ	1
Laos	XWA-XWZ	1
Latvia P)	YLA-YLZ	1
Lecaron	ODA-ODZ	÷ 1
Liberia	ELA-ELZ ) 5LA-5MZ )	3
Libyc	5ΛΛ <i>-</i> 5ΛΖ	ı
Lithuania 4)	LYA-LYZ	1
Iuxembourg	LXA-LXZ	1 .
Malaya. (Tederation of)	9MA-9MZ	1

<sup>\*)</sup> To be eventually modified according to decision taken in Committee 7



# ADMINISTRATIVE RADIO CONFERENCE

GENEVA, 1959

Document No. 133-E 31 August, 1959

COMMITTEE 7 (Operation)

### Proposals by the General Secretariat and the I.F.R.B. on the publication of Service Documents

ORDER OF CLASSIFICATION OF INFORMATION REGARDING THE VARIOUS COUNTRIES

- 1. On 30 December, 1958, the General Secretariat issued Radio Division Circular No. 766 concerning I.T.U. service documents.
  - 1.1 A limited number of copies of this circular, which was prepared in collaboration with the I.F.R.B., are available for reference by the delegates who will participate in the work on this question in Committee 7.
  - 1.2 The present document, which was also prepared in collaboration with the I.F.R.B., supplements the circular and deals with the order in which information about the various countries should be obssified in service documents.
- 2. In accordance with Appendix 6 to the Radio Regulations, data (except that given in Part C of Lists IV and V) should be published in the alphabetical order of cuntries. However, the language to be used for this purpose is not indicated. The Secretary-General, adopting the order in which conference delegations have been seated in accordance with Article 2, Chapter 9, of the General Regulationsannexed to the Convention, has followed the alphabetical order of countries! names in French. For the following reasons, however, another criterion would appear advisable.
- a) The alphabetical order of countries' names is not the same in all languages, and people using the documents in versions other than the French are not necessarily familiar with the terminology and spelling of these names in French. If countries' names were shown in the alphabetical order of the various languages in each Union service document, considerable additional expense would be incurred.
  - b) As the publication of service documents is to be reviewed by the Administrative Radio Conference, it would be well to take this opportunity to standardise the method of publishing service documents as far as possible, with a view to facilitating corss-reference; in fact, the present arrangement makes consultation difficult and may mean that data are inadvertently overlooked.

Annex to Document No. 133-E Page 6

ABBREVIATION	NAME OF COUNTRY
IOB	British West Indies
IRL	Ireland
IRN	Iran
IRQ	Iraq
ISL	Iceland
I5R	State of Isreel
IWA	Iwo Jima
J	Japan
JAR	Jarvis Island
JON	Johnston Island
JOR	Jordan
KLW	Kenya
KER	Kerguelen Islands
KOR	. Republic of Korea
KRE	People's Democratic Republic of Korea
LAO	Laos
LBN	Lehanon
LBR	Liberia
LBY	Libya
LUX	Luxembourg
MAC	Macao
UAM	Mauritius
MCO	Monaco
MCS	harcus Island
MDG	Madagascar and Dependencies
MDR	Madeira
MDW	Midway Island
MEX ·	Mexico
MLA	Malaya
MLD	Maldive Islands
$ exttt{MLT}$	Malta
1MG	Mongolian People's Republic
HOZ	Mozembique
MRÅ	Mariana Islands

#### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to Document No. 142-E 27 September 1979 Original : English

PLENARY MEETING

#### State of Israel

PROPOSALS FOR THE WORK OF THE CONFERENCE

Corrected proposal:

ISR/142/6 (Corr.1)

MOD 3142/93

Harmful Intolerable Interference : Any emission, radiation

or induction which endangers or otherwise causes unacceptable degradation of the functioning of a radionavigation service or of any other safety services, or seriously-degrades, -obstructs-or-repeatedly-interrupts-a causes unacceptable

degradation of the functioning of any other radiocommunication service

operating in accordance with these Regulations.



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 142-E 10 September 1979 Original : English

PLENARY MEETING

#### State of Israel\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### WARC Agenda item 2.1

#### CHAPTER N1

<u>Preamble</u> Israel is in general agreement with the recommendations of the CCIR SPM. There are a small number of exceptions for which specific proposals are included among the following.

#### ARTICLE N1/1

#### Terms and Definitions

#### Section VI. Technical Characteristics

ISR/142/6

MOD 3142/93

3142/93 Harmful Intolerable Interference: Any emission, radiation or induction which endangers or otherwise causes unacceptable degradation of the functioning of a radionavigation service or of any other safety services, or causes unacceptable degradation of the functioning of any other radiocommunication service operating in accordance with these Regulations.

<u>Reasons</u>: This definition more precisely defines the otherwise abstract concept of harmful interference. It also enhances the opportunity to specify interference limits in numerical terms.

ISR/142/7 ADD

Tolerable Interference: Any emission, radiation or induction which does not cause unacceptable degradation of the function of any radiocommunication service operating in accordance with these Regulations.

Reasons: See reasons MOD 3142/93. This definition is the complement of MOD 3142/93 as it recognises that every radiocommunication service can tolerate some level of interference. This concept has been recognised by the IFRB in the publication of Technical Standards Series A and by all similar documents for radio systems where minimum acceptable levels of performance are specified.

<u>Note</u>: A number of editorial changes in the Regulations as a consequence of MOD 3142/93 and ADD 3142A will also be required.



<sup>\*)</sup> See also Documents Nos. 113 and 122.

#### ARTICLE N2

Nomenclature of the Frequency and Wavelength Bands used in Radiocommunications

ISR/142/8 MOD 3183/112

Change the Table to read as follows:

Band Number	Adjectival Band Designation	Frequency Range (lower limit exclusive, upper limit inclusive)	Corresponding Metric Subdivision
4	VLF	3 to 30 kHz	Myriametric waves
5	LF	30 to 300 kHz	Kilometric waves
6 .	MF	300 to 3 000 kHz	Hectometric waves
7	HF	3 to 30 MHz	Decametric waves
8	VHF	30 to 300 MHz	Metric waves
9	UHF	300 to 3 000 MHz	Decimetric waves
10	· SHF	3 to 30 GHz	Centimetric waves
11	EHF	30 to 300 GHz	Millimetric waves
12		300 to 3 000 GHz or	Decimillimetric waves
		3 THZ	

 $\underline{\text{Note 1}}$  : "Band Number N" extends from 0.3 x 10  $^{N}$  to 3.0 x 10  $^{N}$  hertz.

Note 2 : Symbols and prefixes :

Hz = hertz $k = kilo (10^3), M = mega (10^6), G = giga (10^9), T = tera (10^{12})$ 

 $\underline{\text{Reasons}}$ : The adjectival band designations are the most commonly used terms to denote the different bands. Change makes the Table more convenient to use.

#### ARTICLE N7/5

Frequency Allocations 10 KHz to 275 GHz

ISR/142/9 ADD 3415A (Print in this place the chart of the regions shown in Appendix 24.)

Reasons: The chart will be more convenient to use and will serve to illustrate the descriptions of the Regions that follow.

WARC Agenda item 2.3

ISR/142/10 SUP Appendix 24.

Reasons: As a consequence of ADD 3415A Appendix 24 is no longer necessary.



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 143-E 7 September 1979 Original : English

PLENARY MEETING

#### Australia\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

AUS/143/280 ADD

RESOLUTION / AC 7

Relating to the reduction of channel spacing for radiotelephony in the bands between 4 and 25 MHz of the maritime mobile service to 3 kHz separation.

The World Administrative Radio Conference, Geneva, 1979, considering

- a) that the World Maritime Administrative Radio Conference, Geneva, 1974, provided for 3.1 kHz channel spacing in Appendix 17 Rev.;
- b) that the World Administrative Radio Conference, Aeronautical Mobile (R), Geneva, 1978, provided for 3 kHz channel spacing in Appendix 27;
- c) that Article N56 Section III of the Radio Regulations provides for communications from Aircraft Stations to stations of the maritime mobile service on frequencies designated for use by the latter service;
- d) that the CCIR SPM report, Paragraph 4.1.4.4.3, based on CCIR Recommendation 545 and Report 747, concluded that common distress and safety frequencies for global use should be provided in the 4, 6, 8, 12 and 16 MHz bands;
- e) that the CCIR SPM Report, paragraph 4.1.4.4.4, stressed the WARC-79 will need to consider the compatibility of designated frequencies for use by maritime and aeronautical mobile services for global distress and safety;

#### resolves

that the next appropriate World Administrative Radio conference consider reducing channel spacing for radiotelephony in the maritime mobile service bands between 4 and 25 MHz to 3 kHz separation to achieve compatibility of access by stations of the aeronautical mobile service to frequencies designated for the maritime mobile service including those for common distress and safety purposes, and to suggest an appropriate course of action.

Reason: To introduce compatibility between the two services and to assist with standardization of frequency synthesized equipment used in both services.



<sup>\*)</sup> See also Documents Nos. 59 and 102.

AUS/143/281

R

ADD

#### RESOLUTION [ AD ]

Relating to the Preparation of Supplementary Booklet to Explain Articles of Radio Regulations which concern Frequency Coordination, Notification and Registration.

The World Administrative Radio Conference, Geneva, 1979, considering

- a) that certain articles in the Radio Regulations, in particular Articles N11, N12 and N13, are the procedures for coordination, notification and registration of frequencies for terrestrial and space radiocommunications stations;
- that the procedures embodied in Articles N11, N12 and N13 are complex and require detailed study for expert understanding;
- that many countries have difficulty in providing the resources necessary to obtain this expert understanding and application of these procedures;
- the increasing importance of these Articles with the increasing use of the radio frequency spectrum and the geostationary satellite orbit;
- the necessity of ensuring compliance with the procedures to the maximum extent possible in the interests of efficient use of the radio spectrum and the geostationary satellite orbit;
- f) the desirability of ensuring as wide a knowledge as possible of these procedures among the personnel of organisations operating terrestrial and space radio communications stations as well as the personnel of administrations;

#### recognising

that understanding of the procedures dealing with frequency coordination, notification and registration would be increased substantially if supplementary information were widely available, which gave detailed explanation of these procedures,

requests the International Frequency Registration Board

to prepare a supplementary booklet to the Radio Regulations which in simple language with appropriate examples and diagrams, explains the purpose, meaning and application of each Article dealing with coordination, notification and registration - especially Articles N11, N12 and N13. The booklet should:

- contain an introductory section giving an overview of the subject which includes a simple explanation of the inter-relationships between the various Articles;
- contain flow charts of the relevant procedures;
- 3) be supplied together with the Radio Regulations;
- explain the Radio Regulations, but not form part of the Regulations;
- 5) be in loose-leaf form to facilitate it being brought up to date following any revision by future conferences.



Reasons: To enable a wide distribution for explanatory material pertaining to these complex procedures, it is considered important to have such explanatory material in a consolidated form.

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to
Document No. 144-E
20 September 1979
Original: French

PLENARY MEETING

#### Note by the Secretary-General

NOTIFICATIONS TO INTERNATIONAL ORGANIZATIONS

The following international organizations should be added to the list of those requesting admission to the Conference:

North American National Broadcasters Association (NANBA) Organization of African Unity (OAU) Intergovernmental Bureau for Informatics (IBI).

M. MILI

Secretary-General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 144-E 11 September 1979 Original: French

PLENARY MEETING

#### Note by the Secretary-General

#### NOTIFICATIONS TO INTERNATIONAL ORGANIZATIONS

- 1. By agreement with the Administrative Council and in accordance with Number 330 of the Convention, notifications of the convening of the Conference were sent to those international organizations which seemed likely to be interested in the work of the Conference.
- 2. Formal requests for admission to the Conference were received from the organizations listed in the Annex.
- 3. In pursuance of Number 332 of the Convention, the Conference is invited to decide whether these organizations are to be admitted.

M. MILI

Secretary-General

Annex: 1



#### ANNEX

WARC-79

#### List of international organizations

Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA)

European Space Agency (ESA)

International Air Transport Association (IATA)

Interamerican Association of Broadcasters (IAAB)

International Association of Lighthouse Authorities (IALA)

World Association for Christian Communication (WACC)

International Chamber of Shipping (ICS)

International Committee of the Red Cross (ICRC)

International Maritime Radio Association (CIRM)

International Special Committee on Radio Interference (CISPR)

Inter-Union Committee on Allocation of Frequencies for Radio Astronomy and Space Science (IUCAF)

World Press Freedom Committee (WPFC)

International Electrotechnical Commission (IEC)

Radio Amateur Satellite Corporation (AMSAT)

International Astronautical Federation (IAF)

International Transport Workers' Federation (ITF)

Arab Satellite Communications Organization (ARABSAT)

Ibero-American Television Organization (OTI)

International Criminal Police Organization (INTERPOL)

International Radio and Television Organization (OIRT)

International Telecommunications Satellite Organization (INTELSAT)

International Space Telecommunication Organization (INTERSPUTNIK)

International Astronomical Union (IAU)

Asia-Pacific Broadcasting Union (ABU)

Arab States Broadcasting Union (ASBU)

Union of National Radio and Television Organizations of Africa (URTNA)

European Broadcasting Union (EBU)

International Amateur Radio Union (IARU)

International Union of Radio Science (URSI)



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 145 (Rev. 4)-E

22 November 1979 Original: French

#### PLENARY MEETING

#### Note by the Secretary-General

#### LOSS OF THE RIGHT TO VOTE

- 1. Under the Convention, Members lose their right to vote at the Union's conferences in the following two cases:
  - a) where a Member has not yet ratified (or acceded to) the International Telecommunication Convention (Malaga-Torremolinos (1973); Article 45, paragraph 2 of the Convention);
  - b) where a Member is in arrear in its payments to the Union, for so long as the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two years (Article 15, paragraph 7 of the Convention).
- 2. At present, the following countries have, for one of the above reasons, and until their situation has been regularized, no right to vote at the World Administrative Radio Conference.

Country	not having ratified (or acceded to) the Convention	in arrear in payment of contributions
		:
Central African Republic		х
Dominican Republic	х .	. х
Guatemala (Republic of)	. <b>x</b>	х
Equatorial Guinea (Republic of)	x	
Democratic Kampuchea	x	x
Mauritania (Islamic Republic of)		х
Nicaragua		x
Sierra Leone		x
Sudan (Democratic Republic of the)	x	x
Chad (Republic of the)		x
Zaire (Republic of)		x

M. MILI Secretary General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 145 (Rev. 3)-E

15 November 1979 Original : French

#### PLENARY MEETING

#### Note by the Secretary-General

#### LOSS OF THE RIGHT TO VOTE

- 1. Under the Convention, Members lose their right to vote at the Union's conferences in the following two cases :
  - a) where a Member has not yet ratified (or acceded to) the
    International Telecommunication Convention (Malaga-Torremolinos (1973); Article 45,
    paragraph 2 of the Convention);
  - b) where a Member is in arrear in its payments to the Union, for so long as the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two years (Article 15, paragraph 7 of the Convention).
- 2. At present, the following countries have, for one of the above reasons, and until their situation has been regularized, no right to vote at the World Administrative Radio Conference.

Country	not having ratified (or acceded to) the Convention	in arrear in payment of contributions
		·
Central African Republic		х ,
Dominican Republic	х	х
Guatemala (Republic of)	x	x
Equatorial Guinea (Republic of)	x	
Democratic Kampuchea	x	x
Liberia (Republic of)		х
Mauritania (Islamic Republic of)		. x
Nicaragua		x
Sierra Leone		. x
Sudan (Democratic Republic of the)	x	x
Chad (Republic of the)		х
Zaire (Republic of)		х

M. MILI

Secretary General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 145(Rev.2)-E

12 October 1979 Original : French

#### PLENARY MEETING

#### Note by the Secretary-General

#### LOSS OF THE RIGHT TO VOTE

- 1. Under the Convention, Members lose their right to vote at the Union's conferences in the following two cases:
  - a) where a Member has not yet ratified (or acceded to) the International Telecommunication Convention (Malaga-Torremolinos (1973); Article 45, paragraph 2 of the Convention);
  - b) where a Member is in arrear in its payments to the Union, for so long as the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two years (Article 15, paragraph 7 of the Convention).
- 2. At present, the following countries have, for one of the above reasons, and until their situation has been regularized, no right to vote at the World Administrative Radio Conference.

Country	not having ratified (or acceded to) the Convention	in arrear in payment of contributions
Benin (People's Republic of)	. x	
Central African Republic		x
Dominican Republic	х	X
Guatemala (Republic of)	x	x
Equatorial Guinea (Republic of)	x	
Democratic Kampuchea	x	x
Liberia (Republic of)		x
Mauritania (Islamic Republic of)		x
Nicaragua		х .
Sierra Leone		x
Sudan (Democratic Republic of the)	х	. x
Chad (Republic of the)		x
Zaire (Republic of)		х

M. MILI Secretary General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 145(Rev.1)-E 26 September 1979 Original: French

PLENARY MEETING

#### Note by the Secretary-General

#### LOSS OF THE RIGHT TO VOTE

- 1. Under the Convention, Members lose their right to vote at the Union's conferences in the following two cases:
  - a) where a Member has not yet ratified (or acceded to) the International Telecommunication Convention (Malaga-Torremolinos (1973); Article 45, paragraph 2 of the Convention);
  - b) where a Member is in arrear in its payments to the Union, for so long as the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two years (Article 15, paragraph 7 of the Convention).
- 2. At present, the following countries have, for one of the above reasons, and until their situation has been regularized, no right to vote at the World Administrative Radio Conference.

Country	not having ratified (or acceded to) the Convention	in arrear in payment of contributions
Benin (People's Republic of)	х	
Central African Republic		х
Dominican Republic	x	. х
Guatemala (Republic of)	x	х
Equatorial Guinea (Republic of)	x	
Honduras (Republic of)	x	
Democratic Kampuchea	x	х
Liberia (Republic of)		x
Mauritania (Islamic Republic of)		x
Nicaragua		. x
Sierra Leone		x
Sudan (Democratic Republic of the)	x	. x
Chad (Republic of the)		х
Zaire (Republic of)		x

M. MILI Secretary General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 145-E 11 September 1979 Original: French

PLENARY MEETING

#### Note by the Secretary-General

#### LOSS OF THE RIGHT TO VOTE

- 1. Under the Convention, Members lose their right to vote at the Union's conferences in the following two cases:
  - a) where a Member has not yet ratified (or acceded to) the International Telecommunication Convention (Malaga-Torremolinos (1973); Article 45, paragraph 2 of the Convention);
  - b) where a Member is in arrear in its payments to the Union, for so long as the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two years (Article 15, paragraph 7 of the Convention).
- 2. At present, the following countries have, for one of the above reasons, and until their situation has been regularized, no right to vote at the World Administrative Radio Conference.

Country	not having ratified (or acceded to) the Convention	in arrear in payment of contributions
Benin (People's Republic of)	x	
Central African Empire		x
Ivory Coast (Republic of)	x	
Dominican Republic	x	. : <b>x</b>
Guatemala (Republic of)	x	х
Equatorial Guinea (Republic of)	x	
Honduras (Republic of)	x	
Democratic Kampuchea	x	x
Liberia (Republic of)		х
Mauritania (Islamic Republic of)	·	x
Nicaragua		х
Sierra Leone		x
Sudan (Democratic Republic of the)	x	x
Chad (Republic of the)		х
Yemen (People's Democratic Republic of)	x	
Zaire (Republic of)		х



M, MILI

Secretary General

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 2 to
Document No. 146-E
10 October 1979
Original: French

PLENARY MEETING

Note by the Secretary-General

INVITATIONS TO THE CONFERENCE

The Government of Mauritius regrets to inform me that it is unable to send a delegation to the Conference.

Mauritius should therefore be added to the list of countries in the Annex to Document No. 146 (Section 1).

M. MILI

Secretary-General



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 1 to
Document No. 146-E
2 October 1979
Original: French

#### Note by the Secretary-General

#### INVITATIONS TO THE CONFERENCE

The World Health Organization has informed that it would like to send an observer to the Conference.

The name of that organization should therefore be added in the annex to Document No. 146 (under 2.1).

M. MILI
Secretary-General



### INTERNATIONAL TELECOMMUNICATION UNION WORLD ADMINISTRATIVE

### WORLD ADMINISTRATIVE

(Geneva, 1979)

Document No. 146-E 18 September 1979 Original: French

#### PLENARY MEETING

#### Note by the Secretary-General

#### INVITATIONS TO THE CONFERENCE

#### 1. Members of the Union

- 1.1 Invitations were sent to all Members of the Union (except the Republic of South Africa) on 25 September 1978.
- 1.2 All Members which were invited (except those mentioned in Section 1 of the Annex), numbering 146 in all, have notified their intention of sending a delegation to the Conference.

#### 2. Recognized private operating agencies

- 2.1 The letters of invitation stated that Members of the Union might transmit the invitation to the private operating agencies recognized by them.
- 2.2 To date, only the Marconi International Marine Company, Limited, has advised that it will participate.

#### 3. United Nations and its specialized agencies

- 3.1 The United Nations and all of its specialized agencies were invited to take part in the Conference.
- 3.2 The organizations listed in Section 2.1 of Annex below have advised that they will participate.

#### 4. Regional organizations referred to in Article 32 of the Convention

- 4.1 In accordance with No. 335 of the Convention, invitations were sent to those regional organizations which might be interested in participating in the Conference.
- 4.2 The organizations listed in Section 2.2 of Annex below have advised that they will participate.

M. MILI

Secretary-General



#### ANNEX

- 1. Members which have not accepted the invitation
  - Bahamas (Commonwealth of the)
  - Burma (Socialist Republic of the Union of)
  - Democratic Kampuchea
  - Lao People's Democratic Republic
  - Tonga (Kingdom of)
  - Trinidad and Tobago
  - Viet Nam (Socialist Republic of)
- 2. International organizations which have accepted the invitation
- 2.1 United Nations, specialized agencies
  - United Nations
  - United Nations Educational, Scientific and Cultural Organization (UNESCO)
  - International Civil Aviation Organization (ICAO)
  - World Meteorological Organization (WMO)
  - Inter-Governmental Maritime Consultative Organization (IMCO)
- 2.2 Regional telecommunication organizations (Article 32 of the Convention)
  - Association of State Telecommunication Undertakings of the Andean Sub-Regional Agreement (ASETA)
  - African Postal and Telecommunications Union (UAPT)
  - Arab Telecommunications Union (ATU)
  - Pan-African Telecommunication Union (UPAT)

#### **WORLD ADMINISTRATIVE** RADIO CONFERENCE

(Geneva, 1979)

Document No. 147-E 10 September 1979 Original: English

PLENARY MEETING

#### Greece\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### Agenda item 2.6

Technical Aspects for the Use of Radiocommunications for Marking, Identifying, Locating and Communicating with the Means of Medical Transport Protected under the 1949 Geneva Conference

Considering the Final Acts of the "Diplomatic Conference on the Reaffirmation and Development of International and Humanitarian Law Applicable in Armed Conflicts" with Protocols I and II and Resolutions adopted in Geneva 1977 and the SPM conclusions on that matter, Greece proposes the following :

GRC/147/487

Frequencies for use by medical transports shall be the distress, safety and calling frequencies referring in Article N7 (FN 3480/187, 500 kHz-FN 3494/201, 2 182 kHz-FN 3505/209A, 4 125 kHz-FN 3508/211A, 6 215.5 kHz-FN 3572/273, 121.5 MHz-FN 3595/287, 156.8 MHz and FN 3619/309, 243 MHz).

Messages from a medical transport on any of the above frequencies would be heard more easily than on any other because stations already keep watch on these frequencies (modification of Article N7 is not necessary).

GRC/147/488

Frequencies for use by medical transports shall be notified to the ITU in accordance with the current procedures of notification of Article N12 of the Radio Regulations. Greece is of the opinion that it is not necessary to change the current regulatory aspects of notification for these frequencies.

(Modification of Article N12 is not necessary.)

In Article N23 "Identification of Stations" to add a provision for medical transports in order to recognize the missions of medical transports.

GRC/147/489 ADD

5333A

Medical transport shall use a priority signal which should indicate the identity of their mission.

In Article N35 "Frequencies for Distress and Safety" to add a provision in order to specify the conditions of use of the frequencies used by medical transports.

GRC/147/490 ADD

The frequencies 500 kHz, 2 182 kHz, 4 125 kHz, 6 215.5 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used by medical transports for the purpose of identification or communication.



See also Documents Nos. 86A, 86B and 132.

5. In Article N37 "Urgency and Safety transmissions" to add a provision in order to describe the data which shall convey a message by medical transports.

#### GRC/147/491 ADD

6885A following:

The message by medical transport shall convey the

- call sign or name of medical transport
- position of the medical transport
- intended route
- estimated time en route and of departure and arrival as appropriate
- any other information such as flight altitude radio frequencies guarded, languages and secondary surveillance radar modes and codes.

#### Agenda item 2.7

#### Re-Arrangement of the Radio Regulations

- l. Greece accepts in principle the Re-arrangement on the Radio Regulations as it was prepared by the Group of experts and approved by Resolution No. Sat-10. This acceptance does not refer to any change of editorial nature.
- 2. In cases where additional changes shall be necessary due to the results of the WARC-79, Greece is of the opinion that those changes in the Re-arrangement shall concern only the form and note the substance of the Radio Regulations.

#### Agenda item 2.8

#### Accounting provisions

Greece considering the CCITT Recommendations D90/F111 "Charging Accounting and Refunds in the Maritime Mobile Service" and E190/F110 "Operational Provisions for the Maritime Mobile Service" carried out in accordance with the Resolutions Nos. Mar2 - 22 and Mar2 - 23, supports the relevant conclusions and as a consequence of that, proposes the following:

GRC/147/492

l. The incorporation of the CCITT "Draft Regulatory Provisions" into the Radio Regulations as a new Article N62A, in the NXI Chapter.

GRC/147/493

2. The deletion of all articles of the Additional Radio Regulations.

GRC/147/494

3. The deletion of the Chapter NXIII (Articles N69, N70, N71 and N72) of the Radio Regulations.



GRC/147/495

4. The retaining of the Articles N48, N58 (as modified by the CCITT) and N66 in the Radio Regulations.

Reasons: As stated above, adopting the CCITT Recommendations D90/Fill and E190/Fillo, some provisions of the Radio Regulations and the Additional Radio Regulations dealing with accounting and operating procedures for maritime mobile communications have to be removed in the Recommendations of CCITT in cases where these provisions do not require continued regulatory status.

Greece is of the opinion that Articles N48, N58 and N66 dealing with safety implications should be retained in the Radio Regulations.

# INTERNATIONAL TELECOMMUNICATION UNION

# **WORLD ADMINISTRATIVE RADIO CONFERENCE**

(Geneva, 1979)

BRB/148/1

Document No. 148-E 4 September 1979 Original : English

PLENARY MEETING

# Barbados

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER NIII

#### ARTICLE N7

Section IV. Table of Frequency Allocations - 10 kHz to 275 GHz

The attached Table shows the proposals by Barbados, for change to Article N7/5 of the Radio Regulations.

> kHz 10 - 14

Allocation to Services Region 1 Region 2 Region 3 MOD 10 - 14 RADIONAVIGATION Radiolocation

kHz 70 - 90

		Region 1	Region 2	Region 3
		70 - 72 (NOC)	70 - 90 (NOC)	70 - 90 (NOC)
		RADIONAVIGATION 3456/162	FIXED	FIXED
BRB/148/2 M	<b>1</b> 0D	72 - 84	MARITIME MOBILE 3452/158	MARITIME MOBILE 3452/158
		FIXED	MARITIME RADIONAVIGATION	RADIONAVIGATION
		MARITIME MOBILE 3452/158	3456/162	3456/162
•		RADIONAVIGATION 3456/162	Radiolocation	
		3455/161 3457/163		
		84 - 86 (NOC)		
		RADIONAVIGATION 3456/162		
		3457/163		
BRB/148/3 M	10D	86 – 90		
		FIXED		
		MARITIME MOBILE 3452/158		
	٠.	RADIONAVIGATION 3456/162		
		3457/163	3458/164	3459/165

 $\overline{\text{Reasons}}$ : Elimination of redundant radionavigation provisions in shared bands thereby improving provision for the fixed and mobile services.

NOC 3456/162, 3457/163, 3458/164, 3459/165

kHz 90 - 110

BRB/148/4	MOD (WW)	90 - 110	90 - 110	90 - 110
	(ww)	FEXED	RADIONAVIGATION	FIXED
		MARITIME-MOBILE 3452/158	Fixed	MARITIME-MOBILE 3452/158
		RADIONAVIGATION	Maritime-mobile 3452/158	RADIONAVIGATION
		3 <del>457/163</del> 3 <del>460/166</del> 3 <del>461/167</del>	3460/166 3461/167	3460/166 3461/167

 $\underline{\text{Reasons}}$  : To satisfy need for world-wide exclusive allocation for the radionavigation service.



BRB/148/5

SUP

3460/166

Reasons: No longer required, particularly with exclusive allocation.

BRB/148/6

MOD

3461/167 Only classes Al or Fl, A4 or Fl emissions are authorized in the band 90--160 10 - 150 kHz for stations of the fixed service and in the band 110 - 160 150 kHz for stations of the maritime mobile service. Exceptionally, class A7J emissions are also authorized in the band 110 - 160 150 kHz, for stations of the maritime mobile service.

Reasons: To take account of band changes.

kHz 110 - 112

BRB/148/7 MOD

Region 1

110 - 112

FIXED

MARITIME MOBILE

RADIONAVIGATION 3456/162

3457/163 3461/167 3462/168

Reasons: Redundant radionavigation provision (see 70 - 90 kHz).

BRB/148/8

SUP

3462/168 (In frequency boxes 115 - 126 kHz (Region 1) and 110 - 130 kHz (Regions 2 and 3)).

Reasons: There is no known aeronautical requirement. This view is supported by the ICAO.

kHz 150 - 285

BRB/148/9

MOD

150 - 160

MARITIME MOBILE 3461/167 3467/174

BROADCASTING

3468/175

160 - 255 (NOC)

BROADCASTING

3469/176

kHz 150 - 285 (cont.)

BRB/148/10 MOD

Region 1

255 - 285

MARITIME-MOBILE 3467/174

BROADCASTING

AERONAUTICAL RADIONAVIGATION

3469/176 <del>3470/177</del> 3471/178

Reasons: To provide an exclusive LF broadcasting band in Region 1 in accordance with the recommendations of the LF/MF Broadcasting Conference 1975, on condition that an alternative exclusive aeronautical radionavigation band is found.

BRB/148/11

3467/174

SUP

SUP

SUP

NOC

BRB/148/12

3468/175

BRB/148/13

3470/177

3471/178

kHz 285 - 495

		Region 1	Region 2 Region 3	
BRB/148/14	MOD	285 - 315	MARITIME RADIONAVIGATION (Radiobeacons)	1
			Aeronautical-radionavigation	
BRB/148/15	CM	315 - <del>405</del> 445	315 - 325 (NOC)	
		AERONAUTICAL	MARITIME RADIONAVIGATION (Radiobeacons)	
		RADIONAVIGATION	Aeronautical radionavigation.	
BRB/148/16		Aeronautical-mobile	325 - 405 445	-
		:	AERONAUTICAL RADIONAVIGATION	
		3473/180 3 <del>474/181</del> 3478/185	Aeronautical mobile	

	,	Region 1	Region 2	Region 3
BRB/148/17	MOD	405415 445 - 450	405415 445 - 450	<del>405415</del> <u>445 - 450</u>
·		MOBILE-except aeronautical-mobile  AERONAUTICAL RADIONAVIGATION  MARITIME RADIONAVIGATION  (Radio direction-finding)	MARITIME RADIONAVIGATION (Radio direction- finding)  /AERONAUTICAL RADIONAVIGATION/ Aeronautical mobile	RADIONAVIGATION Aeronautical mobile
BRB/148/18	MOD	3475/182 3476/183 3477/184 3478/185 415490 450 - 495	3475/182 MARITIME MOBILE	3475/182
			3478/185 3479/186	

 $\underline{\text{Reasons}}$ : To provide an exclusive allocation at 315 - 445 kHz for aeronautical beacons and to eliminate unnecessary secondary provisions.

NOC 3473/180

BRB/148/19 SUP 3474/181

BRB/148/20 SUP 3477/184

kHz 495 - 526.5

BRB/148/21	MOD	<del>490510</del> <u>495 - 505</u>	MOBILE (Distress and calling)	
			3480/187	
BRB/148/22	MOD	<del>510525</del> <u>505 - 526.5</u>	<del>510</del> <u>505</u> - 525	<del>51</del> 0 <u>505</u> - 525
		MARITIME MOBILE 3479/186	MOBILE	MARITIME MOBILE
		Aeronautical radionavigation	/AERONAUTICAL RADIONAVIGATION/ 3481/188	Aeronautical mobile
		/AERONAUTICAL RADIONAVIGATION/	AERONAUTICAL RADIONAVIGATION	/AERONAUTICAL RADIONAVIGATION/
		3478/185		3482/189 <u>3481/188</u>

BRB/148/23 NOC 3480/187

Reasons: Essential requirement.

BRB/148/24 SUP 3482/189

Reasons: Because of changed allocation.

kHz 525 **-** 535

		Region l	Region 2	Region 3
BRB/148/25	MOD		525 - 535	525 - 535
BRB/148/25A	MOD	526.5 - 535	MOBILE	MOBILE
		BROADCASTING	AERONAUTICAL RADIONAVIGATION	BROADCASTING /AERONAUTICAL
			/BROADCASTING/ 3484/191	RADIONAVIGATION/
		3483/190	/AERONAUTICAL RADIONAVIGATION/ 3481/188	/BROADCASTING/
			kHz 535 - 1 605	
		535 - 1 605 (NOC)	BROADCASTING	
			kHz 1 605 – 2 000	
BRB/148/26	MOD	1 605 - 2 000	1 605 - 1 800 (NOC)	1 605 - 1 800
		FIXED	FIXED	FIXED
		MOBILE except	MOBILE	MOBILE
		aeronautical mobile	AERONAUTICAL RADIONAVIGATION	/AERONAUTICAL RADIONAVIGATION/
<i>y</i> •			Radiolocation	3491/197
BRB/148/27	MOD		1 800 - 2 000	
÷			AMATEUR	
			FIXED	
			MOBILE except aeronautica	al mobile
		3485/192 3486/420 3487/193 3488/194 3489/195 3490/195A	RADIONAVIGATION  3492A*) MOD 3492/198*)	
888/1µ8/28	SIID	3185/192		

BRB/148/28

SUP

3485/192

Reasons: No longer required.

<sup>\*)</sup> Note by the General Secretariat : New footnote 3492A and amended text of footnote 3492/198 will be provided later.

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3489/195 Region 1. BRB/148/29 SUP

No longer required; Loran stations have closed in

BRB/148/30 SUP

3491/197

No longer required due to changed status of aeronautical radionavigation in Region 3.

> kHz 2 000 - 2 065

		Region 1	Region 2	Region 3
BRB/148/31	MOD	2 000 - 2 045	2.000 - 2.065	
		MARITIME MOBILE	MARITIME MOBILE	
		FIXED	F <del>IXED</del>	·
		<u>Fixed</u>	Fixed	
		MOBILE-except aeronautical-mobile	MOBILE	
		Land mobile	Land mobile	
-		3487/193 3490/195A	Aeronautical mobile	
BRB/148/32	MOD	2 045 - 2 065		
•		MARITIME MOBILE		
		METEOROLOGICAL AIDS		; ;
		FIXED	·	; !
•		<u>Fixed</u>		
		MOBILE-except aeronautical-mobile		•
		Land mobile		
		3487/193 3490/195A		

kHz2 502 - 2 850

BRB/148/33	MOD	2 502 <b>- 2-625</b> <u>2 575</u>	!
BRB/148/34	MOD	FIXED	2 505 - <del>2-625</del> <u>2 575</u>
		MOBILE except aeronautical mobile (R)	FIXED
		3487/193 3490/195A	MODIFE

kHz 2 502 - 2 850 (cont.)

Region 1   Region 2   Region 3	
Fixed MARITIME MOBILE  MOBILE Fixed	
MOBILE-except FixED	
Fixed	
MARITIME MOBILE  MOBILE  Fixed  Land mobile  Land mobile	
3487/193 3490/195A	
BRB/148/36 MOD 2 625 - 2 650	
MARITIME MOBILE  MARITIME-RADIONAVIGATION	
3468/175 3490/195A	•
BRB/148/37 MOD 2 650 - 2 850 (NOC) <u>2 650</u> - 2 850	
FIXED FIXED	.
MOBILE except aeronautical mobile (R)	
3490/195A 3499/205	

 $\underline{\text{Reasons}}$ : The bands 2 000 - 2 065 kHz and 2 575 - 2 650 kHz are needed world-wide to provide common ship/shore and inter-ship channels in accordance with Recommendation Mar2 - 3.

kHz 3 500 - 4 000

BRB/148/38	MOD	3 500 - 3 800	3 500 - 4-000 3 900	3 500 - <del>3-900</del> <u>3 800</u>
•	•	AMATEUR	AMATEUR	AMATEUR
	-	FIXED	FIXED	FiXED
		MOBILE-except	MOBILE-except	MOBILE
		aeronautical-mobile	aeronautical-mobile-(R)	3501/206 3502/207
BRB/148/39	MOD	3 800 - 3 900 (NOC)		3 800 - 3 900
		FIXED	· · ·	AMATEUR
		AERONAUTICAL MOBILE (OR)	:	FIXED
		LAND MOBILE		MOBILE
				3501/206 3502/207

kHz 3 500 - 4 000 (cont.)

	Region l	Region 2	Region 3
BRB/148/40 MOD	3 900 - 3 950 (NOC)	<u>3 900 - 3 950</u>	3 900 - 3 950 (NOC)
	AERONAUTICAL MOBILE (OR)	BROADCASTING	AERONAUTICAL MOBILE
	:	FIXED	BROADCASTING
		AMATEUR	
		MOBILE-except aeronautical-mobile-(R)	
BRB/148/41 MOD	3 950 - 4 000 (NOC)	<u>3 950</u> - 4 000	3 950 - 4 000 (NOC)
	FIXED	BROADCASTING	FIXED
	BROADCASTING	AMATEUR	BROADCASTING
		FIXED	
		MOBILE-except aeronautical-mobile-(R)	

kHz 4 063. – 4 650

BRB/148/42	MOD	4 063 - 4-438 4 500 MARITIME MOBILE	
		3503/208 3504/209 3505/2	209A
BRB/148/43	MOD	<u>4 500</u> - 4 650	<u>4 500</u> – 4 650
•		FIXED	FIXED
٠.		MOBILE except aeronautical mobile (R)	MOBILE except aeronautical mobile

kHz 5 005 - 5 060

BRB/148/44	MOD	5 005 - 5 060	FIXED	-
			BROADCASTING 3496/202	

Reasons: In the band 5 005 - 5 060 kHz, suppress footnote 3496/202 to make provision for world-wide broadcasting. Careful coordination of any use of this band by the broadcasting service should easily protect the current users of the fixed service.

kHz 5 950 - 6 525

		Region l	Region 2	Region 3
BRB/148/45	MOD	5 950 - <del>6-200</del> <u>6 150</u>	BROADCASTING	
BRB/148/46	MOD	<u>6 150</u> - 6 525	MARITIME MOBILE	
			3507/211 3508/211A	
•			kHz 6 765 – 8 815	
BRB/148/47	MOD	6 765 - <del>7</del> - <del>000</del> <u>6 900</u>	FIXED	
BRB/148/48	MOD	6 900 - 7 100	AMATEUR	
			AMATEUR-SATELLITE	
BRB/148/49	MOD	7 100 - <del>7-300</del> <u>7 400</u>	7 100 - <del>7-300</del> <u>7 400</u>	7 100 - <del>7-300</del> <u>7 400</u>
·		BROADCASTING	AMATEUR	BROADCASTING
		, , , , , , , , , , , , , , , , , , ,	BROADCASTING	
		3509/212 <u>3509A</u> *)	3509A*)	3509A*)
BRB/148/50	MOD.	7-3008-195 7 400 - 8 100	FIXED	
BRB/148/51	MOD	8 100 - 8 815	MARITIME MOBILE	
			3495/201A 3510/213	
			kHz 9 040 - 9 995	
BRB/148/52	MOD	9 040 <b>-</b> <del>9-500</del> <u>9 425</u>	FIXED	
BRB/148/53	MOD	9- <del>5009-775</del> 9-425 - 9-875	BROADCASTING	
BRB/148/54	MOD	<del>9-775</del> <u>9 875</u> - 9 995	FIXED	

 $\underline{\text{Reasons}}$  : To provide additional spectrum to alleviate the congestion in the broadcasting band.

<sup>\*)</sup> Note by the General Secretariat : New footnote 3509A is being prepared.

kHz 10 100 - 11 175

		Region l	Region 2	Region 3
BRB/148/55	MOD	10 100 - <del>11-175</del> <u>10 300</u>	FIXED	
			AMATEUR	
			AMATEUR-SATELLITE	
BRB/148/56	MOD	<u>10 300</u> - 11 175	FIXED	

 $\underline{\text{Reasons}}$ : To increase the amateur band between 7 and 14 MHz in order to cope with varying propagation conditions.

kHz 11 400 - 13 200

BRB/148/57	MOD	11 400 - <del>11-700</del> <u>11 650</u>	FIXED
			3512/216
BRB/148/58	MOD	11 650 - 11 975	BROADCASTING
BRB/148/59	MOD	11 975 - <del>12</del> - <del>330</del> <u>12 200</u>	FIXED
BRB/148/60	MOD	<del>12-330</del> <u>12 200</u> - 13 200	MARITIME MOBILE
			3510/213

 $\underline{\text{Reasons}}$ : The current congestion in the broadcast band 11 700 - 11 975 kHz and the maritime mobile band 12 330 - 13 200 kHz will be partly alleviated by the reallocation of small portions of the fixed bands. (See Recommendation Mar2 - 9.)

kHz 13 360 - 14 000

BRB/148/61	MOD	13 360 - <del>14</del> -000 <u>13 900</u>	FIXED
			3513/217
BRB/148/62	MOD	<u>13 900</u> - 14 000	F±XEÐ
			RADIO ASTRONOMY
		1	3513/217

Reasons: To provide a radio astronomy band between 10 - 15 MHz for reasons identified in CCIR Report 224-4 and in Report 699 in compliance with Recommendation Spa2 - 7 of the Radio Regulations.

kHz 15 100 - 17 900

		Region 1	Region 2	Region 3
BRB/148/63	MOD	15 100 - <del>15</del> - <del>450</del> <u>15 550</u>	BROADCASTING	
BRB/148/64	MOD	<del>15-45016-460</del> <u>15 550 - 16 300</u>	FIXED	
BRB/148/65	MOD	<u>16 300</u> - 17 360	MARITIME MOBILE	
		• •	3510/213	
BRB/148/66	MOD	17 360 <b>- <del>1</del>7-700</b> <u>17 600</u>	FIXED	
BRB/148/67	MOD	<u>17 600</u> - 17 900	BROADCASTING	

<u>Reasons</u>: In order to alleviate the existing congestion in the broadcasting and maritime mobile services in this area of the spectrum.

kHz 21 750 - 22 000

		<u> </u>	
BRB/148/68	MOD	21 750 - 21 850	FIXED
BRB/148/69	MOD	21 850 - 21 870	RADIO-ASTRONOMY
			FIXED
			3517/221B
BRB/148/70	MOD	21 870 - <del>22-000</del> <u>21 924</u>	AERONAUTICAL-FIXED
			AERONAUTICAL-MOBILE-(R)
			FIXED
BRB/148/71	MOD	21 924 - 22 000	AERONAUTICAL-FIXED
		•	AERONAUTICAL MOBILE (R)

Reasons: Pursuant to Recommendation No. Aer2 - 5 of the ITU WARC AM(R)S (Geneva, 1978). An exclusive band conducive to long distance radiocommunications is required for the aeronautical mobile (R) service. Also, since radio astronomy has been provided for in the band 23 350 - 23 550 kHz, there is no longer a requirement for radio astronomy in the band 21 850 - 21 870 kHz.

kHz 23 350 - 24 990

·		Region l	Region 2	Region 3
BRB/148/72	MOD	23 350 - <del>24</del> - <del>990</del> <u>23 550</u>	Fixed	
			LAND-MOBILE	
			RADIO ASTRONOMY	
			3518/222	
BRB/148/73	MOD	23 500 - 24 000	FIXED	
			LAND MOBILE	
			3518/222	
BRB/148/74	MOD	<u>24 000 - 24 500</u>	Fixed	
			LAND-MOBILE	
			AMATEUR	
			AMATEUR-SATELLITE	
BRB/148/75	MOD	<u>24 500</u> - 24 990	FIXED	
			LAND MOBILE	:
		! !	3519/222A	

Reasons: To provide an amateur band between 21 and 28 MHz in order to cope with varying propagation conditions.

MHz 108 - 117.975

BRB/148/76 NOC

(Allocation appearing in box 108 - 117.975 MHz)

Reasons: Band is used extensively on a world-wide basis.

MHz 117.975 - 136

BRB/148/77	MOD	117.975 - 136	AERONAUTICAL MOBILE (R)
- -			3495/201A 3572/273 3573/273A <u>3573B</u> *) <del>3574/274 3575/274A</del> 3576/274B 3577/275

BRB/148/78 <u>NOC</u> 3495/201A

BRB/148/79 NOC 3572/273

 $\overline{\text{Reasons}}$ : There is a continuing need to maintain these footnotes to provide for international distress and for coordinated search and rescue purposes.

<sup>\*)</sup> Note by the Secretariat General: New footnote 3573B is being prepared.

# INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 149-E
1 November 1979
Original: Spanish

COMMITTEES 4, 6, 7

# Argentine Republic

Replace proposal ARG/149/206 in Document No. 149, page 13, by the following :

ARG/149/206 ADD (Corr.1)

RESOLUTION No. BB

Use of the computer in spectrum management

The World Administrative Radio Conference, Geneva, 1979,

#### considering

- a) the growing need to rationalize the use of the spectrum to meet the increasing demands made upon it;
- b) that all Administrations have to make increasingly intensive use of the spectrum as time goes on;
- c) that the spectrum is not always used rationally owing to the lack of means and resources;

#### resolves

- 1. that the Secretary-General of the ITU shall give priority to any request for technical cooperation intended to optimize the use of the spectrum among Members of the Union;
- 2. that in the seminars periodically organized by the IFRB priority shall be given to teaching the use of computer systems for the management and Administration of the frequency spectrum;
- 3. that intensive campaigns shall be organized through the General Secretariat to ensure that Administrations still lacking computer systems for spectrum management shall adopt such systems as soon as possible;
- 4. that, so far as possible, the Secretary-General shall make the Union's computer experts available to Administrations to advise them on the establishment of data processing centres and on the training of the staff assigned to them;
- 5. that the Secretary-General shall seek to obtain the resources deemed necessary for the attainment of these objectives:



Corrigendum No. 1 to Document No. 149-E Page 2

<u>invites</u> the Administrative Council to consider how the additional resources deemed necessary for this purpose may be obtained;

urges Administrations to support this project through their representatives at the United Nations.

# INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 149-E 11 September 1979 Original : Spanish

PLENARY MEETING

# Argentine Republic \*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

#### INTRODUCTION

For the sake of conciseness, this introduction has been condensed as far as possible, since the reasons given in each case are sufficiently explicit in themselves.

The new definitions proposed as ADDs are regarded as necessary and proper, since the terms in question, although used extensively in the Radio Regulations, are not defined.

The MODs are intended in most cases to express the concepts with greater clarity.

Further, two draft Recommendations are included whose adoption would improve spectrum utilization and lead to greater efficiency in the preparation of delegations, particularly those from countries with insufficient personnel resources.

Lastly, a draft Recommendation intended for the next mobile services conference concerns the establishment of a global distress and safety system.



<sup>\*)</sup> See also Documents Nos. 14 and 129.

#### N1/1

#### Terms and Definitions

ARG/149/147 MOD 3005/7 Radio Waves: Any manifestation of energy, conventionally limited to frequencies below 3 000 THz, radiated in the form of electromagnetic waves propagated in any medium without artificial guides such as conductors, waveguides or optical fibres.

Reasons: To bring the definition up to date.

ARG/149/148 ADD 3005A Radiation: Electromagnetic energy originating in any element or system, whether or not related to radiocommunication.

ARG/149/149 ADD 3005B Emission: Electromagnetic energy originating in the antenna of a radiocommunication system.

Reasons: To define a widely used term.

<u>Reasons</u>: To define terms used indiscriminately in the current Regulations. Differentiation between these terms.

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

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

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

 $\underline{\text{Reasons}}$ : To define terms widely used in the Radio Regulations and their  $\underline{\text{Appendices}}$ .

ARG/149/153 MOD 3038/24 Aeronautical Fixed Service: A fixed service intended for the transmission of information relating to air-navigation,-preparation-for and-safety-of-flight air navigation safety and flight regularity.

Reasons: To establish priorities: flight safety followed by flight regularity.



ARG/149/154 ADD 3118B Mobile Earth Station: A station in the mobile-satellite service intended for use in motion or while stopped at unspecified points.

 $\underline{\text{Reasons}}$ : To define a term used in the definition of the "Mobile Satellite Service".

ARG/149/155 ADD 3118C Coast Earth Station: A coast station participating in the maritime mobile-satellite service.

<u>Reasons</u>: To define a term used in the Regulations. To bring this definition into line with other definitions in the service.

ARG/149/156 ADD 3134A Frequency Band : A portion of the radio spectrum limited by two given frequencies.

Reasons: To define a widely used term.

ARG/149/157 ADD 3136A (Reference) Carrier Frequency: The carrier frequency corresponding to an A3J emission when it emits in A3A or A3H (see Appendix 27 Aer2).

Reasons: To define a widely used term.

ARG/149/158 MOD 3138/89 Assigned Frequency Band: The frequency band the centre of which coincides with the frequency assigned to the station and the width of which equals the necessary bandwidth plus twice the absolute value of the frequency tolerance. In the case of space radiocommunication stations, the maximum value of the deviations which may occur owing to the Doppler effect should be added.

Reasons: To take the effects produced by the relative velocities of sources into account.

ARG/149/159 ADD 3138A Channel: The frequency band required to set up a communication in accordance with the use for which the band is intended, plus the technical frequency margins required to separate it from the other bands.

Reasons: To define a widely used term.

ARG/149/160 MOD 3141/92 Spurious Emission: Any emission of energy outside the assigned frequency band.

Reasons: To relate this definition to the definition of assigned frequency band.

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ARG/149/161 MOD

3149/99 Gain of an Antenna: the ratio, generally expressed in decibels, of the power required at the input of a reference antenna to the power supplied to the input of the given antenna to produce, in the direction of maximum radiation, the same field strength (or the same power flux-density) at the same distance. The gain for a specified polarization may also be taken into consideration.

#### The following cases are distinguished:

- Isotropic gain (G; s), when the reference antenna is an isotropic antenna.
- (Relative) gain referred to a half-wave dipole (Gd) when the reference antenna is a half-wave dipole supposed to be isolated in space.
- (Relative) gain referred to a short vertical antenna ( $G_v$ ) when the reference antenna is a vertical, short (less than a quarter wave) loss-free antenna in the ground.

Reasons: The report of the SPM is taken into consideration.

ARG/149/162 SUP 3150/100

ARG/149/163 SUP 3151/101

ARG/149/164 SUP 3152/102

Reasons: Definitions included in MOD 3149.

#### ARTICLE N2

ARG/149/165 MOD

3183/112 § 1. The radio spectrum shall be subdivided into nine fifteen frequency bands, which shall be designated by progressive whole numbers in accordance with the following table. Frequencies shall be expressed:

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

BAND NUMBER	FREQU	JENCY RA	MGE	CORRESPONDING METRIC SUBDIVISION
1/2/3/4/5/6/7/8/9/10/11/12/13/14/5/15	3 to 30 to 300 to 3 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to 30 to	30 300 3 000 30 300 300 300 300 300 300	Hz Hz Hz kHz kHz kHz MHz MHz MHz GHz GHz GHz THz THz	Myriametric waves Kilometric " Hectometric " Decametric " Metric " Decimetric " Centimetric " Millimetric " Decimillimetric " Centimillimetric " Micrometric " Decimicrometric "

#### ARTICLE N8/6

Special Rules for the Assignment and Use of Frequencies

# ARG/149/166 NOC 3923/419

 $\underline{\text{Reasons}}$ : The usefulness of the method for special cases and/or emergencies or assistance.

#### ARTICLE N12/9

ARG/149/167 MOD

4299/504 (2) The Board shall not make the examination specified in No. 4297/502 where the notice refers to a broadcasting station in Region 2 in the band 535 - 1-605-kHz. When the notice relates to a frequency above 28 000 kHz, the Board shall only make the examination specified in No. 503 at the request of an administration directly concerned or affected when coordination has not been possible between the administrations involved.

 $\underline{\text{Reasons}}$ : To allow implementation of the Broadcasting Agreement for Region 2 in the band 535 - 1 605 kHz.

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ARG/149/168 SUP 4410/576

Reasons: As for 4299/504

#### ARTICLE N15/10

ARG/149/169 MOD

4877/640 § 1. Periodically, administrations shall submit to the International Frequency Registration Board ... and shall be implemented at 0100-6MT 0000 UTC on the first Sunday of the period concerned.

Reasons: To make the hour coincide with the start of the day and to replace the term GMT by the term UTC in accordance with CCIR Recommendation 535.

#### ARTICLE 20/15

ARG/149/170 MOD

5142/718 (3) However, the Board shall not be required to deal with problems of harmful interference between stations operating in the same band and in conformity with the Table of Frequency Allocations, when at least one of these stations is in a class the frequency of which is not required to be notified according to Nos. 486 or 487 of these Regulations, or between stations in the band 535 - 1 605 kHz in Region 2. Such cases of interference shall be resolved by appropriate bilateral or multilateral arrangements in which administrations should particularly observe the provisions of No. 704.

 $\frac{\text{Reasons}}{\text{in the band 535}}$ : To allow implementation of the Broadcasting Agreement for Region 2 in the band 535 - 1 605 kHz.

#### ARTICLE N22/18

#### Licences

ARG/149/171 NOC 5221/725

)---/ IC)

 $\underline{\text{Reasons}}$ : To ensure action by the State concerned and consequently make the State responsible for coordination.

ARG/149/172 NOC 5228/732

ARG/149/173 NOC 5229/733

 $\frac{\text{Reasons}}{\text{licences}}$ : To facilitate the movement of mobile stations with provisional

#### ARTICLE N24/20

#### Service Documents

ARG/149/174 MOD 5552/832 (2) In the service documents, the names of coast, aeronautical, radio direction-finding and radiobeacon stations are followed by the words:

- RADIO for coast stations;
- AERADIO for aeronautical stations;
- GONIO for maritime radio direction-finding stations;
- PHARE for maritime radiobeacon stations;
- AEROPHARE for aeronautical radiobeacon stations.

 $\overline{\text{Reasons}}$ : To give official status in the Regulations to a term which is already in use to describe aeronautical stations.

#### ARTICLE N33

#### B. Aeronautical Radiobeacons

ARG/149/175 MOD 6476/433 § 15. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 and 415 kHz shall be based on a protection ratio against interference of at least 10-dB 15 dB for each beacon throughout its service area.

Reasons: To adopt the values recommended by the ICAO for aeronautical NDBs.

# ARTICLE N34

ARG/149/176 NOC 6599/966

ARG/149/177 NOC 6600/967

ARG/149/178 NOC 6601/968

ARTICLE N35

ARG/149/179 NOC 6652/969

ARG/149/180 NOC 6662/1321

#### ARTICLE N36/36

#### Section III. Distress Call

ARG/149/181 MOD 6773/1393

- (2) The distress call sent by radiotelephony consisits of:
- the distress signal MAYDAY, spoken three times  $\frac{1}{2}$ ;
- the words THIS IS (or DE spoken as DELTA ECHO in case of language difficulties);
- the call sign or other identification of the mobile station in distress, spoken three times.

Reasons: It should be agreed in principle that the call should have the minimum number of elements compatible with intelligibility.

This proposal brings the practice into line with ICAO procedures.

# Section IV. Distress Messages

ARG/149/182 SUP 6777/1398

ARG/149/183 ADD

6777A (2) An aeronautical station shall, as a general rule and if time permits, include in its distress message the maximum number of the following particulars, pronounced clearly in the following order:

- identification of the aircraft;
- nature of distress;
- intention of the person in command;
- present position, level (i.e. flight level, altitude, etc.) as necessary and heading.

Reasons: To follow well tried ICAO procedures. The proposed variants do not introduce any fundamental change in the method laid down in the present Regulations but merely list the rules commonly applicable in aeronautical navigation.

ARG/149/184 SUP 6778/1399

 $<sup>\</sup>frac{1}{2}$  In the case of aircraft preferably three times.

ARG/149/185 ADD 6778A (3) Aircraft in flight shall, as a general rule, signal their position with the following information:

- latitude and longitude (Greenwich) using figures for the degrees and minutes, together with one or the words NORTH, SOUTH, EAST or WEST;
- the name of the nearest place and its approximate distance from it, together with one of the words NORTH, SOUTH, EAST or WEST, as the case may be, or by any other information deemed useful.

Reasons: Same as for 6377/1398.

#### ARTICLE N37

ARG/149/186

6874/1478 (2) In radiotelephony, the urgency signal consists of three repetitions of the group of words PAN PAN, each word of the group pronounced as the French word "panne". The urgency signal shall be transmitted before the call. However, in the case of aircraft, the group of words PAN shall be repeated whenever possible.

Reasons: In the call the minimum number of elements compatible with intelligibility should be permitted. To bring procedures into line with those of ICAO.

ARG/149/187 NOC 6876/1480

MOD

ARG/149/188 MOD

6878/1482 (2) The urgency signal and the message following it shall be sent on one or more of the international distress frequencies (500 kHz, 2 182 kHz, 156.8 MHz), or on any other frequency which may be used in case of distress.

Aeronautical stations shall transmit on the frequency used for their calls up to the moment in question or, where necessary, on any other frequency usable for the desired purpose.

Reasons: Same as for 1478.

ARG/149/189 MOD

6889/1491 (2) The safety signal and call shall be sent on one or more of the international distress frequencies (500 kHz, 2 182 kHz, 156.8 MHz) or on any other frequency which may be used in case of distress.

on the frequencies of that service usable for sending the message following the signal.

# Document No. 149-E

Page 10

ARG/149/190 MOD

6891/1492A (4) In the maritime mobile service and in the aeronautical mobile service, safety messages shall generally be addressed to all stations. In some cases, however, they may be addressed to a particular station.

Reasons: In view of No. 1490 relating to the safety signal and the transmission of important warnings, the aeronautical mobile service should be included in paragraphs 6889/1491(2) and 6891/1492A, since this optional procedure is desirable in many cases. The reference to the frequency or frequencies on which the signal should be transmitted is in line with a similar provision prescribed for the maritime mobile service.

ARTICLE N42

ARG/149/191

NOC 7225/948

ARTICLE N44

ARG/149/192

NOC 7288/928

ARTICLE N47

Special Rules relating to the Use of Frequencies in the Aeronautical Mobile Service

ARG/149/193

NOC 7376/429

ARG/149/194

NOC 7377/430

ARG/149/195

7378/431 § 3. Frequencies in-the-bands allocated to the aeronautical mobile service in the MF and HF bands between-2-850-and-18-030-kHz (see Article N7/5) shall be assigned in confirmity with the provisions of Appendices 26 and 27 and the other relevant provisions of these Regulations.

ARG/149/196

NOC 7379/432

MOD

ARTICLE N48/37

Order of Priority of Communications in the Aeronautical Mobile Service

ARG/149/197 NOC 7408/1496

ARG/149/198 MOD

7867/922 Coordinated Universal Time (UTC), reckoned from  $0001 \ 0000$  to 24000 hours beginning at midnight, shall be used for all entries ... This same provision will apply, as far as possible, to other ships.

Reasons: To make the start of the day coincide with 0000 since time is a continuous function. To replace the term GMT by UTC in accordance with CCIR Recommendation 535.

#### ARTICLE N56

Aeronautical Stations Communicating with Stations in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

# A. General

ARG/149/199 NOC 7962/993

ARG/149/200 NOC 7968/1210

ARG/149/201 NOC 7969/1232

ARG/149/202 NOC 7971/1320

#### ARTICLE N62

General Radiotelephone Procedure in the Maritime Mobile Service

ARG/149/203 <u>NOC</u> 8684/1218 ARG/149/204 NOC 8685/1219 ARG/149/205 ADD

#### RESOLUTION No. AA

Indication in the Agenda of the Number of Committees to be set up at a Conference

The World Administrative Radio Conference, Geneva, 1979

# considering

- a) that some administrations, owing to lack of personnel, have difficulty in staffing their delegations at World Administrative Conferences so as to be able to send at least one delegate to attend each of the committees;
- b) that at present the number and name of the committees to be set-up at conferences cannot be predicted beforehand;

#### resolves

- 1. that subject to the provisions of Article 77, Section 4 of the Convention, the General Secretariat shall, in future, when the Members of the Union are invited to an Administrative Conference in accordance with the provisions of Chapter IX of the Convention, Malaga-Torremolinos, 1973, so arrange the agenda items that each item may lead to a committee being formed during the Conference, in addition to the committees established under Nos. 369, 442 and 527 of the said Convention.
- 2. that the agenda items shall contain titles of chapters, articles and appendices and any other explanations required, so as to remove any doubt and obviate the need for any additional effort at interpretation.

#### RESOLUTION No. BB

Use of the Computer in Spectrum Management

The World Administrative Radio Conference, Geneva, 1979

#### considering

- a) that the growing need to rationalize the use of the spectrum to meet the increasing demands made upon it;
- b) that all administrations have to make increasingly intensive use of the spectrum as time goes on;
- c) that the spectrum is not always used rationally owing to the lack of means and resources;

#### resolves

- 1. that the Secretary-General of the ITU shall give priority to any request for technical cooperation intended to optimize the use of the spectrum among Members of the Union;
- 2. that in the seimars periodically organized by the IFRB priority shall be given to teaching the use of computer systems for the management and administration of the frequency spectrum;
- 3. that intensive campaigns shall be organized through the General Secretariat to ensure that administrations still lacking computer systems for spectrum management shall adopt such systems as soon as possible;
- 4. that in order to achieve the above objectives, the Secretary-General shall, through the UNDP, obtain the resources deemed necessary and request administrations to instruct their representatives to the United Nations to support this project.

ARG/149/207 ADD

#### RECOMMENDATION No. CC

Assignment of Frequencies for the Global Distress and Safety System

The World Administrative Radio Conference, Geneva, 1979

#### considering

- a) that the XIVth CCIR Assembly approved Recommendation 545 relating to the allocation of frequencies in the maritime mobile service bands for distress and safety purposes;
- b) the provisions of paragraph 4.1.4.4 of the Report of the CCIR Special Preparatory Meeting (SPM) (1978) relating to the designation of these frequencies, their characteristics and their application to the maritime and aeronautical mobile services;
- c) the comments in IMCO Document No. COM XIX/11 (14 September 1978) on the organization of a distress system;

# recommends

- 1. that, if WARC-79 should not designate the frequencies required for the future "global distress system", these frequencies should be determined by the next World Radio Administrative Conference concerned;
- 2. that this next Conference should make the necessary amendments to the Radio Regulations to permit the use of the future global distress system for both ships and aircraft;
- 3. that administrations should formulate proposals to that effect for consideration at the next Administrative Conference, taking as a basis the global distress and safety system now being developed by IMCO.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 150-E 12 September 1979 Original : Spanish

PLENARY SESSION

#### Panama

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

### Introduction

PNR/150/1

This document, which is presented by the Administration of Panama for consideration by the Administrations Members of the International Telecommunication Union, is based on the conclusions adopted at the Regional Preparatory Seminar for WARC-79 (Region 2) held in our country.

The amendments relating to Article N7/5 are intended to widen bands to meet the heavy demand for frequencies in some services.

Another purpose is to provide flexibility for band sharing in order not to hamper the technical progress in this field for the next twenty years.

kHz 10 - 14

Allocation to services

Region 1 Region 2 Region 3

MOD 10 - 14 RADIONAVIGATION
Radiolocation

Reasons: To provide better protection in the radionavigation service for maritime and aeronautical aids.

kHz 90 - 110

PNR/150/2 MOD 90 - 110 90 - 110 (NOC) -90 - 110 RADIONAVIGATION FIXED FTXED . RADIONAVIGATION RADIONAVIGATION Fixed MARITIME MOBILE Maritime mobile MARITIME MOBILE 3452/158 3452**/**158 3452/158 /FIXED/ /FIXED/ 3457/163 3460/166 3461/167 3460/166 3461/167 3460/166 3461/167

Reasons: Protection for LORAN C radionavigation systems against harmful interference.

#### Note by the General Secretariat :

The texts of the new footnotes (referred to by an asterisk in the tables) are in preparation.

kHz 110 - 130

		Region 1	Región 2	Region 3
PNR/150/3	MOD	110 - 112	110 - 130	110 - 130
		FIXED	FIXED	FIXED
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		RADIONAVIGATION 3456/162	MARITIME RADIONAVIGATION 3456/162	RADIONAVIGATION 3456/162
		3457/163 3461/167 3462/168	Radiolocation	
PNR/150/4	MOD .	112 - 115		
		RADIONAVIGATION 3456/162		
		3457/163 <u>3460A</u> *)		·
PNR/150/5	MOD	115 - 126		
		FIXED		
		MARITIME MOBILE		
		RADIONAVIGATION 3456/162		
		3457/163 <u>3460A</u> *) 3461/167 <u>3462/168</u> 3663/169	·	·
		126 - 129 (NOC)		
		RADIONAVIGATION 3456/162	,	
	,	3457/163		,
PNR/150/6	MOD	129 - 130	,	
		FIXED		
		MARITIME MOBILE		
	•	RADIONAVIGATION 3456/162		
		3457 <b>/</b> 163 3461/167 <del>3462/168</del>	3458/164 3461/167 3462/168	3461/167 <b>3462/168</b> 3464 <b>/1</b> 70

kHz 160 - 285

		Region 1	Region 2	Region 3
PNR/150/7	MOD	160 - 255	160 - <del>200</del> <u>190</u>	160 - 200 (NOC)
		BROADCASTING	FIXED	FIXED
		3469A*)	3472/179	Aeronautical radionayigation
PNR/150/8			<u>190</u> - 200	radionayigacion
			FIXED 3472/179	
			AERONAUTICAL RADIONAVIGATION	
PNR/150/9	MOD	3469/176	200 <b>- 285</b> <u>275</u>	
PNR/150/10	MOD	255 - <del>285</del> <u>275</u>	AERONAUTICAL RADIONAVIGATI	ON
		MARITIME MOBILE 3467/174	Aeronautical mobile	
		BROADCASTING		
		AERONAUTICAL RADIONAVIGATION		
	:	3469/176 3470/177 3471/178		
PNR/150/11	MQD	<u>275</u> - 285 .	<u>275</u> - 285	
		MARITIME MOBILE 3467/174	AERONAUTICAL RADIONAVIGATION	ON
		BROADCASTING	Aeronautical mobile	
	AERONAUTICAL RADIONAVIGATION		Maritime radionavigation (Radiobeacons)	
		Maritime radionavigation (radiobeacons)		
		3469/176 3470/177 3471/178		

Reasons: Requirements of aeronautical and maritime radiobeacons.

kHz 325 – 405

		Region 1	Region 2	Region 3
PNR/150/12	MOD	325 <b>-</b> 405 <u>335</u>	Maritime radionavigation (rad	iobeacons)
AERONAUTICAL RADIONAVIGATION				
			Aeronautical mobile	
PNR/150/13	MOD	<u>335</u> - 405	AERONAUTICAL RADIONAVIGATION	
		,	Aeronautical mobile	
			3474/181	

Reasons: Requirements of radiobeacons in maritime radionavigation.

kHz 415 - 510

PNR/150/14	MOD	415 - 490	MARITIME MOBILE 3478/185 3479/186 <u>34794</u> *)
PNR/150/15	MOD	490 - 510 495	MOBILE (distress and calling)  MARITIME MOBILE  3479A*)
PNR/150/16	MOD	<u>495 - 505</u>	MOBILE (distress and calling) 3480/187
PNR/150/17	MOD	<u>505</u> - 510	MODILE-(distress-and-calling)  MARITIME MODILE  3479B*)

 $\underline{\text{Reasons}}$ : With technological progress, new receivers are such that the guardband can be reduced.

kHz 510 - 1 605

PNR/150/18 - MOD	510 - 525 (NOC)	510 - 525	510 - 525 (NOC)
·	MARITÎME MOBILE 3479/186	MOBILE	MARITIME MOBILE
:	Aeronautical	AERONAUTICAL RADIONAVICATION 3481/188	Aeronautical mobile
	radionavigation	MARITIME MOBILE	Land mobile
		3497/186	
		Aeronautical radionavigation	
	3478/185		3482/189

kHz 510 - 1 605 (cont.)

	Region 1	Region 2	Region 3
PNR/150/19 MOI	525 - 535 (NOC)	525 - 535	525 - 535
	BROADCASTING	MOBILE	MOBILE
		/BROADCASTING/ 3484/191	/BROADCASTING/
		/AERONAUTICAL RADIONAVIGATION/ 381/188	BROADCASTING
		AERONAUTICAL RADIONAVIGATION	
	3483/190	BROADCASTING 3484A*) 3484B*)	
NOC	535 - 1 605	BROADCASTING	

Reasons: We propose low-power broadcasting in the band 525 - 535 kHz for Region 2.

kHz 1 605 - 2 000

PNR/150/20 MOI	1 605 - 2-000 1 800	1 605 - 1-800 1 615	1 605 - 1 800 (NOC)
	FIXED	FIXED	FIXED
	MOBILE except aeronautical mobile	MOBILE	MOBILE
	aeronauticai mobile	AERONAUTICAL NAVIGATION	
		Radiolocation	
		BROADCASTING 3484A*)	
PNR/150/21 MOI		<u>1 615</u> - 1 800	
	·	FIXED	
		MOBILE	
		AERONAUTICAL RADIONAVIGATION	
	3485/192 3487/193	Radiolocation	
	3488/194	RADIOLOCATION 348A*)	

kHz 1 605 - 2 000 (cont.)

		Region 1	Región 2	Region 3
PNR/150/22 MOD		<u> 1 800 - 1 860</u>	1 800 - 2-000 1 860	
	FIXED	AMATEUR		
		MOBILE-except	FIXED	
PNR/150/23 MOD		AMATEUR	MOBILE except aeronautical	mobile
		AMALEUR	RAD <del>IO</del> NAVIGATION	
	MOD (WW)	1 860 - 2 000	1 860 - 2 000	
	(""/	AMATEUR :	AMATEUR	
		F <del>IXED</del>	· <del>FIXED</del>	
		MOBILE-except aeronautical-mobile	MOBILE-except-aeronautical	-mobile
		acionadorear mostro	RADIONAVIGATION	

Reasons : Sole means of communication in emergencies.

kHz 2 170 - 2 194

PNR/150/24	MOD	2 170 - 2-194 2 173.5	MOBILE-(Distress-and-calling) 3494/201 3495/201A
			MARITIME MOBILE 3495A*)
PNR/150/25	MOD	2 173.5 - 2 190.5	MOBILE (Distress and calling)
			3494/201 3495/201A
PNR/150/26	MOD	2 190,5 - 2 194	MOBILE-(Distress-and-ealling) 3474/201 3495/201A
			MARITIME MOBILE 3495A*)

Reasons: Widening of the maritime mobile service band.

kHz 2 194 - 2 625

PNR/150/27	MOD	2 194 - 2 300	2 194 - 2 300	2 194 - 2 300 (NOC)
		FIXED	FIXED	FIXED
		MARITIME MOBILE	MARITIME MOBILE	MOBILE
		MOBILE except aeronautical mobile (R)	· ,	
		3487/193 3490/195A		

kHz 2 194 - 2 625 (cont.)

		Region 1	Region 2	Region 3
PNR/150/28	MOD	2 300 - 2 498	2 300 - 2 495 (NOC)	
		FIXED	FIXED.	
		MOBILE except aeronautical mobile (R)	MOBILE	
		BROADCASTING 3496/202	BROADCASTING 3496/202	
PNR/150/29	MOD	3487/193 3490/195A 3498A*)	2 495 - 2 505	
PNR/150/30	MOD	2 498 - 2 502	STANDARD FREQUENCY	
		STANDARD FREQUENCY		
		3497/203 3498/203A 3498A*)		*)
•		2 502 - 2 625 (NOC)	3497/203 3498/203A <u>3498A</u>	
		FIXED	2 505 - 2 625 (NOC)	
		MOBILE except	FIXED	
		aeronautical mobile (R)	MOBILE	

kHz 3 155 - 3 400

PNR/150/31	MOD.	3 155 - 3 200	FIXED
			MOBILE except aeronautical mobile (R)
			BROADCASTING 3496/202
•	NOC	3 200 - 3 230	FIXED
		:	MOBILE except aeronautical mobile (R)
			BROADCASTING 3496/202
PNR/150/32	MOD	3 230 - 3 400	FIXED
, .		•	MOBILE except aeronautical mobile
			BROADCASTING <u>3489A</u> *) 3496/202

Reasons: Requirements in the aeronautical mobile service.

kHz 3 500 - 4 000

		Region 1	Region 2	Region 3
PNR/150/33	MOD	3 500 - 3 800	3 500 - 4- <del>000</del> <u>3 900</u>	3 500 - 3 900 (NOC)
		AMATEUR	AMATEUR	AMATEUR
		F1 <del>XED</del>	FIXED	FIXED
		MOBILE-except aeronautical-mobile	MOBILE-except aeronautical-mobile-(R)	MOBILE
		3 800 - 3 900 (NOC)		
		FIXED		
		AERONAUTICAL MOBILE (OR)		·
		LÁND MOBILE		3501/206 3502/207
PNR/150/34	MOD	3 900 - 3 950 (NOC)	3 900 - 4 000	3 900 - 3 950
		AERONAUTICAL MOBILE (OR)	AMATEUR	AERONAUTICAL MOBILE
			F <del>IXED</del>	BROADCASTING
PNR/150/35	MOD	3 950 - 4 000	MOBILE except	3 950 - 4 000
•		FIXED	aeronautical mobile (R)	FIXED
•		BROADCASTING		BROADCASTING

 $\underline{\text{Reasons}}$ : To place the amateur service in a higher service category in the three Regions.

kHz 4 000 - 4 850

PNR/150/36	MOD	4 000 - 4 063	FIXED	
			MOBILE except aeronautical	mobile (R)
PNR/150/37	MOD	4 063 - 4 438	MARITIME MOBILE	
:			3503/208 3504/209 MOD 35	505/209A*)
PNR/150/38	MOD (WW)	4 438 <b>- 4-6</b> 50 <u>4 500</u>	FIXED	4 438 - 4-650 4 500
	("")	•	MOBILE except aeronautical mobile (R)	FIXED
			MARITIME MOBILE	MOBILE-except aeronautical-mobile
E CONTRACTOR OF	urran tara .			MARITIME MOBILE
		, and a group of the Charles of the	3505A*)	3505A*)

kHz 4 000 - 4 850 (cont.)

		Region 1	Region 2	Region 3
PNR/150/39	MOD	<u>4 500</u> - 4 600	FIXED	<u>4 500</u> - 4 600
	(WW)		MOBILE except aeronautical mobile (R)	FIXED
	1		aeronauticai mobile (h)	MOBILE except aeronautical mobile (R)
	NOC	4 650 - 4 700	AERONAUTICAL MOBILE (R)	
	NOC	4 700 - 4 750	AERONAUTICAL MOBILE (OR)	
PNR/150/40	MOD	4 750 - 4 850	4 750 - 4 850	
		FIXED	FIXED	
		AERONAUTICAL MOBILE (OR)	BROADCASTING 3496/202	
		LAND MOBILE	MOBILE except aeronautical	mobile (R)
		BROADCASTING 3496/202		·

# kHz 4 995 - 5 275

PNR/150/41	MOD	4 995 - 5 005	STANDARD FREQUENCY	
			3498/203A <u>3498A</u> *) 3506/21	0
	Noc	5 005 - 5 060	FIXED	·
			BROADCASTING	
PNR/150/42	MOD	5 060 <b>- 5-250</b> <u>5 200</u>	FIXED	
			MOBILE except aeronautical	mobile
PNR/150/43	MOD	5 200 - 5 250	FIXED	
		•	MARITIME MOBILE	
PNR/150/44	MOD	5 250 <b>- 5-430</b> <u>5 275</u>	5 250 <b>- 5-</b> 450 <u>5 275</u>	5 250 <b>-</b> 5-430 <u>5 275</u>
	(WW)	FEXED	F <del>IXED</del>	FIXED
•		<del>LAND</del> −M⊖B <del>ILE</del>	LAND-MOBILE	LAND-MOBILE
		MARITIME MOBILE	MARITIME MOBILE	MARITIME MOBILE
		3505A*)	3505A*)	3505A*)

NOC 9 500 - 9 775

kHz 5 730 - 5 950

			)  30 = ) ))O	
		Region 1	Región 2	Region 3
PNR/150/45	MOD	5 730 - 5 950	FIXED	
			MOBILE except aeronautical mob	ile (R)
	'		kHz 6 765 - 8 195	
PNR/150/46	MOD	6 765 <b>- 7-000</b> <u>6 950</u>	FIXED	
			MOBILE except aeronautical mob	ile (R)
PNR/150/47	MOD	<u>6 950</u> <b>- 7</b> 000	FIXED	
			AMATEUR	
			AMATEUR-SATELLITE	
PNR/150/48	MOD	7 000 <b>- 7-100</b> <u>7 250</u>	AMATEUR	
			AMATEUR-SATELLITE	
PNR/150/49	MOD	7 250 - 7 500	FIXED	
			BROADCASTING	
PNR/150/50	MOD	7 500 - 8-195 7 550	FIXED	
	ļ		BROADCASTING 3496/202	
PNR/150/51	MOD	<u>7.550 - 7.900</u>	FIXED	
PNR/150/52	MOD	7 900 - 8 050	FIXED	
·			MOBILE except aeronautical mob	ile (R)
PNR/150/53	MOD	<u>8 050</u> - 8 195	FIXED	
			MARITIME MOBILE 3505A*)	
			kHz 9 040 - 9 995	
PNR/150/54	MOD	9 040 <b>- 9-<del>500</del> 9 375</b>	FIXED	
			MOBILE except aeronautical mob	ile (R)
PNR/150/55	MQD	9 375 - 9 500	FIXED	
			BROADCASTING 3506A*)	

BROADCASTING

kHz 9 040 - 9 995 (cont.)

		Región l	Region 2	Region 3
PNR/150/56	MOD	9 775 <b>-</b> 9-99 <del>5</del> 9 825	FIXED	
			BROADCASTING 3506A*)	
PNR/150/57	MOD	9 825 - 9 875	FIXED	
•			BROADCASTING 3496/202	
PNR/150/58	MOD	9 875 - 9 995	FIXED	

Reasons: To allocate bands for exclusive use in the Regions.

### kHz 9 995 - 10 700

PNR/150/59	MOD	9 995 - 10 005	STANDARD FREQUENCY
			3495/201A 3498/203A <u>3498A</u> *) 3511/214
	NOC	10 005 - 10 100	AERONAUTICAL MOBILE (R)
			3495/201A
PNR/150/60	MOD	10 100 - 11-175 10 200	FIXED
			<u>AMATEUR</u> 3509A*)
PNR/150/61	MOD	10 200 - 10 700	FIXED
			Mobile except aeronautical mobile (R)

### kHz 11 975 - 12 330

PNR/150/62	MOD	11 975 - 12-339 12 200	FIXED
		12 200 - 12 330	₽±XEĐ
		·	MARITIME MOBILE 3505A*)

 $\underline{\text{Reasons}}$ : To widen the band allocated to the maritime mobile service. New proposal for the amateur service.

kHz 13 360 - 13 850

		Región l	Región 2	Región 3
PNR/150/63	MOD	13 360 - 14-000 <u>13 410</u>	FIXED RADIO ASTRONOMY 3513/217	
PNR/150/64	MOD	<u>13 410 - 13 600</u>	FIXED  MOBILE except aeronautical 3513/217	mobile (R)
PNR/150/65	MOD	<u>13 600 - 13 850</u>	FIXED BROADCASTING	
	l		3506A 3513/217	·

# kHz 14 000 - 14 990

	NOC	14 000 - 14 350	AMATEUR
			AMATEUR-SATELLITE
PNR/150/66	MOD	14 350 - 14-990 14 600	FIXED
PNR/150/67	MOD	14 600 - 14 990	FIXED
			MOBILE except aeronautical mobile (R)

### kHz 15 450 - 17 900

PNR/150/68	MOD	15 450 <b>- 16</b> -460 <u>15 700</u>	FIXED
			BROADCASTING 3506A*)
PNR/150/69	MOD	<u>15 700 - 15 950</u>	FIXED
PNR/150/70	MOD	<u>15 950 - 16 360</u>	FIXED
		•	MOBILE except aeronautical mobile (R)
PNR/150/71	MOD	<u>16 360</u> - 16 460	FIXED
			MARITIME MOBILE 3510/213
	NOC	16 460 - 17 360	MARITIME MOBILE 3510/213
PNR/150/72	MOD	17 360 - 17-700 17 600	FIXED
PNR/150/73	MOD	<u>17 600</u> <b>-</b> 17 900	BROADCASTING

kHz 18 068 - 21 450

	1	Region 1	Región 2	Región 3
PNR/150/74	MOD	18 068 <b>- 1</b> 9-999 <u>18 168</u>	FIXED	
			AMATEUR	
PNR/150/75	MOD	<u>18 168</u> <b>-</b> 19 900	FIXED	
	NOC	19 900 - 20 010	STANDARD FREQUENCY	
			3495/201A 3498/203A 3498	A 3516/220
PNR/150/76	MOD	20 010 - 21-000 20 230	FIXED	
			MARITIME MOBILE	
			<u>3505A</u> *)	
PNR/150/77	MOD	20 230 - 20 400	FIXED	
PNR/150/78	MOD	20 400 - 20 700	FIXED	
			MOBILE except aeronautical	mobile (R)
PNR/150/79	MOD	20 700 - 20 750	FIXED	
PNR/150/80	MOD	<u>20 750</u> - 21 000	FIXED	
			AMATEUR	
			AMATEUR-SATELLITE	
	NOC	21 000 - 21 450	AMATEUR	
			AMATEUR-SATELLITE	

kHz 21 750 - 25 010

		Región l	Region 2	Region 3
PNR/150/81	MOD	21 750 - 21-859 <u>21 800</u>	FIXED	
		<u>.</u>	BROADCASTING	
			<u>3506a</u> *)	
PNR/150/82	MOD	<u>21 800</u> - 21 850	FIXED	
			MOBILE except aeronautical	mobile (R)
PNR/150/83	MOD	21 850 - <del>21-870</del> <u>21 924</u>	FIXED	
PNR/150/84	MOD	21 924 - 22 000	AERONAUTICAL MOBILE (R)	
PNR/150/85	MOD	22 000 <b>- 22-720</b> <u>22 855</u>	MARITIME MOBILE	
			<u>3505A</u> *)	
PNR/150/86	MOD	22 855 - 23-200 23 000	FIXED	
PNR/150/87	MOD	23 000 - <u>23 200</u>	FIXED	
			MOBILE except aeronautical	mobile (R)
PNR/150/88	MOD	23 200 - 23 350	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (OR)	
PNR/150/89	MOD	23 350 - 24 990 (NOC)	23 350 - 24 990	
		FIXED	FIXED	
		LAND MOBILE	<del>LAND-MOBILE</del>	
			MOBILE except aeronautical	mobile (R)
		3518/222 3519/222A	3518/222 3519/222A	
PNR/150/90	MOD	24 990 - 25 010	STANDARD FREQUENCY	
			3498/203A <u>3498A</u> *) 3520/22	23

kHz 25 010 - 27 500

	!	Region 1	Region 2	Region 3
PNR/150/91	MOD	25 010 <b>- 25-070</b> <u>25 210</u>	FIXED	
			MOBILE-except-aeronautical-	-mobile
			AMATEUR	
			AMATEUR-SATELLITE	
PNR/150/92	MOD	<u>25 210</u> - 25 600	FIXED	
			MOBILE except aeronautical	mobile
PNR/150/93	MOD	25 600 <b>-</b> <u>27 500</u>	FIXED	
			MOBILE except aeronautical	mobile (R)

Reasons : To make new bands available for the amateur service.

MHz 68 - 88

DWD /3.50./0).	MOD	(0	69 73 70	68 - 70 (NOC)
PNR/150/94	MOD	68 - <del>74.8</del> <u>73</u>	68 - <del>73</del> <u>72</u>	60 - (0 (NOC)
		FIXED	FIXED	FIXED
		MOBILE except	MOBILE	MOBILE
		aeronautical mobile	BROADCASTING	AERONAUTICAL RADIONAVIGATION
PNR/150/95	MOD			70 - <del>74.6</del> <u>73</u>
PNR/150/96	MOD		<u>72</u> - 73	FIXED
			FIXED	MOBILE
		,	MOBILE	
			BROADCASTING	
PNR/150/97	MOD	<u>73 - 74.6</u>	73 - 74.6 (NOC)	<u>73</u> - 74.6
		FIXED	RADIO ASTRONOMY	FIXED
		MOBILE except aeronautical mobile		MOBILE
		RADIO ASTRONOMY		RADIO ASTRONOMY

MHz 68 - 88 (cont.)

		Región l	Region 2	Region 3
PNR/150/98	MOD	<u>74.6</u> - 74.8	74.6 - 75.4 (NOC)	
		FIXED  MOBILE except	AERONAUTICAL RADIONAVIGATI	CON
		aeronautical mobile		
PNR/150/99	MOD	74.8 - 87.5		
PNR/150/100	MOD	FIXED  MOBILE except  aeronautical mobile	75.4 - 88 <u>76</u> FIXED  MOBILE  BROADCASTING	75.4 - 78 (NOC) FIXED MOBILE
PNR/150/101	MOD	·	76 - 88  FIXED  MOBILE  BROADCASTING  Fixed	78 - 80 (NOC)  FIXED  MOBILE  AERONAUTICAL  RADIONAVIGATION  80 - 87 (NOC)  FIXED  MOBILE

MHz 136 - 138

PNR/150/102	MOD	136 - 137	AERONAUTICAL MOBILE (R)
*		•	SPACE-RESEARCH-(Space-to-Earth)
PNR/150/103	MOD	137 - 138	SPACE OPERATIONS
			METEOROLOGICAL-SATELLITE
		· ·	SPACE RESEARCH (Space-to-Earth)

MHz 146 - 149.9

		Region 1	Region 2	Region 3
PNR/150/104	MOD	146 - <del>149.9</del> <u>148</u>	146 - 148	
		FIXED	AMATEUR	
		MOBILE except aeronautical mobile	AMATEUR-SATELLITE	
		AMATEUR		
		AMATEUR-SATELLITE		
PNR/150/105	MOD	<u>148</u> - 149.9	148 - 149.9 (NOC)	
		FIXED	FIXED	
		MOBILE except aeronautical mobile (R)	MOBILE	

# MHz 216 - 235

PNR/150/106 M	216 <b>-</b> 223	216 - 220	216 - 225
	AERONAUTICAL RADIONAVIGATION	FIXED	MARITIME MOBILE
	BROADCASTING	MOBILE	AERONAUTICAL RADIONAVIGATION
		RADIOLOGATION	
	MARITIME MOBILE	MARITIME MOBILE	Radiolocation
	Aeronautical radionavigation	Mobile	·
		Fixed	
PNR/150/107 M	OD CO	220 - 225	
PNR/150/108 MG	DD 223 - 235 225	AMATEUR	
	AERONAUTICAL RADIONAVICATION	RADIOLOGATION	
	MARITIME MOBILE	MARITIME MOBILE	
		Amateur	
	Aeronautical radionavigation		
	Fixed		
	Mobile		
PNR/150/109 MG	DD <u>225</u> - 235	225 - 235 (NOC)	225 - 235 (NOC)
	AERONAUTICAL RADIONAVIGATION	FIXED	FIXED
	Fixed	MOBILE	MOBILE AERONAUTICAL
	Mobile		RADIONAVIGATION

# MHz 406 - 406.1

		Region 1	Region 2	Region 3
PNR/150/110	MOD	406 - 406.1	FIXED	
			MOBILE except aeronautica	al mobile
			RADIO ASTRONOMY	•
			MOBILE-SATELLITE-(Earth-t	so-space)

MHz 470 - 942

nwn /2 50 /2 22			F.70 900	
PNR/150/111	MOD		470 - 890	
			BROADCASTING	
			FIXED	
÷			MOBILE	
PNR/150/112	MOD	890 - 942	890 - 942 (NOC)	890 - 942
		FIXED	FIXED	FIXED
		BROADCASTING	RADIOLOCATION	MOBILE
		RADIOLOCATION		BROADCASTING
		Radiolocation		RADIOLOCATION
				Radiolocation

### MHz 1 215 - 1 300

PNR/150/113	MOD	1 215 - <del>1</del> -300 <u>1 240</u>	RADIONAVIGATION-SATELLITE (Space-to-Earth)
		•	RADIOLOCATION
			Amateur
PNR/150/114	MOD	1 240 - 1 300	RADIOLOCATION
			Amateur

MHz 1 400 - 1 429

		Region l	Region 2	Region 3
PNR/150/115	MOD	1 400 - 1 427	Earth exploration (Passive	sensors)
			Earth exploration-satellite	<u>2</u>
			RADIO ASTRONOMY	
PNR/150/116	MOD	1 427 - 1 429	SPACE OPERATION (Telecommar	dd) (Telemetering)
	1		FIXED	
			MOBILE except aeronautical mobile	

MHz 1 435 - 1 525

PNR/150/117 MOD

1 435 - 1 525

MOBILE

Fixed

FIXED

MHz 1 535 - 1 660

	NOC	1 535 - 1 542.5	MARITIME MOBILE-SATELLITE
PNR/150/118	мор	1 542.5 - 1 543.5	AERONAUTICAL-MOBILE-SATELLITE-(R)
			MARITIME MOBILE-SATELLITE (Space-to-Earth)
PNR/150/119	MOD	1 543.5 - <del>1-558.5</del> <u>1 550</u>	AERONAUTICAL-MOBILE-GATELLITE-(R)
			MARITIME MOBILE-SATELLITE
PNR/150/120	MOD	1 550 - 1 558.5	AERONAUTICAL MOBILE-SATELLITE (R)
PNR/150/121	MOD	1 558.5 - <del>1-636.5</del> 1 565	AERONAUTICAL-RADIONAVIGATION
			AERONAUTICAL MOBILE-SATELLITE (Space-to-Earth)
PNR/150/122	MOD	1 565 - 1 590	AERONAUTICAL RADIONAVIGATION
			RADIONAVIGATION-SATELLITE
PNR/150/123	MOD	1 590 - 1 624	AERONAUTICAL RADIONAVIGATION
			RADIONAVIGATION-SATELLITE
			AERONAUTICAL MOBILE
			AERONAUTICAL MOBILE-SATELLITE

MHz1 535 - 1 660 (cont.)

		Region l	Region 2 Region 3
PNR/150/124	MOD	1 624 - 1 636.5	AERONAUTICAL RADIONAVIGATION
			MARITIME MOBILE-SATELLITE
	NOC	1 636.5 - 1 644	MARITIME MOBILE-SATELLITE
PNR/150/125	MOD	1 644 - 1 645	AERONAUTICAL-MOBILE-GATELLITE-(R)
			MARITIME MOBILE-SATELLITE (Earth-to-space)
PNR/150/126	MOD	1 645 - 1 660	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space)

MHz 1 710 - 2 300

		Region 1	Region 2	Region 3
	MOD (WW)	1 710 - 1 770	1 710 - 1 770	
	( ww )	FIXED	FIXED	
		MOBILE	MOBILE	·.
		Mobile		
PNR/150/128	MOD	1 770 - 1 790	1 770 - 1 790	
		FIXED	FIXED	
•		Meteorological-satellite	MOBILE	
		SPACE OPERATION (Earth-to-space)	Meteorological-satellite	
		Mobile	SPACE OPERATION	
PNR/150/129	MOD	<u>1 790 - 2-290 1 850</u>	1 790 - 2-29 <del>0</del> 1 850	
1	(WW)	FIXED	FIXED	
		Mobile	MOBILE	
		MOBILE	SPACE OPERATION (Earth-to-	space)
•	-	SPACE OPERATION (Earth-to-space)		
	MOD (WW)	1 850 - 2 025	1 850 - 2 025	
<b>'</b>	( ww )	FIXED-SATELLITE	FIXED-SATELLITE (Space-to-	Earth)
		(Space-to-Earth)	FIXED	
		FIXED MOBILE	MOBILE	
	ļ	Mobile	•	
PNR/150/131	MOD	2 025 - 2 045	2 025 - 2 045	
		FIXED-SATELLITE	FIXED-SATELLITE	
		FIXED	FIXED	
		Mobile	MOBILE	
		EARTH EXPLORATION-	EARTH EXPLORATION-SATELLIT	<u>E</u>
		SATELLITE SPACE RESEARCH	SPACE RESEARCH	

MHz1 710 - 2 300 (cont.)

		Region 1	Region 2	Region 3
PNR/150/132	MOD (WW)	2 045 - 2 110	<u>2 045</u> - <u>2 110</u>	
	(ww)	FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to- FIXED	-Earth)
		FIXED '	MOBILE	
		Mobile	EARTH EXPLORATION-SATELLIT	[] [E (Earth-to-space)
		MOBILE	SPACE RESEARCH	
		EARTH EXPLORATION— SATELLITE (Earth-to-space)		
		SPACE RESEARCH		
PNR/150/133	MOD	2 110 - 2 120	2 110 - 2 120	
		FIXED	FIXED	
		Mobile	MOBILE	
		SPACE RESEARCH (Earth-to-space)	SPACE RESEARCH	
		FIXED-SATELLITE	FIXED-SATELLITE	
PNR/150/134	мор	2 120 - 2 200	2 120 - 2 200	
		FIXED	FIXED	
		Mobile	MOBILE	
		FIXED-SATELLITE (Space-to-Earth)	FIXED-SATELLITE (Space-to-	-Earth)
PNR/150/135	MOD	2 200 - 2 290	<u>2 200</u> <b>-</b> 2 290	·
•		FIXED	FIXED	
		Mobile	MOBILE	
		SPACE RESEARCH (Space-to-Earth)	SPACE RESEARCH	
		SPACE OPERATION	SPACE OPERATION	·
PNR/150/136	MOD	2 290 - 2 300	2 290 - 2 300	
		FIXED	FIXED	
	ļ	SPACE RESEARCH <del>(Space-to-Earth)</del>	MOBILE except aeronautical	_ mobile
		Mobile <u>except</u> aeronautical mobile	SPACE RESEARCH (Space-to-E	Earth)

# MHz 2 300 - 2 450

		Region 2	Region 3	
PNR/150/137	MOD	2 300 - 2-450 2 310		
		RADIOLOCATION		
		Amateur		
		Fixed		
		Mobile		`
PNR/150/138	MOD	2 310 - 2 390		
		RADIOLOCATION		
		Amateur		
		Fixed		
	÷	Mobile		
		MOBILE		
PNR/150/139	MOD	2 390 - 2 450		
	·	RADIOLOCATION	•	ĺ
		Amateur		
		Fixed	,	
		Mobile		

# MHz 2 550 - 2 700

		Region 1	Region 2	Region 3
PNR/150/140	MOD	2 550 - 2 655	FIXED	
· •			MOBILE except aeronautical mobile	<u>-</u>
			BROADCASTING-SATELLITE	
			FIXED-SATELLITE (Space-to-Earth)	

MHz 2 550 - 2 700 (cont.)

	Region 1	Region 2	Region 3
PNR/150/141 MOD	2 655 – 2 690	2 655 - 2 690	
	FIXED	FIXED	
	MOBILE except aeronautical mobile	FIXED-SATELLITE (Earth-to-	space)
	·	BROADCASTING-SATELLITE	
•	BROADCASTING-SATELLITE	Space research	
	Space research (passive)	Earth exploration-satellit	<u>e</u>
	Earth exploration- satellite	MOBILE-except-aeronautical	-mobile
PNR/150/142 MOD	2 690 - 2 700	RADIO ASTRONOMY	
		SPACE RESEARCH (Passive)	
		EARTH EXPLORATION-SATELLIT	<u>E</u> .

MHz 3 100 - 3 400

PNR/150/143	MOD	3 100 - 3 300	RADIONAVIGATION	
			RADIOLOCATION	
PNR/150/144	MOD	3 300 - 3 400 (NOC)	3 300 - 3 400	3 300 - 3 400 (NOC)
·		RADIOLOCATION	RADIOLOCATION	RADIOLOCATION
		`	<u>Fixed</u>	Amateur
			Amateur	
			Mobile	

# MHz 4 700 - 5 250

PNR/150/145	MOD	4 700 <b>- 4-</b> 990 <u>4 950</u>	FIXED	<u> </u>
			MOBILE	
PNR/150/146	MOD	<u>4 950</u> - 4 990	FIXED	
			MOBILE	
			Radio astronomy	

MHz 4 700 - 5 250 (cont.)

	Region 1	Region 2	Region 3
PNR/150/147 MOD	4 990 - 5 000 (NOC)	4 990 - 5 000	4 990 - 5 000 (NOC)
·	FIXED .	RADIO ASTRONOMY	FIXED
	MOBILE	Space research	MOBILE .
	RADIO ASTRONOMY	(passive)	RADIOASTRONOMY
PNR/150/148 MOD	5 000 - 5 250	AERONAUTICAL RADIONAVIGAT	ION
		AERONAUTICAL MOBILE-SATEL	LITE
		AERONAUTICAL RADIONAVIGAT	ION-SATELLITE

# MHz 7 250 - 7 750

PNR/150/149	MOD	7 250 - 7 300	FIXED-SATELLITE
		• 4	MOBILE-SATELLITE
PNR/150/150	MOD	7 300 - 7 450	FIXED
			FIXED-SATELLITE
			MOBILE-SATELLITE
· · · · · · · · · · · · · · · · · · ·			MOBILE
PNR/150/151	MOD	7 450 - 7 550	FIXED
			FIXED-SATELLITE (Space-to-Earth)
			MOBILE-SATELLITE (Space-to-Earth)
			METEOROLOGICAL-SATELLITE (Space-to-Earth)
			MOBILE
PNR/150/152	MOD	7 550 - 7 750	FIXED
••			FIXED-SATELLITE (Space-to-Earth)
			MOBILE-SATELLITE (Space-to-Earth)
			MOBILE

MHz 7 750 - 8 500

		Region 1	Region 2	Region 3
PNR/150/153	MOD	7 750 - 7-900 7 850	FIXED	
			MOBILE  SPACE RESEARCH (Space-to-	- <u>Earth</u> )
PNR/150/154	MOD	<u>7 850</u> - 7 900	FIXED	
			MOBILE	
PNR/150/155	MOD	7 900 - 7 975	FIXED	
			MOBILE	<b>)</b>
			FIXED-SATELLITE (Space-to	
			MOBILE-SATELLITE (Earth-t	co-Space)
PNR/150/156	MOD	7 975 - 8 025	FIXED-SATELLITE	
·			MOBILE-SATELLITE	T
PNR/150/157	MOD	8 025 - 8 175	8 025 - 8 175	8 025 - 8 175
		FIXED  FIXED-SATELLITE (Earth-to-space)  MOBILE-SATELLITE (Earth-to-space)  MOBILE  Earth exploration- satellite	EARTH EXPLORATION— SATELLITE  FIXED  FIXED—SATELLITE  MOBILE—SATELLITE  MOBILE	FIXED  FIXED-SATELLITE  MOBILE-SATELLITE  MOBILE  EARTH EXPLORATION- SATELLITE  (Space-to-Earth)
PNR/150/158	MOD	8 175 - 8 215	8 175 - 8 215	8 175 - 8 215
		FIXED  FIXED-SATELLITE (Earth-to-space)  MOBILE-SATELLITE  METEOROLOGICAL-SATELLITE  MOBILE  Earth exploration- satellite	EARTH EXPLORATION— SATELLITE (Space-to-Earth)  FIXED  FIXED—SATELLITE  MOBILE—SATELLITE  METEOROLOGICAL— SATELLITE  MOBILE	FIXED  FIXED-SATELLITE  MOBILE-SATELLITE  METEOROLOGICAL- SATELLITE  MOBILE  EARTH EXPLORATION- SATELLITE

MHz 7 750 - 8 500 (cont.)

	Region 1	Region 2	Region 3
PNR/150/159 MOD	8 215 - 8 400	8 215 - 8 400	8 215 - 8 400
	FIXED	FIXED	FIXED
	FIXED-SATELLITE	FIXED-SATILLITE	FIXED-SATELLITE
	MOBILE-SATELLITE	MOBILE-SATELLITE	MOBILE-SATELLITE
	MOBILE	MOBILE	MOBILE
	EARTH EXPLORATION- SATELLITE	EARTH EXPLORATION- SATELLITE	EARTH EXPLORATION- SATELLITE
PNR/150/160 MOD	8 400 - 8 500	FIXED	
		MOBILE except aeronautica	l mobile
		SPACE_RESEARCH (Space-to-Earth)	

# GHz 10.55 - 10.7

PNR/150/161	MOD	10,55 - 10,6	FIXED	
			MOBILE	
		:	Mobile except aeronautical mobile	
		•	Radiolocation	
	·		MARITIME MOBILE	
PNR/150/162	MOD	10,6 - 10,68	FIXED	
			MOBILE	
			MOBILE except aeronautical mobile	
			Radiolocation	
			RADIO ASTRONOMY	
			SPACE RESEARCH (Passive)	
			EARTH EXPLORATION-SATELLITE (Passive)	
PNR/150/163	MOD	10.68 - 10.7	RADIO ASTRONOMY	
			SPACE RESEARCH (Passive)	
			EARTH EXPLORATION-SATELLITE (Passive)	

GHz 11.2 - 12.2

	1	Region 1	Region 2	Region 3
PNR/150/164	MOD	11.2 - 11.45	FIXED	
			MOBILE	
		·	FIXED-SATELLITE (Space-to	o-Earth)
	NOC	11.45 - 11.7	FIXED	
			FIXED-SATELLITE (Space-to	o-Earth)
•			MOBILE	
PNR/150/165	MOD		11.7 - 12.2	
			FIXED	
			FIXED-SATELLITE (Space-to-Earth)	
			MOBILE except aeronautical mobile	
	,		BROADCASTING	
			BROADCASTING - SATELLITE	

GHz 12,75 - 14.3

PNR/150/166	MOD	12.75 - 13.25	FIXED
		·	MOBILE
			FIXED-SATELLITE
•	NOC	13.25 - 13.4	AERONAUTICAL RADIONAVIGATION
	NOC	13.4 - 14	RADIOLOCATION
PNR/150/167	MOD	14 - 14.3	FIXED-SATELLITE
			RADIONAVIGATION-SATELLITE

GHz 15.35 - 17.7

		Region 1	Region 2	Region 3
PNR/150/168	MOD	15.35 - 15.4	EARTH EXPLORATION-SATELLI	ľE
			SPACE RESEARCH	
			RADIO ASTRONOMY	
PNR/150/169	МОД	15.4 - 15.7	AERONAUTICAL RADIONAVIGAT	ION-SATELLITE
			AERONAUTICAL RADIONAVIGAT	IUN
PNR/150/170	MOD	15.7 - <del>17.7</del> <u>16.6</u>	RADIOLOCATION	·
PNR/150/171	MOD	<u>16.6</u> - <u>17.1</u>	SPACE RESEARCH	
			RADIOLOCATION	
PNR/150/172	MOD	<u>17.1 - 17.6</u>	FIXED-SATELLITE (Earth-to-	-space)
			RADIOLOCATION	·
PNR/150/173	MOD	17.6 - 17.7	RADIOLOCATION	

# GHz 17.7 - 21.2

PNR/150/174	MOD	17.7 - <del>1</del> 9-7 <u>17.9</u>	FIXED
			FIXED-SATELLITE (Space-to-Earth)
			MOBILE except aeronautical mobile
	Į		METEOROLOGICAL-SATELLITE
PNR/150/175	MOD	<u>17.9</u> - <u>18.6</u>	FIXED
			FIXED-SATELLITE (Space-to-Earth)
			MOBILE
PNR/150/176	MOD	<u> 18,6 - 18.8</u>	FIXED
		· · · · · · · · · · · · · · · · · · ·	FIXED-SATELLITE (Space-to-Earth)
•			MOBILE
			Space research
			Earth-exploration-sate11ite (Passive)
PNR/150/177	MOD	18.8 - 19.7	FIXED
			FIXED-SATELLITE (Space-to-Earth)
			MOBILE

GHz 17.7 - 21.2 (cont.)

		17.7 - 21,2 (cont.)			
		Region 1	Región 2	Region 3	
PNR/150/178	MOD	19.7 - <del>21.</del> 2 <u>20.2</u>	FIXED-SATELLITE (Space-to-Earth)		
PNR/150/179	MOD	20.2 - 21.2	FIXED-SATELLITE (Space-t	o-Earth)	
			MOBILE-SATELLITE (Space-to-Earth)		
			GHz 23 <sub>*</sub> 6 - 24		
PNR/150/180	MOD	23.6 - 24	EARTH EXPLORATION-SATELL	ITE	
			SPACE RESEARCH (Passive)		
			RADIO ASTRONOMY		
			GHz 29.5 - 31.8		
PNR/150/181	MOD	29.5 <b>-</b> 31 30	FIXED-SATELLITE (Earth-t	o-space)	
PNR/150/182	MOD	<u>30</u> - 31	FIXED-SATELLITE		
			MOBILE-SATELLITE		
			Standard frequency-satellite		
PNR/150/183	MOD	31 - 31.3	FIXED		
· 			MOBILE		
			Space research		
			Standard frequency-satel	lite (Passive)	
PNR/150/184	MOD	31 .3 - 31 .5	SPACE RESEARCH		
			EARTH EXPLORATION-SATELL	ITE	
			RADIO ASTRONOMY		
PNR/150/185	MOD	31 .5 - 31 .8	31.5 - 31.8	31.5 - 31.8	
		SPACE RESEARCH (Passive)	SPACE RESEARCH ( <u>Passive</u> )	SPACE RESEARCH	
		Fixed	RADIO ASTRONOMY	RADIO ASTRONOMY	
		FIXED	EARTH EXPLORATION-	EARTH EXPLORATION- SATELLITE	
		Mobile except aeronautical mobile	SATELLITE	FIXED	
		RADIO ASTRONOMY  EARTH EXPLORATION— SATELLITE		Mobile except aeronautical mobile	
	]			Fixed	

Fixed

GHz 34.2 - 40

			34.2 - 40	
		Region 1	Region 2	Region 3
PNR/150/186	MOD	34.2 - 35.2	RADIOLOCATION	
			Space-research	
	NOC	35.2 - 36	RADIOLOCATION	
PNR/150/187	MOD	36 <b>-</b> 49 <u>37</u>	FIXED	
			MOBILE	
			Space research	
			Earth exploration-satellite	
PNR/150/188	MOD	<u>37</u> - 40	FIXED	·
			MOBILE	
			GHz	
			40 - 41	
PNR/150/189	MOD	40 - 41	FIXED-SATELLITE (Space-to-Earth)	
			FIXED	
			MOBILE	
			GHz 48 - 50	
PNR/150/190	MOD	48 <u>- 59 49, 8</u>	FIXED-SATELLITE	
			FIXED	·
			MOBILE	
PNR/150/191	MOD	<u>49.8</u> - 50	AMATEUR	
			AMATEUR-SATELLITE	
			GHz 52 - 58 2	
PNR/150/192	MOD	52 - 54.25	EARTH EXPLORATION-SATELLITE	·
			SPACE RESEARCH (Passive)	
PNR/150/193	MOD	54.25 - 58.2	INTER-SATELLITE	
			FIXED	·
			MOBILE	
			SPACE RESEARCH (Passive)	

EARTH EXPLORATION-SATELLITE (Passive)

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 151-E 12 September 1979 Original : French

PLENARY MEETING

Algeria (Algerian Democratic and Popular Republic)\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

 ${
m kHz}$ 

110 - 130

ALG/151/64 SUP 3462/168

(also in the appropriate boxes)

Reasons: It is not used for international civil aviation.

kHz 150 - 160

Allocation to Services Region 1 Region 2 Region 3 150 - 160 150 - 160 ALG/151/65 MOD MARITIME-MOBILE FIXED 3461/167 3467/174 MARITIME-MOBILE BROADCASTING BROADCASTING 3468/175 3468A 3461/167 3468A

ALG/151/66 SUP 3467/174

ALG/151/67 ADD 3468A

3468A The assignment and use of frequencies in this band shall be determined only within the framework of a plan (see Resolution No. ...)

<u>Reasons</u>: Need for an exclusive world-wide allocation to meet the requirements of the broadcasting service.

kHz 160 - 285

ALG/151/68 MOD 160 - 255 160 - 200 160 - 200 BROADCASTING FIXED 3472/179 FIXED BROADCASTING Aeronautical radionavigation BROADCASTING 3468A 3468A 3469/176 3468A



<sup>\*)</sup> See also Document No. 119

kHz 160 - 285 (cont.)

		Region 1	Region 2	Region 3
ALG/151/69	MOD		200 - 285	
ALG/151/70	MOD	255 - 285	AERONAUTICAL-NAVIGATION	
		MARITIME-MOBILE 3467/174	Aeronautical-mobile	
		BROADCASTING	BROADCASTING	·
		AERONAUTICAL RADIONAVIGATION		
		3469/167 3470/177 3471/178 <u>3468A</u>	<u>3468A</u>	

ALG/151/71 SUP 3469/176 ALG/151/72 SUP 3470/177 ALG/151/73 SUP 3471/178 ALG/151/74 SUP 3467/174

 $\frac{\text{Reasons}}{\text{service}}$ : To allocate exclusive world-wide bands to the broadcasting service in accordance with Resolution No. 2 of the Regional Administrative Broadcasting Conference (Geneva, 1975).

kHz 285 - 405

ALG/151/75 MOD	285 - 315	MARITIME RADIONAVIGATION (radiobeacons)
		Aeronautical-radionavigation
-		/AERONAUTICAL RADIONAVIGATION /
ALG/151/76 NOC	315 - 325	315 - 325
	AERONAUTICAL RADIONAVIGATION	MARITIME RADIONAVIGATION (Radiobeacons)
	3473/180	Aeronautical radionavigation
ALG/151/77 MOD	325 - 405	325 - 405
	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION
	Aeronautical mobile	Aeronautical mobile
	3474/181	,

 $\underline{\text{Reasons}}$ : (285 - 315) To meet the requirements of the aeronautical radionavigation service.

service in Region 1. This band is not used by the aeronautical mobile

kHz 415 - 490

		Region l	Region 2	Region 3
ALG/151/78	MOD	415 - 490	MARITIME MOBILE 3478/185 /AERONAUTICAL RADIONAVIGAT	
		Reasons : To meet the ever	r increasing requirements for	or radiobeacons.
ALG/151/79		Not used.		
			kHz 525 - 1 605	
ALG/151/80	MOD	525 - 535 (NOC)	525 - 535	525 - 535
		BROADCASTING	MOBILE	MOBILE
			/BROADCASTING/ 3484/191	/BROADCASTING/
		3483/190	/AERONAUTICAL RADIONAVIGATION/ 3481/188	BROADCASTING
ALG/151/81	NOC	535 - 1 605	BROADCASTING	
	Ī		kHz 1 605 - 2 000	
ALG/151/82	MOD	1 605 <b>- 2-000</b> <u>1 800</u>	1 605 - 1 800 (NOC)	1 605 - 1 800 (NOC)
	:	FIXED	FIXED	FIXED
		MOBILE except aeronautical mobile	MOBILE	MOBILE
		3485/192 3487/193	AERONAUTICAL RADIONAVIGATION	
		3488/194 3489/195 3490/195A	Radiolocation	3491/197
ALG/151/83	MOD	1 800 - 1 850	1 800 - 2 000 (NOC)	
		AMATEUR	AMATEUR	
		FIXED	FIXED	
•		MOBILE-except aeronautical-mobile	MOBILE except aeronautical	mobile
ALG/151/84	MOD	1 850 - 2 000	RADIONAVIGATION	
1110/ 1/1/ 04	1.00	FIXED		
		MOBILE except aeronautical mobile		
		3485/192 3487/193 3488/194 3489/195 3490/195A	3492/198	

 $\underline{\mathtt{Reasons}}$  : To meet a mateur service requirements.

kHz 2 300 - 2 498

ALG/151/85 <u>NOC</u>

The allocations in box 2 300 - 2 498 kHz (Region 1).

kHz

2 502 - 2 625

ALG/151/86 NOC

The allocations in box 2 502 - 2 625 kHz (Region 1).

kHz

2 650 - 2 850

ALG/151/87 NOC

The allocations in box 2 650 - 2 850 kHz (Region 1),

kHz

3 500 - 3 800

ALG/151/88 NOC -

The allocations in box 3 500 - 3 800 kHz (Region 1).

kHz

4 438 - 4 650

ALG/151/89 NOC

The allocations in box 4 438 - 4 650 kHz (Region 1).

kHz

4 750 - 4 995

ALG/151/90 NOC

The allocations in boxes 4750 - 4850 kHz (Region 1) and 4850 - 4995 kHz (Regions 1, 2 and 3).

kHz

5 060 - 5 430

ALG/151/91 NOC

The allocations in boxes 5 060 - 5 250 kHz (Regions 1,

2 and 3) and 5 250 - 5 430 kHz (Region 1).

kHz

5 730 - 5 950

ALG/151/92 NOC

2 and 3).

The allocations in box 5 730 - 5 950 kHz (Regions 1,

kHz

7 100 - 7 300

ALG/151/93 MOD (WW)

Region 1	Region 2	Region 3	
7 100 - 7 300 (NOC)	7 100 - 7 300	7 100 - 7 300 (NOC)	
BROADCASTING	AMATEUR	BROADCASTING	
3509/212	BROADCASTING		

 $\overline{\text{Reasons}}$ : To make this band uniform for the broadcasting service in the three regions.

kHz 7 300 - 9 995

		Region 1	Region 2	Region 3
ALG/151/94	NOC	7 300 - 8 195	FIXED	
		8 195 - 8 815		
		8 815 - 8 965		
		8 965 – 9 040		
ALG/151/95	MOD	9 040 - 9-500 9 450	FIXED	
ALG/151/96	MOD	<u>9 450 - 9-775 9 900</u>	BROADCASTING	
ALG/151/97	MOD	9 900 - 9 995	FIXED	
			kHz 10 100 - 12 330	
ALG/151/98	NOC	10 100 - 11 175	FIXED	
ALG/151/99	NOC	11 175 - 11 275		
ALG/151/100	NOC	11 275 - 11 400		
ALG/151/101	MOD	11 400 - <del>11</del> -700 <u>11 650</u>	FIXED	
ALG/151/102	MOD	<u>11 650 - <del>11</del>-975 12 000</u>	BROADCASTING	
ALG/151/103	MOD	12 000 - 12 330	FIXED	
			kHz 13 360 - 14 000	
ALG/151/104	MOD	13 360 - 14-000 13 600	FIXED	
			3513/217	
ALG/151/105	MOD .	<u>13 600</u> - 14 000	FiXEÐ	·
		·	BROADCASTING	
·			kHz 15 100 - 17 900	
ALG/151/106	MOD	15 100 - <del>15-450</del> <u>15 700</u>	BROADCASTING	
ALG/151/107	MOD	15 700 - 15 762	FIXED	
	NOC	15 762 - 15 768	,	
	NOC	15 768 - 16 460		· · · · · · · · · · · · · · · · · · ·
	NOC	16 460 - 17 360		
ALG/151/108	MOD	17 360 - <del>1</del> 7-700 <u>17 500</u>	FIXED	
ALG/151/109	MOD	<u>17 500</u> - 17 900	BROADCASTING	

kHz 18 068 - 19 990

		<b>*</b>		
		Region 1	Region 2	Region 3
ALG/151/110	MOD	18 068 - <del>19</del> -990 <u>18 568</u>	FIXED	
			BROADCASTING	
ALG/151/111	MOD	18 568 - 18 800	FIXED	
ALG/151/112	MOD	18 800 - 19 000	FIXED	
			AMATEUR	
ALG/151/113	MOD	<u>19 900</u> - 19 990	FIXED	
<del>.</del>		Reasons: To implement th (International Amateur Ra	e recommendations of the Co	nference of the IARU
			kHz 21 870 - 22 000	
ALG/151/114	MOD	21 870 - <del>22</del> -000 <u>21 924</u>	AERONAUTICAL FIXED	
			AERONAUTICAL-MOBILE-(R)	
ALG/151/115	MOD	21 924 - 22 000	AERONAUTICAL-FIXED	
			AERONAUTICAL MOBILE (R)	
		Reasons: To allocate an in accordance with Recommaeronautical mobile (R) s	exclusive band to the aeron endation No. Aer2 - 5 of th ervice, Geneva, 1978.	autical mobile (R) service e WARC on the
			kHz 25 600 - 26 100	
ALG/151/116	MOD	25 600 - 26 100	BROADCASTING	
			<u>3817A</u>	
ALG/151/117	ADD	3817A In A allocated to the fixed and	Algeria, the band 25 600 - 2 I mobile except aeronautical	26 100 MHz is also I mobile service.
		Reasons : To meet existing	g requirements in Algeria.	
			MHz 41 - 47	
ALG/151/118	MOD	41 - 47		
		BROADCASTING		
		:	i	

Fixed 3525/228 3535/237

3534/236A 3536/238 3537/239 3538/240 3539/241 <u>3539A</u>

Mobile

ALG/151/119 ADD 3539A In Algeria, the band 41 - 47 MHz is allocated on a primary basis to the fixed and mobile except aeronautical mobile services.

MHz 47 - 68

		Region 1	Region 2	Region 3	
ALG/151/120	MOD	47 - 68			
	÷	BROADCASTING	50 - 54 (NOC)		
			AMATEUR		
			3542/244 3543/245 3544/246 3545/247		
ALG/151/121	MOD		54 - 68	54 - 68 (NOC)	
			F±XED 3525/228 3535/237	FIXED 3525/228 3528/231 3535/237	
			MOBILE	MOBILE	
			BROADCASTING	BROADCASTING	
		3536/238 3537/239 3539/241 3540/242	Fixed		
		3541/243 <u>3541A</u>	<u>Mobile</u>	3544/246	

ALG/151/122 ADD 3541A In Algeria, the band 47 - 68 MHz is also allocated to the fixed and mobile except aeronautical mobile services.

MHz 68 - 75.4

ALG/151/123 NOC

The allocations in boxes 68 - 75.4 MHz.

MHz 75.2 - 100

ALG/151/124 NOC

The allocations in boxes 75.2 - 100 MHz.

MHz 100 - 108

ALG/151/125 MOD (WW)

100 - 108	100 - 108			
MOBILE-except aeronautical mobile-{R}	BROADCASTING			
BROADCASTING				
3568/269 3569/270 3570/271 3568A	3554/255 3555/256 3557/258 3566/267 3571/272 <u>3568a</u>			

ALG/151/126 SUP 3568/269

ALG/151/127 SUP 3569/270

ALG/151/128 SUP 3570/271

#### Document No. 151-E Page 8

ALG/151/129 ADD

3568A The assignment and use of frequencies in this band shall be determined only within the framework of a new plan for Regions 1 and 3 (see Resolution No. ...).

Reasons: To make this band uniform for the broadcasting service in the three regions in accordance with Recommendation No. 14 of the RAC (Geneva, 1959).

MHz 174 - 216

ALG/151/130 MOD

Region 1	Region 2	Region 3	
174 - 216 (NOC)	174 - 216		
BROADCASTING	FIXED		
	MOBILE		
	BROADCASTING		
	<u>Fixed</u>		
3500 (00) 27 00 (000	Mobile		
3599/291 3600/292 3601/293 3602/294	3602/294 3603/295 3604/	296	

MHz 470 - 960

ALG/151/131 NOC

The allocations in boxes 470 - 960 MHz.

MHz 1 215 - 1 300

ALG/151/132 MOD

1 215 - 1 300	RADIOLOCATION			
	Amateur			
	3672/342	MOD 3673/343	3674/344	3675/345

ALG/151/133 MOD

3673/343 In Algeria, Belgium, France, Norway, the Netherlands, Portugal and Sweden, the band 1 215 - 1 300 MHz is also allocated to the radionavigation service.

 $\frac{\text{Reasons}}{\text{radiodetection}}$ : To meet civil aviation requirements in Algeria in terms of radiodetection for air traffic purposes.

#### ARTICLE N12/9

Sub-Section ##-E <u>II-F</u> - Procedure to be followed in cases where terrestrial stations are in the same frequency band as, and within the coordination area of, an existing earth station or one for which coordination has been effected or initiated

NOC 4369/570AA to 4372/570AD

ALG/151/134 ADD 4372A d) where appropriate, with respect to the probability of harmful interference caused to a terrestrial radiocommunication station by an earth station for which a frequency assignment already recorded in the Master Register is in conformity with No. 4587/638BM and if the corresponding frequency assignment to the space transmitting station has not, in fact, caused harmful interference to any frequency assignment in conformity with Nos. 4296/501 or 4370/570AB, as appropriate, previously recorded in the Master Register.

NOC 4373/570AE to 4395/570AX

ALG/151/135 ADD 4395A § 32. Finding unfavourable with respect to No. 4372A.

ALG/151/136 ADD 4395B (1) The notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board may be able to offer with a view to the satisfactory solution of the problem.

ALG/151/137 ADD 4395C (2) Should the notifying administration resubmit the notice with or without modification, the assignment shall be recorded in the Master Register. The date of receipt by the Board of the original notice shall be entered in Column 2d. The date of receipt by the Board of the resubmitted notice shall be indicated in the Remarks Column.

Reasons: An administration may plan to set up a terrestrial radiocommunication station without realizing that it is likely to be subject to interference from an existing earth station. In such cases it is the IFRB which is in the best position to draw the administration's attention to this situation.

# WORLD ADMINISTRATIVE **RADIO CONFERENCE**

(Geneva, 1979)

Document No. 152-E 14 September 1979 Original : English

PLENARY MEETING

# AUSTRALIA\*)

PROPOSALS FOR THE WORK OF THE CONFERENCE

APPENDIX 1B

#### Spa 2

Advance Publication Information to be furnished for a Satellite Network (see Article N11/9A)

Section A. General Instructions

Information shall be provided separately for each NOC Item 1 satellite network.

AUS/152/282

MOD

Item 2 Information to be furnished for each satellite network shall include general characteristics (Section B), and, as applicable, characteristics in the Earth-to-space direction (Section C), characteristics in the space-to-Earth direction (Section D), and characteristics for space-to-space relay (Section E.) In addition the Administration or group of Administrations submitting the advance information may provide as supplementary information, data for interference calculations for the purpose of intersystem coordination (Section F).

NOC Section B, Section C, Section D and Section E.

Section F. Supplementary information AUS/152/283 ADD

AUS/152/284 ADD Item 1 General

Supplementary information may be provided by Administrations who so desire. This information may be used as data for interference calculations associated with the advanced notification process. Individual parameters of this supplementary information may be modified either as a result of changes to system specification or as a result of the coordination process. The information may consist of part or all the data contained in Item 2 and Item 3 of this Section.



See also Documents Nos. 59, 102 and 143.

#### AUS/152/285 ADD Item 2 Earth-to-Space direction

For each Earth-to-space service area the following information may be provided:

- a) classification of emission, necessary bandwidth and modulation characteristics (including energy dispersal if employed) for each type of carrier transmitted
- earth station eirp for each type of carrier associated with each type and diameter of earth station antenna
- technical description and system parameters of command transmissions (except for coding data).

#### AUS/152/286 ADD Item 3 Space-to-Earth direction

For each space-to-Earth service area the following information may be provided:

- a) classification of emissions, necessary bandwidth and modulation characteristics, (including energy dispersal if employed) for each type of carrier
- b) satellite transmitter power to be delivered to the satellite transmit antenna for each type of carrier
- technical description and system parameters of beacon and telemetry emissions (except for coding data).

<u>Reason</u>: To simplify coordination between satellite networks.

#### Background

The procedure for advance publication of information on planned satellite systems is contained in Article Nll, Section 1 of the Radio Regulations. The information which is to be furnished for the advance publication of a planned satellite system is given in Appendix 1B.

Experience gained in using this advance information to evaluate the potential for interference between satellite networks sharing the same frequency bands indicates that the coordination process may, in certain cases, be simplified, if Administrations could provide information, in particular, relating to carrier parameters. It is considered that provision of this information would allow interference from specific carriers to be calculated, which may reduce the numbers of comments received at the advance notification stage. It is therefore proposed that Appendix 1B be augmented to allow Administrations to provide supplementary information, if they so desire.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 153-E 18 September 1979 Original : English

PLENARY MEETING

# China (People's Republic of)\*)

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER N1

Terminology

ARTICLE N1

#### Terms and Definitions

CHN/153/119 ADD 3018A Telecommand: The use of telecommunication for the transmission of signals to initiate, modify or terminate functions of the equipment at a distance.

<u>Reasons</u>: Like telemetering, telecommand also, as an important application of telecommunication, appears in Table of Frequency Allocations and should therefore be well defined.

CHN/153/120 ADD 3018B

Radiotelecommand: Telecommand by means of radio waves.

Reasons: Like radiotelemetering, radiotelecommand is another of the important applications of radiocommunication, and should therefore be well defined.

CHN/153/121 MOD

3097/84AY Space Telecommand: The-use-of-radiocommunication
Radiotelecommand for-the-transmission-of-signals-to-a-space-station-to-initiate,
modify-or-terminate-functions-of-the-equipment-on of a space object, including the space station.

Reasons: To simplify this definition with that of Radiotelecommand (3018B/16B).

CHN/153/122 MOD 3026/45 Radiodetermination: The determination of position, velocity and/or target characteristics, or the obtaining of information relating to position, these parameters, by means of the propagation properties of radio waves.

Reasons: It is not only position, but also velocity and target characteristics that can be determined by means of the propagation properties of radio waves.

CHN/153/123 MOD 3062/60A Radar beacon (racon): In the maritime radionavigation service, a receiver-transmitter device which, when triggered by a surface-search radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

 $\underline{\text{Reasons}}$ : The definition of Radar beacon (racon) may apply to more services than the sole maritime radionavigation service.



<sup>\*)</sup> See also Documents Nos. 56 and 78.

CHN/153/124 MOD 3111/84APC Radiodetermination-Satellite Service : A-radiocommunication The radiodetermination service involving that involves the use of

radiodetermination-and the use of one or more space stations.

Reasons: To simplify this definition with that of Radiodetermination Service (3049/46).

CHN/153/125 MOD 3137/88 Frequency Tolerance: The maximum permissible departure by the centre frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. The frequency tolerance is expressed in parts in 106 or in eyeles-per-second Hertz (Hz).

Reasons : To substitute Hertz (Hz) for cycles per second.

CHN/153/126 ADD 3136A Carrier Frequency: The rated operating frequency of a transmitter that can be modulated with various signals in order to perform specific functions.

Reasons: To make explicit the definition of Carrier Frequency.

#### CHAPTER NIV

#### ARTICLE N9/8

3961A iA) The preparation of the drafts of Technical Standards and CHN/153/127 ADD Internal Rules of Procedure necessary for the Board's examination of frequency assignments, and the submission of the drafts to a competent World Administrative Radio Conference to be considered and approved for implementation.

> Reasons: The Technical Standards and Internal Rules of Procedure for the Board's examination of frequency assignments are of general concern to the interests of all administrations in the registration of their frequency assignments. Therefore, the above-mentioned drafts should be submitted to a competent World Administrative Radio Conference for consideration and approval.

### ARTICLE N27

Special Rules Relating to Space Radiocommunication Services

Section III. Station Keeping of Space Stations NOC

6108/470VC - shall have the capability of maintaining their positions CHN/153/128 MOD within + ± 0.1 degree of the longitude of their nominal positions; but-efforts should-be-made-to-achieve-a-capability-of-maintaining-their-positions-at-least within-+-0.5-degree-of-the-longitude-of-their-nominal-positions;

6109/470VD - shall maintain their positions within + ± 0.1 degree of CHN/153/129 MOD longitude of their nominal positions irrespective of the cause of the variation, NOC 6110/470VE

CHN/153/130 ADD 6110A - need not comply with Nos. MOD 6108 or MOD 6109 for existing satellites or for satellites, the design of which is in a development stage. Such space stations shall maintain their positions within ± 0.5 degree of longitude of their nominal positions.

CHN/153/131 ADD 6110B - shall maintain their position within + 0.5 degree of longitude of their nominal positions irrespective of the cause of variation.

CHN/153/132 ADD 6110C - the existing requirements of the Radio Regulation should apply until ( ) to space stations on board geostationary satellites.

 $\overline{\text{Reasons}}$ : MOD 6108/470VC, MOD 6109/470VD and Nos. 6110A to 6110C take account of the conclusions of the CCIR SPM (see SPM Report, paragraph 5.3.5.2.6).

CHN/153/133

DRAFT RESOLUTION No. B

# Relating to the Establishment of a FH Broadcasting Frequency Assignment Plan

The World Administrative Radio Conference, Geneva, 1979

### considering

- a) that the long-distance propagation of the radio waves emitted by HF broadcasting stations causes interference of a world-wide nature;
- b) that the existing Article N15/10 of the Radio Regulations cannot fully ensure the rational utilization of the radio frequency spectrum;
- c) that consequent to a lack of necessary limits on the transmitting power and the number of frequencies used for HF broadcasting, harmful interference is becoming increasingly serious due to the power race and too many frequencies used for the same programme to the same reception area at the same time;
- d) that since this Conference /has made/ decisions on the extension of the exclusive bands for the broadcasting service, measures should be taken to ensure the rational utilization of the newly extended frequency bands as well as the existing bands;
- e) that the most effective measure to relieve the congestion in the HF broadcasting bands and to avoid using out-of-band broadcasting is to establish a world-wide frequency assignment plan;

### resolves

1. that the Administrative Council is requested to consider convening, not later than /1982/, a World Administrative Radio Conference to establish a HF broadcasting frequency assignment plan for the frequency bands allocated exclusively to the broadcasting service between 5 060 and 26 100 kHz and to modify Article N15/10 and the other relevant provisions of the Radio Regulations;

- 2. that in establishing the HF broadcasting frequency assignment plan, the following principles shall be adhered to:
  - i) all countries, big or small, have equal rights to submit frequency requirements for their HF broadcasting services according to their actual needs;
  - ii) the number of frequencies used for a given programme to the same reception area at the same time shall not exceed one in each band and total number shall not exceed  $\sqrt{3} 4\sqrt{7}$ ;
  - iii) the maximum power supplied to the antenna transmission line shall be limited to / / kW;
  - iv) while it is desirable to establish a long-term plan, a dynamic plan covering a period of one year or more may be established as the first step, and adjustments can be made later in accordance with the then agreed procedures;

#### invites

- 1. the CCIR to study the technical criteria for establishing the HF broadcasting frequency assignment plan:
- 2. the IFRB to make necessary preparations for the establishment of the HF broadcasting frequency assignment plan.

CHN/153/134

#### DRAFT RESOLUTION No. C

Relating to the Establishment of a Frequency Assignment Plan for the Fixed-Satellite Service in the Newly Extended and Reallocated Bands Below 10 GHz

The World Administrative Radio Conference, Geneva, 1979

### considering

that there is a tendency towards congestion and saturation in the bands 4/6 GHz allocated to the fixed-satellite service, and that if this tendency continues, this portion of the radio frequency spectrum will become progressively less useful to administrations for purposes for which it is indispensable;

#### realizing

that in order to have an effective and rational utilization of the frequency bands and orbits, which are limited resources, by all countries according to their needs on the basis of equality, the best solution is to establish a frequency assignment plan;

#### recognizing

that the present Conference /has made/ certain extension and reallocation in the bands allocated to the fixed-satellite service (space-to-Earth and Earth-to-space); and that it is important to ensure a rational utilization of these frequency bands;

## resolves

- 1. that after the present Conference, a World Administrative Radio Conference shall, as soon as possible (not later than  $\sqrt{1985}$ ), be convened to establish, as the first step, a frequency assignment plan on the frequency bands below 10 GHz newly extended for and reallocated to the fixed-satellite service (space-to-Earth and Earth-to-space);
- 2. that before the establishment of the plan, an Administration shall not operate in any portion of the frequency bands newly extended for and reallocated to the fixed-satellite service;

#### recommends

Administrations to study, as early as possible, this matter;

### invites

- 1. the CCIR to study the technical criteria for the establishment of the frequency assignment plan of the fixed-satellite service;
- 2. the IFRB to make necessary preparations for the establishment of the frequency assignment plan of the fixed-satellite service.

INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 154-E 20 September 1979 Original: French

# Liechtenstein (Principality of)

PROXY

The delegation of Liechtenstein wishes to give the delegation of Switzerland a mandate to exercise its right to vote at one or more meetings in accordance with Number 371 of the ITU Convention (Malaga-Torremolinos, 1973).



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 155-E 26 September 1979 Original: Spanish

PLENARY MEETING

### Republic of Bolivia

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE N7/5

Table of Frequency Allocations

kHz 90 - 110

BOL/155/1 MOD (WW)

	Allocation to Services				
	Region 1	Region 2 Region 3			
Ī	90 - 110	90 - 110	90 - 110		
	F <del>IXED</del>	RADIONAVIGATION	FIXED		
	MARITIME-MOBILE	Fixed	MARITIME-MOBILE		
	RADIONAVIGATION	Maritime-mobile	RADIONAVIGATION		
		3460/166			

Reasons: This band remains reserved exclusively for radionavigation in the three regions.

kHz 110 - 130

BOL/155/2 MOI

DD .	110 - 112 (NOC)	110 - 130	110 - 130
	FIXED	FIXED	FIXED
	MARITIME MOBILE  RADIONAVIGATION  3457/163 3461/167	MARITIME MOBILE 3452/158  MARITIME RADIONAVIGATION	MARITIME MOBILE RADIONAVIGATION
	3462/168 112 - 115 (NOC)	Radiolocation	
	RADIONAVIGATION 3456/162 3457/163		
	115 - 126 (NOC)		
	MARITIME MOBILE		
	RADIONAVIGATION		ARCHIVES
	3456/162 3457/163 3461/167 3462/168 3463/169		U.I.T. GENÈVE

kHz 110 - 130 (cont.)

	İ	Region l	Region 2	Region 3
BOL/155/3	MOD	126 - 129		
		RADIONAVIGATION 3456/162 <del>3457/163</del>		
BOL/155/4	MOD	129 - 130		
		FIXED		
		MARITIME MOBILE		•
		RADIONAVIGATION 3456/162		·
		3 <del>457/163</del> 3461/167 3462/168	3458/164 3461/167	3461/167 3462/168 <del>3464/170</del>

BOL/155/5 MOD

3461/167 Only classes Al or Fl, A4 or F4 emissions are authorized in the band 90  $\pm$ 10 - 160 kHz for stations of the fixed service and in the band 110 - 160 kHz for stations of the maritime mobile service. Exceptionally, class A7J emissions are also authorized in-the-band-110 - 160-kHz for stations of the maritime mobile service.

kHz 130 - 160

NOC	130 - 150	130 - 150
	MARITIME MOBILE 3465/172 Fixed	FIXED  MARITIME MOBILE  3461/167
- NOC	150 - 160 MARITIME MOBILE 3461/167 3467/174	150 160
	BROADCASTING	MARITIME MOBILE
. }	3468/175	3461/167

kHz 160 - 285

		Region 1	Region 2	Region 3
BOL/155/6	MOD	160 - 255 (NOC)	160 - <del>200</del> - <u>190</u>	160 - 200 (NOC)
		BROADCASTING	FIXED	FIXED
		3469/176	3472/179	Aeronautical radionavigation
BOL/155/7	MOD	3409/ 110	190 - 285	1 autonavigauton
- 72271		255 - 285 (NOC)		200 - 285 (NOC)
		MARITIME MOBILE 3467/174	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION
		BROADCASTING	Aeronautical mobile	Aeronautical mobile
	a de la companya de l	AERONAUTICAL RADIONAVIGATION		
	e de la companya de l	3469/176 3470/177 · 3471/178		

 $\underline{\text{Reasons}}$ : The growing requirements of the aeronautical radionavigation service call for a slight increase in this band.

kHz 285 - 405

BOL/155/8	MOD	285 - <del>315</del> - <u>310</u>	MARITIME RADIONAVIGATION (Radiobeacons)
			Aeronautical-radionavigation
BOL/155/9	MOD	<u>310</u> - 405	AERONAUTICAL RADIONAVIGATION
			Aeronautical mobile

Reasons: The growing requirements of the aeronautical radionavigation service call for an increase in this band.

kHz 405 - 510

BOL/155/10 NOC

In accordance with the 1976 Radio Regulations

kHz 510 - 1 605

BOL/155/11	MOD	510 - 525 (NOC)	510 - 525	510 - 525 (NOC)
		MARITIME MOBILE	MOBILE	MARITIME MOBILE
		Aeronautical radionavigation	/AERONAUTI€AL RADIONAVIGATION/	Aeronautical mobile
		radionavigation	·	Land mobile
	ļ		Aeronautical radio- navigation 3481/188	3482/189
BOL/155/12	MOD (WW)	525 - 535	BROADCASTING	
BOL/155/13	NOC	535 - 1 605	BROADCASTING	

Reasons : Greater broadcasting band requirements.

kHz1 605 - 2 000

Region l	Region 2	Region 3
1 605 <b>-</b> <del>2-000</del> <u>1 800</u>	1 605 - 1 800	1 605 - 1 800 (NOC)
FIXED	BROADCASTING	FIXED
Aeronautical mobile		MOBILE
3495/192 3487/193 3488/104 3480/105		
3490/195A	Ml	3491/197
1 800 - 2 000	AMATEUR	
	F±XEĐ	
	MOBILE	:
	RADIONAVIGATION	;
	1 605 - 2-000 <u>1 800</u> FIXED  Aeronautical mobile  3495/192 3487/193 3488/194 3489/195 3490/195A	1 605 - 2-000 <u>1 800</u> 1 605 - 1 800  FIXED BROADCASTING  Aeronautical mobile  3495/192 3487/193 3488/194 3489/195 3490/195A M1  1 800 - 2 000 AMATEUR  FIXED  MOBILE

Reasons Ml : Need for broadcasting frequencies.

Reasons M2: Maximum power 100 Watts PEP

This band will be allocated for experimentation and research.

M2

kHz

			2 000 - 2 194
BOL/155/16	MOD	2 000 - 2 045	2 000 - 2 065 (Noc)
		FIXED	FIXED
		MOBILE	MOBILE
		Mobile except aero- nautical mobile	
BOL/155/17	MOD	2 045 - 2 065	
		METEOROLOGICAL AIDS	
	,	FIXED	
		MOBILE except-aero- nautical-mobile	
		3487/193 3490/195A	
		2 065 - 2 170 (NOC)	2 065 - 2 170 (NOC)
	·	FIXED	MARITIME MOBILE
		MOBILE except aero- nautical mobile (R)	·
	_	3487/193 3490/195A	3493/200
BOL/155/18	MOD	2 170 - 2 194	MOBILE (distress and-ealling)
	_		MOD 3494/201
BOL/155/19	MOD	3494/201 The calling frequency for rad	frequency 2 182 kHz is the international distress and diotelephony. The conditions for the use of the band

calling frequency for radiotelephony. The condition 2 170 - 2 194 kHz are prescribed in Article N35/35. The conditions for the use of the band

kHz 2 194 - 2 850

	Region l	Region 2	Región 3
,	2 194 - 2 300 (NOC)	2 194 - 2 300 (NOC)	
	FIXED	FIXED	
	MOBILE except aero- nautical mobile (R)	MOBILE	
	3487/193 3490/195A		
BOL/155/20 MOI	2 300 - 2 498	2 300 <b>- 2-495</b> <u>2 498</u>	
	FIXED	FIXED	
	MOBILE except aeronautical mobile (R)	MOBILE	·
		BROADCASTING	
	BROADCASTING 3496/202		
	3487/193 3490/195A		
BOL/155/21 MOI (ww)		STANDARD FREQUENCY	
( ww )		3497/203 <b>3</b> 49 <b>8/203A</b>	
BOL/155/22 MOI		FIXED	
· (ww)		MOBILE	
BOL/155/23 MOI (ww)		BROADCASTING	
(***/			М3

 $\underline{\text{Reasons M3}}: \text{Need to harmonize}$  and extend the broadcasting bands in the three regions.

kHz 2 850 - 3 500

		Region 1	Region 2	Region 3
	NOC	2 850 - 3 025	AERONAUTICAL MOBILE (R)	
	NOC	3 025 - 3 155	AERONAUTICAL MOBILE (OR)	
BOL/155/24	МОД	3 155 - 3 200	FIXED	
			MOBILE-except-aeronautics	al-mobile-(R)
BOL/155/25	MOD	3 200 - 3 400	BROADCASTING	
			·	· M3
BOL/155/26	MOD	3 400 - 3 500	AERONAUTICAL MOBILE	

kHz 3 500 - 4 000

-BOL/155/27	MOD (WW)	3 500 - 3 800	AMATEUR	
	("")			МА
BOL/155/28	MOD	3 800 - 3 900	3 800 - 4 000	3 800 - 3 950
	:	FIXED	FIXED	AERONAUTICAL MOBILE
		AERONAUTICAL MOBILE (R)		BROADCASTING
		LAND MOBILE		
BOL/155/29	MOD	3 900 - 3 950		
		AERONAUTICAL MOBILE		
	NOC	3 950 - 4 000	·	3 950 - 4.000
		FIXED		FIXED
		BROADCASTING		BROADCASTING
	]	М4		М4

Reasons MA: To make the amateur bands uniform in the three regions.

Reasons  $M^{\downarrow}_4$ : Broadcasting emissions should be on a local basis with reduced power for satisfactory service and should not extend beyond the borders of the country in question.

kliz 4 000 - 4 850

	,	Region 1	Region 2	Region 3
BOL/155/30	MOD	4 000 - 4 063	FIXED	
	:		Land mobile	
				М5
	NOC	4 063 - 4 438	MARITIME MOBILE	
BOL/155/31	MOD (WW)	4 438 - 4 650	FIXED	
	( ww )		Land mobile	
	į			. М5
BOL/155/32	MOD	4 650 - 4 750	AERONAUTICAL MOBILE (R)	
BOL/155/33	MOD	4 750 - 4 850	BROADCASTING	
	(ww)			м4

Reasons M5: The inclusion of the land mobile service takes account of growing requirements for communications by land mobile units which must cover long distances between two or more base stations with which they must communicate, particularly in large countries.

kHz 4 850 - 5 480

BOL/155/34	MOD	4 850 - 4 995	FIXED	
	į		LAND MOBILE	:
			BROADCASTING 3496/202	
BOL/155/35	MOD	4 995 - 5 005	STANDARD FREQUENCY	
			3498/203A 3506/210	,
BOL/155/36	MOD	5 005 - 5 450	FIXED	
	(WM)	•	LAND MOBILE	
BOL/155/37	MOD	5 450 - 5 480	5 450 - 5 480 (NOC)	5 450 - 5 480
		FIXED	AERONAUTICAL MOBILE (R)	FIXED
		AERONAUTICAL MOBILE		AERONAUTICAL MOBILE (OR)
		LAND MOBILE		LAND MOBILE

kHz 5 480 - 7 100

		Region l	Region 2	Region 3
	NOC	.5 480 <b>-</b> 5 680	AERONAUTICAL MOBILE (R)	
	NOC	5 680 - 5 730	AERONAUTICAL MOBILE (OR)	
BOL/155/38	MOĐ	5 730 <b>-</b> 5 950	FIXED	
			Land mobile	
BOL/155/39	MOD	5 950 <b>- 6-200</b> <u>6 300</u>	BROADCASTING	
BOL/155/40	MOD	<u>6 300</u> <b>-</b> 6 525	MARITIME MOBILE	
	NOC	6 525 - 6 685	AERONAUTICAL MOBILE (R)	
	NOC	6 685 <b>-</b> 6 765	AERONAUTICAL MOBILE (OR)	
BOL/155/41	MOD	6 765 - 7 000	FIXED	
			Land mobile	
	NOC	7 000 - 7 100	AMATEUR	
			AMATEUR-SATELLITE	

kHz 7 100 - 9 995

BOL/155/42	MOD (WW)	7 100 - 7 300	AMATEUR	
BOL/155/43	MOD	7 300 - 7 500	BROADCASTING	
				М3
BOL/155/44	MOD	7 500 - 8 595	FIXED	
			Land mobile	
				M5
BOL/155/45	MOD	8 595 - 8 815	MARITIME MOBILE	
	NOC	8 815 - 8 965	AERONAUTICAL MOBILE (R)	
	NOC	8 965 - 9 040	AERONAUTICAL MOBILE (OR)	
BOL/155/46	MOD	9 040 - 9 450	FIXED .	
			Land mobile	
				M5
BOL/155/47	MOD	9 450 - 9 995	BROADCASTING	
			·	м3

kHz 9 995 - 12 330

		Region 1	Region 2	Region 3
BOL/155/48	MOD	9 995 - 10 005	STANDARD FREQUENCY	
			3511/214	
	NOC	10 005 - 10 100	AERONAUTICAL MOBILE (R)	
			3495/201A	
BOL/155/49	MOD	10 100 - 11 175	FIXED	
			Land mobile	
				M5
	NOC	11 175 - 11 275	AERONAUTICAL MOBILE (OR)	
	NOC	11 275 - 11 400	AERONAUTICAL MOBILE (R)	
BOL/155/50	MOD	11 400 - 11 650	FIXED	
			Land mobile	145
			3512/216	M5
BOL/155/51	MOD	11 650 - 12 100	BROADCASTING	
			·	М3
BOL/155/52	MOD	12 100 - 12 330	FIXED	
			Land mobile	
				M5

BOL/155/53 MOD

3512/216 In the USSR, the band 11  $400 - \frac{1}{12} - \frac{1}{450} \frac{11}{10} \frac{650}{10}$  kHz is also allocated to the aeronautical mobile (OR) service, which should not cause interference to the fixed and land mobile services in other countries.

kHz 12 330 - 14 990

		Region 1	Region 2	Region 3
				3,111
BOL/155/54	MOD	12 330 - 13 200	MARITIME MOBILE	
			3510/213	
	NOC	13 200 - 13 260	AERONAUTICAL MOBILE (OR)	
	NOC	13 260 - 13 360	AERONAUTICAL MOBILE (R)	
BOL/155/55	MOD	13 360 - 14 000	FIXED	
			Land mobile	
				М5
			3513/217	
	NOC	14 000 - 14 250	AMATEUR	
			AMATEUR-SATELLITE	
BOL/155/56	MOD	14 250 - 14 400	AMATEUR	
				MAl
BOL/155/57	MOD	14 400 - 14 990	FIXED	
		-	Land mobile	
				. м5

 $\underline{\text{Reasons MAl}}$  : There is greater demand in the amateur service, which makes it necessary to extend the 20 m band.

In the band 14 250 - 14 300 kHz, operation should be restricted to CW and RTTY.

kHz 14 990 - 17 900

		Region 1	Region 2 Region 3	
BOL/155/58	MOD	14 990 - 15 010	STANDARD FREQUENCY	
			3495/201A 3498/203A 3519/219	
	NOC	15 010 - 15 100	AERONAUTICAL MOPILE (OR)	
BOL/155/59	MOD	15 100 - 15 600	BROADCASTING	
				М3
BOL/155/60	MOD	15 600 - 16 460	FIXED	
ł			Land mobile	
вог/155/61	MOD	16 460 - 17 300	MARITIME MOBILE	
			3510/213	
BOL/155/62	MOD	17 300 - 17 650	FIXED	
			Land mobile	
				М5
вог/155/63	MOD	17 650 - 17 900	BROADCASTING .	
			·	М3

kHz 17 900 - 21 750

		<b></b>		
	;	Region 1	Region 2	Region 3
	NOC	17 900 - 17 970	AERONAUTICAL MOBILE (R)	
	NOC	17 970 - 18 030	AERONAUTICAL MOBILE (OR)	
	NOC	18 030 - 18 052	FIXED	
	NOC	18 052 - 18 068	FIXED	
			Space research	
BOL/155/64	MOD	18 068 - 19 990	FIXED	
		·	Land mobile	
BOL/155/65	MOD	19 990 - 20 010	STANDARD FREQUENCY	
			3495/201A 3498/203A 3516	/220
BOL/155/66	MOD	20 010 - 21 000	FIXED	
			Land mobile	
BOL/155/67	MOD	21 000 <b>- <del>21</del>-450</b> <u>21 500</u>	AMATEUR	
			AMATEUR-SATELLITE	
				MA2
BOL/155/68	MOD	21 500 - 21 750	BROADCASTING	!

 $\frac{\text{Reasons MA2}}{\text{an extension}}$ : There is greater demand in the amateur service, which is why

kHz 21 750 - 25 010

		· Region l	Region 2	Region 3
BOL <b>/</b> 155/69	MOD	21 750 - 21 850	FIXEÐ	
			BROADCASTING	M3R
BOL/155/70	MOD	21 850 - 21 870	AERONAUTICAL FIXED	
			RADIOASTRONOMY	
BOL/155/71	MOD	21 870 - 22 000	AERONAUTICAL FIXED	
			AERONAUTICAL-MOBILE-(R)	
BOL/155/72	MOD	22 000 <b>-</b> 22 500 ·	MARITIME MOBILE	
BOL <b>/</b> 155/73	MOD	22 500 - 23 200	FIXED	
			Land mobile	
	NOC	23 200 - 23 350	AERONAUTICAL FIXED	
			AERONAUTICAL MOBILE (OR)	
BOL/155/74	MOD	23 350 - 24 990	FIXED	
			LAND MOBILE	
			3518/222 <del>3519/222A</del>	
BOL/155/75	MOD	24 990 - 25 010	STANDARD FREQUENCY	
			3498/203A 3520/223	

 $\underline{\text{Reasons M3R}}$  : Need to extend the broadcasting bands.

kHz 26 100 - 27 500

		Region 1	Region 2	Region 3
BOL/155/76	MOD	26 100 - 27 500	FIXED	
			MOBILE except aeronautica	l mobile
* · ·			3522 <b>/</b> 225 <b>3523/226</b> .	
			MHz 47 - 68	
BOL/155/77	MOD (ww)	47 - 50	AMATEUR	
BOL/155/78	MOD (WW)	50 - 60	BROADCASTING	
BOL/155/79	MOD (WW)	60 - 68	FIXED	
			MOBILE	

Reasons: To make the services uniform and allow for research and experimentation in the amateur service.

MHz 75.4 - 100

BOL/155/80 MOD

75.4 - 88

FIXED

MOBILE

BROADCASTING

88 - 100 (NOC)

BROADCASTING

MHz 144 - 148

NOC 144 - 146 AMATEUR

AMATEUR-SATELLITE

BOL/155/81 MOD 146 - 148 AMATEUR

Reasons : To make the amateur service bands uniform in the three regions.

MHz 174 - 235

		Region 2	Region 3
BOL <b>/</b> 155/82	MOD	174 - 216	
		FIXED	
		MOBILE	
		BROADCASTING	
		3692 <b>/</b> 294 3603 <b>/</b> 295 3604 <b>/</b> 3	296
BOL/155/83	MOD	216 - 220	
		FIXED	
		MOBILE	
		RADIOLOCATION	
BOL/155/84	MOD	220 - 225	
		AMATEUR	•
		RADIOLOCATION	
BOL/155/85	MOD	225 - 235	
		FIXED	
		MOBILE	

MHz 420 - 470

		· Region 1	Region 2	Region 3
BOL/155/86	MOD (WW)	420 - 430	FIXED	
			MOBILE	
BOL <b>/</b> 155/87	MOD (WW)	430 - 440	AMATEUR	
BOL/155/88	MOD (WW)	440 - 450	FIXED	
			MOBILE except aeronautical	l mobile ·
BOL/155/89	MOD	450 - 470	FIXED	
			MOBILE	
			Meteorological-satellite	

Reasons: Same as 47 - 50 MHz.

## INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 156-E 24 September 1979 Original : English French

PLENARY MEETING

## People's Socialist Republic of Albania

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda: 2.1

#### INTRODUCTION

Proceeding from the legitimate right each country has to ask for amendments or supplements, which belong to it and which are in conformity with the spirit of international collaboration in the field of radiocommunication, the General Directory of Posts and Telecommunications of the People's Socialist Republic of Albania, proposes :

- Considering that the footnotes no longer reflect the use in Albania of the bands and frequencies concerned, the name of Albania should be withdrawn from the texts of the footnotes of the Table of Frequency Allocations.
- Due to the fact that the Albanian Radio-Television uses 81 88 MHz band for its national television programmes, the following note should be included: "In Albania, the band 81 - 88 MHz, has been assigned for broadcasting service" (television).
- To ever better meet the increasing demands for some kinds of services, such as broadcasting, fixed service, mobile service, we propose the modification of several assigned frequency bands according to the footnotes of the tables on the respective frequency bands, included in this proposal.

The above-mentioned proposals have been formulated according to the Regulations of the International Union of Telecommunications and are expressed as follows:

### ARTICLE N7/5

(The allocation of frequency bands from 10 kHz up to 275 GHz)

The name of Albania should be withdrawn from the texts of the footnotes of the Table of Frequency Allocations:

ALB/156/1	MOD	3453/159	14 - 19.95 kHz, 19.95 - 20.05 kHz, 20.05 - 70 kHz	
ALB/156/2	MOD	3457/163	72 - 84 kHz, 84 - 86 kHz, 86 - 90 kHz, 90 - 110 kHz, 110 - 112 kHz 112 - 115 kHz, 115 - 126 kHz, 126 - 129 kHz, 129 - 130 kHz, 130 - 150 kHz	' 🤊
ALB/156/3	MOD	3466/173	130 - 150 kHz	
ALB/156/4	MOD	3524/227	27.5 - 150 MHz	
ALB/156/5	MOD	3541/243	47 - 68 MHz	
ALB/156/6	MOD	3548/250	68 - 74.8 MHz, 75.2 - 87.5 MHz	)
ALB/156/7	MOD	3550/252	68 - 74.8 MHz, 75.2 - 87.5 MHz	

ALB/156/8	MOD	3611/303	223 - 235 MHz
ALB/156/9	MOD	3627/313	400.05 - 400.15 MHz, 400.15 - 401 MHz
ALB/156/10	MOD	3633 <b>/</b> 316	401 - 402 MHz, 402 - 403 MHz, 403 - 406 MHz
ALB/156/11	MOD	3659/331	606 - 790 MHz, 790 - 890 MHz, 890 - 942 MHz, 942 - 960 MHz
ALB/156/12	MOD	3672/342	1 215 - 1 300 MHz
ALB/156/13	MOD	3678/348	1 300 - 1 350 MHz
ALB/156/14	MOD	3679/349	1 350 - 1 400 MHz
ALB/156/15	MOD	3683/350C	1 525 - 1 535 MHz ·
ALB/156/16	MOD	3685/352	1 535 - 1 542.5 MHz, 1 542.5 - 1 543.5 MHz, 1 543.5 - 1 558.5 MHz, 1 558.5 - 1 636.5 MHz, 1 636.5 - 1 644 MHz, 1 644 - 1 645 MHz, 1 645 - 1 660 MHz
ALB/156/17	MOD	3697/354	1 660 - 1 670 MHz, 1 670 - 1 690 MHz, 3 100 - 3 300 MHz, 4 700 - 4 900 MHz, 5 725 - 5 850 MHz, 8 500 - 8 750 MHz
ALB/156/18	MOD	3709/357	2 300 - 2 450 MHz
ALB/156/19	MOD	3731/368	3 100 - 3 300 MHz
ALB/156/20	MOD	3733/370	3 300 - 3 400 MHz
ALB/156/21	MOD	3745/382	4 200 - 4 400 MHz
ALB/156/22	MOD	3751/384	5 250 - 5 255 MHz, 5 255 - 5 350 MHz
ALB/156/23	MOD	3754/386	5 470 - 5 650 MHz
ALB/156/24	MOD	3759/390	5 725 - 5 850 MHz
ALB/156/25	MOD	3772/395	8 500 - 8 750 MHz
ALB/156/26	MOD	3775/398	8 850 - 9 000 MHz, 9 200 - 9 300 MHz, 9 500 - 9 800 MHz
ALB/156/27	MOD	3777/400	9 800 - 10 000 MHz
ALB/156/28	MOD	3792/407	13.25 - 13.4 GHz, 13.4 - 14 GHz, 14 - 14.3 GHz, 15.4 - 15.7 GHz, 15.7 - 17.7 GHz, 23.6 - 24 GHz, 24.05 - 24.25 GHz, 33.4 - 34.2 GHz, 34.2 - 35.2 GHz, 35.2 - 36 GHz
ALB/156/29	MOD	3798/409	13.4 - 14.6 GHz

 $\underline{\text{Reasons}}$ : The footnotes no longer reflect the use in Albania of the bands and frequencies concerned.

MHz 27.5 - 28

ALB/156/30 MOD

Region 1

27.5 - 28

METEOROLOGY AIDS

FIXED

MOBILE

3524/227

Reasons: Increasing demands for fixed and mobile service.

MHz 41 - 47

ALB/156/31 MOD

41 - 47

BROADCASTING

Fixed 3525/228 3535/237.

Mobile

FIXED

MOBILE

3534/2364 3536/238 3537/239 3538/240 3539/241

Reasons: To benefit the fixed and mobile service.

MHz 47 - 68

ALB/156/32 MOD

47 - 68

BROADCASTING

FIXED

MOBILE

3536/238 3537/239 3539/241 3540/242

3541/243

Reasons: Increasing demands for fixed and mobile service.

Page 4

ALB/156/33 ADD 3548A

In Albania the band 81 - 88 MHz has been allocated for broadcasting service (television).

> MHz100 - 108

ALB/156/34 MOD Region 1

100 - 108

MOBILE-except-mobile aeronautics-service-(R)

BROADCASTING

<del>3568/269</del> 3569/270

3570/271

Reasons: Increasing demands for broadcasting in Region 1.

MHz216 - 230

ALB/156/35 MOD 216 - 223

**AERONAUTICAL** RADIONAVIGATION

BROADCASTING

<del>3605/297</del> <del>3606/298</del> <del>3607/299</del> 3608/300 3609/301

ALB/156/36 MOD 223 - <del>235</del> <u>230</u>

AERONAUTICAL RADIONAVIGATION

BROADCASTING

Fixed

Mobile

3608/300 3607/299 3609/301 3610/302 3611/303 3612/304 3613/305

Reasons: Increasing demands for broadcasting (television) in Region 1.

# INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 157-E

22 November 1979

Original: English

PLENARY MEETING

# Report by the Secretary\_General

THE IDENTIFICATION OF STATIONS

The following changes should be made:

# ANNEX 1 to Part II

# TABLE OF BLOCKS OF SELECTIVE CALL NUMBERS FOR SHIP STATIONS AND SELECTIVE CALL NUMBERS FOR GROUPS OF SHIP STATIONS SUPPLIED TO ADMINISTRATIONS

(Nos. 749A Mar and 783H Mar of the Radio Regulations, Edition of 1976)

Page 22: Add 19400-19499 Ghana

22700-22899 Iraq (Republic of)

26000-26999 Sweden

Page 23: Add 62000-62099 Jordan (Hachemite Kingdom of)

ANNEX 2 to Part II

# TABLE OF BLOCKS OF COAST STATION IDENTIFICATION NUMBERS SUPPLIED TO ADMINISTRATIONS

(Nos. 749A Mar and 783H Mar of the Radio Regulations, Edition of 1976).

Page: 24: Add 1920-1929 Ghana

M. MILI Secretary-General



INTERNATIONAL TELECOMMUNICATION UNION

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 157-E 24 September 1979 Original : English

PLENARY MEETING

Report by the Secretary-General
THE IDENTIFICATION OF STATIONS

- 1. Resolution No. 8 of the WARC-59 relates to the Formation of Call Signs and the Allocation of New International Series.
- While with careful management, consultation and collaboration of the Members it has not been necessary for the Secretary-General to invoke the application of Resolves 5 and 6 of Resolution No. 8, the present situation with respect to the identification of stations and, in particular to call signs, has led the Secretary-General to esteem this Report necessary.

M. MILI
Secretary-General

Annex: 1



#### ANNEX

Report by the Secretary-General on

# The Identification of Stations

# Article N23/19 of the Radio Regulations

## Part I. Call Signs

## 1. Introduction

- 1.1 The Radio Regulations prescribe that "transmissions without identification or with false identification are prohibited" (RR 5331/735) This requirement is further amplified in Radio Regulation:
- A station shall be identified by a call sign or other recognized means of identification. Such recognized means of identification may be one or more of the following necessary for complete identification: name of station, location of station, operating agency, official registration mark, flight identification number, selective call number or signal, selective call identification number or signal, characteristic signal, characteristic of emission or other clearly distinguishing features readily recognized internationally.
- 1.2 The possibility of using either of the two kinds of station identification is furthermore restated in the provisions governing the allocation of international series and assignment of call signs:
- All stations open to the international public correspondence service, all amateur stations, and other stations which are capable of causing harmful interference beyond the boundaries of the country to which they belong, shall have call signs from the international series allocated to each country as given in the Table of Allocation of Call Sign Series in Appendix C/No. 747.
- 5341/744 However, it is not compulsory to assign call signs from the international series to stations which are easily identified by other means (see No. 5333/737) and whose signals of identification or characteristics of emission are published in international documents.

<sup>1)</sup> In Radio Regulation 5331.1/735.1 Spa this provision is qualified:

<sup>&</sup>quot;In the present state of the technique, it is recognized nevertheless that the transmission of identifying signals for certain radio systems (e.g. radiodetermination, radio relay systems and space systems) is not always possible."

- 1.3 From the above texts and from an examination of other parts of Article N23/19 it will be seen that call signs are the main form 2) of station identification which is regulated in an explicit and detailed way in the Radio Regulations.
- 1.4 Identification of radio stations is a necessity to meet the legal requirements affecting other provisions of the International Telecommunication Convention. With regard to the use of space, it has been included in the considerations of the Outer Space Committee of the United Nations elaborating principles of conduct by States, i.e. direct satellite broadcasting.
- 1.5 Annex 7 to the Convention on International Civil Aviation provides that the nationality marks of aircraft shall be selected from the international call sign series allocated to the country of registration.
- 1.6 In as far as maritime trade is concerned, various UN and other international bodies have carried out studies in the field of the facilitation of international trade procedures. In February, 1978, the ECE Working Party on the Facilitation of International Trade Procedures adopted a recommendation which States, among other points, that:

"The Radio Call Signs, published by the International Telecommunication Union in its annual List of Ships'Stations, should be used as a code in information interchange between participants in international trade, including shipowners and port authorities, and should be used, as appropriate, in relevant documents, in automatic data processing and transmission, and - if necessary - in any media on board ship, in ports, in sailing lists and advertisements, and in all other cases when a visible link or conversion between the plain language name of the ship and its coded representation is required".

- 1.7 Thus, there are important reasons for close attention to be given to the provisions on international call sign series.
- 1.8 However, if present practices continue, the international call sign series (i.e. groups of letters, or letters and digits from which call signs are formed and which are allocated to countries or geographical areas) are likely to be exhausted in a few years' time unless the already allocated series are used in an administratively more efficient way.
- 1.9 The present report examines the action which might be taken in order to avoid such a possibility of exhaustion of call sign series.

The Radio Regulations also contain provisions dealing with selective call numbers or signals (RR 5344/749A and RR 5390/783A Mar2 to RR 5401/783J Mar).

# 2. Background information

- 2.1 The international call sign series date back to the International Radio Telegraph Conference, Washington, 1927, when a table of such call sign series first appeared in Article 14 of the International Radio Telegraph Convention.
- 2.2 The fact that Morse code telegraphy was the predominant means of radiocommunication at the time almost certainly played an important part in the way in which the call sign series was formed and also in how individual call signs were to be derived from these series.
- 2.3 In the Morse alphabet, the letters are shorter than the digits and therefore for a given code space, the number of combinations that can be obtained by using letters is substantially greater than that obtained by using digits.
- Furthermore, for one position of letters there are 26 possibilities, whereas there are only ten possibilities if a digit is used. For two positions, the number of possibilities are 676 and 100, respectively. The difference between the possibilities that could be obtained from using letters instead of digits becomes even greater in the case of three positions for which the quantities are 17576 and 1000, respectively. (See Annex A to Part I.)
- 2.5 The International Radio Conference, Atlantic City, 1947, extended the original call sign series composed of three-letter combinations by the use of groups of one digit and two letters (e.g. 4UA to 4UZ for the United Nations).
- 2.6 After that, the Ordinary Administrative Radio Conference, Geneva, 1959, made provision in its Resolution No. 8 for the further extension of the series by the use of groups consisting of one letter, one digit and one letter (e.g. C7A to C7Z for the World Meteorological Organisation) if the then current system of forming call sign series ceased to be adequate to meet all the requirements submitted before the next Administrative Radio Conference.
- This occured in 1968  $^{3}$ ) even though the General Secretariat had, when provisionally allocating call sign series in accordance with Radio Regulation 5343/749  $^{4}$ ), urged administrations, in conformity with the provisions of Resolution No. 8, to limit their requests to an absolute minimum.
- 2.8 On the other hand, with careful management, consultation and collaboration of Members especially those seeking new allocations during the past few years, it has not been necessary for the General Secretariat to invoke the application of Resolves 5 and 6 of Resolution No. 8.

<sup>7)</sup> This fact was brought to the notice of administrations in Notification No. 1011 and Operational Bulletin No. 34. At the same time an appeal was made to administrations to review the call sign assignments they had made from their allocations, with a view to releasing any series possible and placing them at the disposal of the Union i.e. for reallocation to other Members. Only very few administrations responded to the appeal.

中) See Annex B for the duties of the Secretary-General relating to the use of call signs.

- When considering call sign series it is important to know that with only one exception 5) all countries have been allocated whole series. In other words, the first two characters constitute nationality identification, and the third character of the series is a letter ranging from A to Z (i.e. xxA to xxZ).
- 2.10 In this way, with the exception of the case mentioned above, the country or area to which the call sign series has been allocated is identified from the first two characters (two letters, a digit and a letter, or a letter and a digit), while the last character is available for call sign formation in accordance with Section III of Article N 23/19 of the Radio Regulations; however, only the first character (a letter) is needed for identification when the 26 series obtainable from the first character have been allocated to a single country.
- 3. <u>Practical considerations concerning the use of the international call sign series</u>

Before considering any action which might be taken in the future with a view to avoiding the exhaustion of the international call sign series, it is necessary to consider various practical aspects of the matter.

- a) Firstly, reasons why it would be difficult to change the present system.
- 3.1 The widespread use of call signs would make it very difficult to either replace the present call sign system by a different one <sup>6</sup>) or to substantially modify the present system, especially as call signs are used in an operational context. It would also be difficult to retrain staff throughout the world. Similarly, it would be very difficult to amend all the documentation, files, records, etc. which contain station identification indications in order to make the required changes.
- There is no way in which the international call sign series can be further extended without this in some way affecting the Provisions on the Formation of Call Signs given in Section III of Article N 23/19. The reason for this is that the first two characters of the international call sign series, which indicate the country or area to which the call sign series is allocated, now consist of either two letters, a digit and a letter or a letter and a digit. The only remaining combination would be to use two digits, but this could cause confusion especially as Maritime Mobile Service identities are designed with a view to the use of numerical country codes (i.e. codes which can be dialled on current telephone sets or telex machines).
- b) Secondly, reasons why the present system still has considerable potential.
- The series 3DA to 3DZ which is divided as follows:

  3DA to 3DM Swaziland (Kingdom of)

  3DN to 3DZ Fiji
- 6) This refers to a system intended to replace call signs and not to those intended mainly for use in automatic systems such as the Maritime Mobile Service identities.

- The possibilities of the provisions on the Formation of Call Signs (Section III of Article N23/19) do not appear to be fully utilized as a substantial number of call signs can be obtained for most radio services from a single call sign series (i.e. xxA xxZ). The table given in Annex A lists the number of possibilities per call sign series; the actual number of call signs which could be assigned would be less due to the need to observe Radio Regulations 5353/758 and 5354/759.
- The call sign series which were originally allocated for use in geographical areas by stations of countries which have now become independent were not always transferred to the new Member countries when they became independent. Such transfers may, however, in some cases not have been practical at that time because call signs may have been assigned on an organizational basis rather than on an area basis, so that stations belonging to a given organization were assigned call signs from the same series independently of where they were situated.
- 3.5 Consideration should also be given to the fact that any action which the ITU might take with respect to call sign series allocation would extend beyond the realm of telecommunications and could have repercussions on such matters as the physical marking of aircraft.
- 3.6 From the above considerations, the most appropriate approach to the continued and future use of the call sign system would be to make more efficient use of the currently allocated call sign series, which could result in a large number of call sign series being placed at the disposal of the ITU for re-allocation.

# 4. <u>Ways in which the international call sign series might be more efficiently used</u>

- 4.1 It has already been mentioned that for most radio services a single call sign series (i.e. xxA to xxZ) can provide a substantial number of call signs (see table given in Annex A). There is, nevertheless, one kind of station for which only a relatively small number of call signs can be obtained from each call sign series, and this is for ship stations equipped for radiotelegraphy. (See RR 5361/765.)
- 4.2 These call signs are required to have a length of four characters. As the first two characters are used to indicate nationality only two letters remain to distinguish the station within the series (xxAA to xxZZ). The maximum number of call signs which can be obtained is therefore 26 x 26 = 676; the actual number that can be practically assigned will be less than this because of the need to avoid assigning call signs which could conflict with the requirements of Radio Regulations 5353/758 and 5354/759.
- 4.3 The efficient and appropriate assignment of call signs to ship stations is therefore a key factor in determining the number of call signs required by a given country, considering that ship stations operationally require call signs because they cannot be clearly identified by such other recognized means as are referred to in Radio Regulation 5333/737 Mar2. Such unambiguous identification is required not only for general radiocommunication purposes, but also for distress, safety and urgency traffic, as well as for the purpose of maritime radiocommunication accounting.

- 4.4 Furthermore, the efficient assignment by Administrations of these call signs which are in short supply depends very much on the systematic re-assignment of call signs which are no longer in use. The Radio Regulations, however, make no provision concerning administrative practices governing the assignment of call signs, and, therefore such practices may vary greatly from country to country. While some countries re-assign call signs fairly quickly, others appear not to re-assign them at all or at least not for very long periods of time (e.g. during the life of the hull of a ship even though the ship concerned may have long since been registered in another country).
- 4.5 The inefficient assignment of call signs to ship stations might also, in some cases, be due to the fact that blocks of call signs are reserved on a national basis for different organizations, resulting in a possible requirement for additional call sign series because the block of call signs reserved for a given organization is exhausted even though the call sign series allocated to the country would still permit the formation of many more ship station call signs.
- 4.6 It is also possible, and this could apply in particular to the stations of services other than those requiring the use of call signs operationally, that call signs might be used for administrative purposes only; in other words, it is also possible that call signs are assigned to stations as a form of licence number or code, even though these stations do not use the call sign operationally on the radio path.
- 4.7 To this one should add that many stations (and possibly individual frequencies, see RR 5347/752 to 5349/754) which no longer require call signs because they use other forms of identification recognized in accordance with Radio Regulation 5333/737 Mar2, may still continue to be identified administratively by call signs.
- 5. Some forms of action which could be taken to improve the use of the present international call sign series
- 5.1 The assignment of call signs could be restricted to stations which operationally require the use of such call signs (e.g. ship stations, coast stations, amateur stations, etc.).
- Administrations which have a number of call sign series could, in the light of the principle outlined in 5.1 examine the demand for call signs for stations under their jurisdiction and take such action as will reduce the number of call sign series necessary to cover their actual needs. Some call sign series would in this way become available and could be released to the ITU, thus enabling their re-allocation.
- 5.3 As stated earlier, the number of call signs obtainable from a given series for ship stations using radiotelegraphy is very limited; this constitutes a major handicap for keeping to a minimum the number of series required by a country having stations in the Maritime Mobile Service.

- 5.4 A possible solution might be that the Conference could consider
  - a) amending provision No. 5361/765 to read "two characters and two letters, or two characters, two letters and one digit", where the first two characters constitute the nationality identification, and the last digit cannot be 0 or 1.
  - b) deleting provision No. 5372/770 in its entirety; and
  - c) deleting in provision No. 5373/771 "(2) However, <u>land mobile</u> stations employing radiotelephony may also use a call sign consisting of:".
- 5.5 It is believed at this time that the above action would, with a minimum of administrative repercussions for each country, increase ninefold the number of call signs obtainable from a given series which can be assigned to ship stations using radiotelegraphy.
- 5.6 In conclusion, it could be said that with perhaps the exception of call signs for ship stations using radiotelegraphy the actual number of call signs in use is, in reality, substantially less than the potential number of call signs obtainable from the Table of International Call Sign Series already allocated 7.
- 5.7 If administrations were to undertake the revision of their real needs for call signs and were to make a rational utilization of each series allocated to them this could result in:
  - the possibility of these call sign series allocated to them which were not indispensable being released and placed at the disposal of the ITU for re-allocation;
  - a reduction in their future requirements for call sign series.
- 5.8 This action could permit the continuation of the current call sign system and would allow the reduction or even the elimination of the formation of additional series in accordance with Resolution No. 8, which hitherto has been a source of operational and administrative problems.
- 5.9 An administrative identification system for the numbering of stations or licences could be developed if this were found desirable. Such a system could be designed with a view to electronic data processing as most administrations which have to administer a large number of stations or licences either use, or will be using, electronic data processing to handle this data. A point which would have to be considered is whether it would be necessary to have a system which is internationally standardized, so that it could be employed in the international exchange on frequency usage, etc.

The ITU General Secretariat is able provide on request a tabulation showing for each country the number of series allocated, and the number of call signs notified to the ITU, the latter broken down by service.

# ANNEX A to Part I

# Formation of Call Signs

Number of combinations for a given call sign series (xxA-xxZ) 1) for certain classes of stations.

Number of R.R.		Class of stations	Form of call signs	Possibilities for 1 series	
5358	763	land and fixed	2 characters, 1 letter 1)	26	
5359	764		2 characters, 1 letter, 1 digit 1)2)	208	
			2 characters, 1 letter, 2 digits )2)	2080	
			2 characters, 1 letter, 3 digits 1)	2) 20800	
5361	765	ship	2 characters, 2 letters 1)	676	
5362	766	ship rtphny	2 characters, 4 digits 1)2)	8 <b>000</b>	
	•		2 characters, 1 letter, 4 digits 1)2	2) 208000	
5364	767	aircraft	2 characters, 3 letters 1)	<b>17</b> 576	
5366	7 <b>6</b> 8	ship's surviv.	ship station call sign followed by 2 digits 2)	54080	
5370	759	aircraft sur.	aircraft station call sign followed by 1 digit 2)	140 <b>6</b> 08	
5372	770	land mobile (rtg)	2 characters, 2 letters, 1 digit 1)2	2) 5408	
53 <b>7</b> 3	771	land mobile (rtf)	2 characters, 4 digits 1)2) 2 characters, 1 letter, 4 digits 1)2	2000 208000	

<sup>1)</sup> Where the first two characters constitute nationality identification

<sup>2)</sup> Where the first digit following a letter cannot be 0 or 1.

# Annex B to Part 1

- A. The following duties, among others, are performed by the Secretary-General relating to the use of call signs:
  - Between Administrative Radio Conferences, the Secretary-General is authorized to deal with questions relating to changes in the allocation of series of call signs, on a provisional basis, and subject to confirmation by the following Conference. (See also No. 5342/748.)
  - The Secretary-General shall ensure that the same call sign, the same selective call number or the same identification number is not assigned more than once and that call signs which might be confused with distress signals, or with other signals of the same nature; are not assigned.
  - The Secretary-General shall .....9A and 10. He shall make the requisite amendments to List VII by using the data he has received for Lists I to VI and VIIIA. Lists IV and VI shall be co-ordinated with the information appearing in List I. The Secretary-General shall refer any discrepancies to the administrations concerned.

The Secretary-General has the responsibility to check any discrepancies concerning international call signs, including those referred to under the heading "Column 3" of Appendix 1, as well as to verify the correctness of the nationality identification and the proper formation of the call sign.

Computer programmes have been developed in order to carry out the greater part of the above-mentioned duties, including the verification of the data stored in the various registers (e.g. Lists I, IV, V, VIIA and VIIB), and studies are being carried out to extend data-processing techniques to List VI.

<sup>1)</sup> It should be emphasized that in order to carry out this task it is convenient that data for Column 3 be properly and duly notified, with special attention paid to distinguishing between national identification and international call signs.

The Radio Regulations also provide that the Secretary-General shall publish:

5527/809 List VII A. Alphabetical List of Call Signs of Stations used by

==== Mar the Maritime Mobile Service (Coast, Ship, Radiodetermination and
Special Service Stations), Ship Station Selective Call Numbers or
Signals and Coast Station Identification Numbers or Signals.

5528/810 List VII B. Alphabetical List of Call Signs of Stations other than Amateur Stations, Experimental Stations and Stations of the Maritime Mobile Service.

Furthermore, in Resolution No. 8, the Administrative Radio Conference, Geneva, 1959, resolved that the Secretary-General should, among other matters on call signs, furnish, upon request, advice to administrations on the means of effecting the greatest economy, which should be the rule, in the use of a series of call signs.

- B. In performing the duties set out in provision No. 5343/749, the Secretary-General has carried out the following:
  - 1) allocated 126 $rac{1}{2}$  series of call signs on a provisional basis to 78 countries as follows :

Since 1959 and until 1979, the following call sign series have been allocated on a provisional basis under the terms of No. 749:

Call Sign Series	Allocated to:	Call Sign Series	Allocated to:
	Allocated to:  Botswana (Republic of) Tonga (Kingdom of) Oman (Sultanate of) Bhutan (Kingdom of) United Arab Emirates Qatar (State of) Liberia (Republic of) Bahrain (State of) Nauru (Republic of) Anderra (Principality of) Cyprus (Republic of) Gambia (Republic of) Bahranas (Commonwealth of the) World Meteorological Organization Mozambique Angola (Papiles Republic of) Cape. Verde (Republic of) Liberia (Republic of) Comoros (Federal and Islamic Republic of the) Korea (Republic of) Cyprus (Republic of) Cyprus (Republic of)	Series H4A-H4Z H6A-H7Z H8A-H9Z I2A-I2Z J3A-I3Z J4A-I4Z J5A-J5Z I6A-J6Z J7A-J7Z L2A-L9Z P2A-P2Z P3A-P3Z P4A-P4Z P5A-P9Z	Solomon Islands  Nicaragua Rinama (Republic of )  Djibouti (Republic of )  Grenada Greece Guinea-Bissau (Republic of)  Saint Lucia Dominica Argentine Republic Papua New Guinea  Cyprus (Republic of) Netherland Antilles Democratic People's Republic of Korea  Bangiadesh (People's Republic of)  Singapore (Republic of)  Seycheiles (Republic of)  1)  Sao Tome and Principe (Democratic Republic of)  Cameroon (United Republic of)
		TLA-TLZ	Central African Empire

<sup>1)</sup> In September 1976, the Republic of South Africa requested a call sign series on behalf of the Regional Office for the Transkei.

Cail Sign Series	Allocated to:	Call Sign Series	Allocated to:
TNA-TNZ	Congo (People's	5XA-5XZ	Uganda (Republic of)
	Republic of the)	5YA-5ZZ	Kenya (Republic of)
TRA-TRZ	Gabon Republic	6VA-6WZ	Senegal (Republic of the)
TSN-TSZ TTA-TTZ	Tunisia Chad (Republic of the)	6XA-6XZ	Madagascar (Democratic Republic of)
TUA-TUZ	Ivory Coast (Republic of	6YA-6YZ	Republic of)
10A-102	the)	6ZA-6ZZ	Liberia (Republic of)
TYA-TYZ	Benin (People's Republic of)	70A-70Z	Yemen (People's
TZA-TZZ	Mali (Republic of)	10A-10L	Democratic Republic of)
T2A-T2Z	Tuvalu	7PA-7PZ	Lesotho (Kingdom of)
T3A-T3Z	Kiribati Republic	7QA-7QZ	Malawi
XTA-XTZ	Upper Volta (Republic of) German Democratic	7RA-7RZ	Algeria (Algerian
Y2A-Y9Z	Republic		Democratic and
3BA-3BZ	Mauritius	87 4 SV7	Popular Republic)
3CA-3CZ	Equatorial Guinea	7TA-7YZ	Algeria (Algerian Democratic and
į	(Republic of)		Popular Republic)
3DA-3DM	Swaziland (Kingdom of)	80A-80Z	Botswana (Republic of)
3DN-3DZ 3EA-3FZ	Fiji Panama (Republic of)	8PA-8PZ	Barbados
5BA-5BZ	Cyprus (Republic of)	8QA-8QZ	Maldives (Republic of)
5HA-5IZ	Tanzania (United Republic	8RA-8RZ 9HA-9HZ	Guyana Malta (Republic of)
311A-31Z	of)	9IA-9JZ	Zambia (Republic of)
5NA-5OZ	Nigeria (Federal Republic	9LA-9LZ	Sierra Leone
	of)	9UA-9UZ	Burundi (Republic of)
5RA-5SZ	Madagascar (Damocratic Resublic of)	9VA-9VZ   9WA-9W2	Singapore (Republic of) Malaysia
5TA-5TZ	Mauritania (Islamic Republic of)	9WA-9WZ	Rwanda (Republic of)
5UA-5UZ	Niger (Republic of the)	9YA-9ZZ	Trinidad and Tobago
5VA-5VZ -			
5WA-5WZ	1 -		
_	,		

The WARC-79 may wish to consider the confirmation of call sign series allocated provisionally as mentioned in provision No. 5343/749.

- 2) Furthermore, the Secretary-General noted that due to the time elapsed since its adoption, a certain number of editorial changes might be studied by the Conference with respect to the Table of Allocation of International Call Sign Series.
- Jin the course of exchanges with administrations it became evident that certain misunderstandings and confusion exist with respect to the texts of the provisions relating to the formation of call signs in which the words "letter" or "letters" may have an ambiguous meaning since the nationality identification is represented by either two letters, a letter and a digit, or a digit and a letter. The WARC-79 might wish to consider making editorial changes to the texts of the provisions dealing with the formation of call signs (see Annex C).
- 4) In addition, the Secretary-General has continued to maintain a close relationship with ICAO and suitable procedures have been established for duly informing this organization of call sign series newly allocated by ITU.

#### ANNEX C to Part 1

Redraft of provisions in accordance with the possible editorial changes mentioned under point B.3) of Annex B to Part I.

5356/762

15. Call signs in the international series are formed as indicated in Nos. 5358/763 to 5376/773. The first or the second character in a particular series of letters may be replaced, in certain cases, by a digit (see Appendix C/747 and No. 5342/748).

5357

Land and fixed stations

5358/763

16. (1) - three characters\*

or

- three characters\* followed by not more than three digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

5359/764

- (2) However, it is recommended that, as far as possible,
  - a) the call signs of coast and aeronautical stations consist of :
    - three characters\*
    - three characters\* followed by one or two digits (other than the digits 0 and 1 in cases where they immediately follow a letter);
  - b) the call signs of fixed stations consist of
    - three characters\* followed by two digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

5360

Ship stations

5361/765

17. (1) - four characters, of which the first or the second may be a digit and the third and fourth are always letters.

5362/766

- (2) However, ship stations employing radiotelephony may also use a call sign consisting of:
  - two characters (provided that the second is a letter) followed by four digits (other than the digits 0 and 1 in cases where they immediately follow a letter);

 $\underline{\text{or}}$ 

- three characters\* followed by four digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

<sup>\*</sup> of which the first or the second may be a digit and the third is always a letter.

5363

Aircraft stations

5364/767

. 18.

- five characters, of which the first or the second may be a digit and the third, fourth and fifth are always letters.

#### 5365 to 5370/769 NOC

5371

Land mobile stations

5372/770

22.

(1) - four characters, followed by a single digit other than 0 or 1.

5373/771

- (2) However, land mobile stations employing radiotelephony may also use a call sign consisting of:
  - two characters (provided that the second is a <u>letter</u>) followed by four digits (other than the digits 0 and 1 in cases where they immediately follow a letter);
  - three characters\* followed by four digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

5374

Amateur and experimental stations

5375/772

23.

1) - one or two characters (which indicate nationality) and a single digit (other than the digits 0 and 1), followed by a group of not more than three letters.

(In the case of two characters, the first or the second may be a digit.)

5376/773

(2) However, the prohibition of the use of the digits O and 1 does not apply to amateur stations.

5377

Stations in the Space Service

5378/773A

- When call signs for stations in the space service are employed, it is recommended that they consist of:
  - two characters (of which the first or the second may be a digit) followed by two or three digits (other than 0 and 1 in cases where they immediately follow a letter). (See also No. 5334/737A.)

#### 5379/774 to 5402/784 NOC

<sup>\*</sup> of which the first or the second may be a digit and the third is always a letter.

<sup>†</sup> of which the first or the second may be a digit and the third and fourth are always letters.

5403/785

a) in radiotelegraphy, the first character and last two letters of the complete five-character call sign;

5404/786

- b) in radiotelephony:
  - the first character of the complete five-character call sign; or
  - the abbreviation of the name of the owner of the aircraft (company or individual); or
  - the type of aircraft,

followed by the last two letters of the complete fivecharacter † call sign or by the last two characters of the registration mark.

It should be noted that the present call sign formation described in Nos. 5362/766 and 5373/771 for ship stations and land mobile stations, respectively, are identical and may create confusion as to the class of station. No changes in substance in this respect have been included in this Annex.

of which the first or the second may be a digit and the third, fourth and fifth are always letters.

### Part II. Ship Stations Selective Call Numbers and Coast Station Identification Numbers

- 1.1 With the advent in the Maritime Mobile Service of semiautomatic and automatic techniques it became evident that there was a need for additional means of identification for ship and coast stations other than call signs as such.
- The World Administrative Radio Conference to deal with matters relating to the Maritime Mobile Service, Geneva, 1967, introduced a selective calling system, to fulfill immediate requirements, for use in the international Maritime Mobile Service; it established the technical characteristics as stated in Appendix 20C and, in accordance with Nos. 5344/749A, 5345/750 and 5346/751, entrusted the Secretary-General with the implementation of the administrative provisions governing the formation and assignment of such selective call numbers (see Nos. 5390/783A to 5401/783J).
- 1.3 The Radio Regulations prescribe that:

the selective call signal shall consist of

- a) for ship stations
  - five digits;
- b) for predetermined groups of ship stations
  - five digits consisting of
    - the same digit repeated five times, or
    - two different digits repeated alternately;
- c) for coast station identification numbers
   four digits;

and that

d) upon notification by an administration of the introduction of selective calling for use by the Maritime Mobile Service, the selective call numbers and identification numbers shall be supplied by the Secretary-General on request as follows:

- selective call numbers for ships will be supplied in blocks of one hundred;
- selective call numbers for selective calling of predetermined groups of ship stations will be supplied as single numbers;
- coast station identification numbers will be supplied in blocks of ten;
- e) each administration shall choose the selective call numbers to be assigned to its ship stations and the identification numbers to be assigned to its coast stations from the respective blocks of series supplied.

#### 2. Ship Station Selective Call Numbers

- 2.1 In 1968, the Secretary-General elaborated a distribution plan for the orderly supply of ship station selective call numbers based on the number of countries having a maritime mobile service, the number of ship stations notified to the ITU and on the statistics of the Lloyd's Register.
- 2.2 The first requests for blocks of ship station selective call numbers were received from two administrations in September 1968. The supply of blocks to these administrations was notified to the Members of the Union in Operational Bulletin No. 35, dated 13 November 1968.
- 2.3 To date, 326 blocks of selective call numbers and 53 single numbers for predetermined groups of ship stations have been supplied by the ITU to 55 and 23 countries, respectively.

2.4 The introduction of the system got off to a relatively slow start and in 1972 only 41 ships were equipped with a selective call number notified to the ITU. From 1976 to date, the pace has quickened and more and more ships are using the system (see following table.)

Year		ship stations selective calling
1972	l <sub>+</sub> l	
1973	198	
1974	324	
19 <b>7</b> 5	491	* *
1976	695	
1977	1,477	
1978	1,744	
1979	2,143	
	_	

- \* extracted from the statistics made on the basis of the ITU List of Ship Stations (List V).
- 2.5 With respect to selective call numbers for predetermined groups of ship stations the plan also considered the distribution to administrations of selective call numbers for such groups of ship stations, but the requests received from certain administrations were out of all proportion to the 100 numbers available, thus creating a penury of obtainable numbers and rendering the plan inefficient.
- 2.6 The conclusion was therefore reached by the Secretary-General that until a final procedure was determined by a competent Conference, it was desirable for administrations to limit their requests to one number or at the most two.
- As an interim procedure, those administrations which had been supplied more than two such numbers were requested to release as many of them as possible for use by the ITU for re-supply; nearly all of the administrations concerned complied with this request.
- 2.8 A Table of blocks of selective call numbers supplied on a provisional basis by the Secretary-General under the terms of RR No. 5344/749A is reproduced as Annex 1.

- 2.9 In accordance with provisions 8590/1062AH, 8598/1062AN, 8599/1062AO, and Appendix 20B, paragraphs h) and i) (World Maritime Administrative Radio Conference, Geneva, 1974), it should be noted that for the identification of ship stations employing narrow-band direct-printing telegraphy the selective call numbers from the blocks supplied are to be used:
- if the ship station is equipped for both selective calling and direct-printing telegraphy, it shall be assigned the same identification or selective call number for both systems;
- if the ship station is equipped for direct-printing telegraphy and not for selective calling, it should be assigned a selective call number for its direct-printing system.

#### 3. Coast station identification numbers

- The plan mentioned under 2.1 also included the distribution of coast station identification numbers, based on the number of countries having a maritime mobile service and the number of coast stations notified to the ITU.
- 3.2 The first requests for blocks of coast station identification numbers were received from two administrations in September 1968. The supply of blocks to these administrations was notified to the Members of the Union in Operational Bulletin No. 35, dated 13 November 1968.
- To date, 105 blocks of coast station identification numbers have been supplied by the ITU to 44 countries and approximately 70 coast stations have been assigned identification numbers by their administrations.
- 3.4 A Table of blocks of coast station identification numbers supplied by the Secretary-General on a provisional basis under the terms of RR No. 5344/749A is reproduced as Annex 2.

#### 4. Other identification numbers

- For information, it should be stated that in addition to the afore-mentioned ship station selective call numbers and coast station identification numbers there are also other identification numbers now being used in the Maritime Mobile-Satellite Service. These identification numbers are composed of seven digits. There is one particular case in the Maritime Mobile Service where an identification number corresponding to the national telex prefix is being used for the identification of stations.
- 4.2 In cases where these numbers are notified to the ITU in conjunction with data on ship stations, they are published in the appropriate service documents.

#### ANNEX 1 to Part II

### TABLE OF BLOCKS OF SELECTIVE CALL NUMBERS FOR SHIP STATIONS AND SELECTIVE CALL NUMBERS FOR GROUPS OF SHIP STATIONS SUPPLIED TO ADMINISTRATIONS

(Nos. 749A Mar and 783ff Mar of the Radio Regulations, Edition of 1976)

	Blocks*) of selective		
	all numbers for ship	·	
		Supplied to	
	ions and selective call	Supplied to	
. nu	imbers for groups of		
	ship stations		
	00000*)	Argentine Republic	
	00001-00499	Argentine Republic	
	0090000999	Saudi Arabia (Kingdom of)	
	01010*)	Australia	
	01100-01199	Australia	
		Singapore (Republic of)	
	0180001899	Seychelles (Republic of)	
	0190001999		
	02020*)	Argentine Republic	
	0320003299	Canada	
	04040*)	Canada	
	05200—05399	Cyprus (Republic of)	
	0590005999	Bulgaria (People's Republic of)	
	06300—06999	Denmark	
	07070*)	Denmark	
	08080*)	Denmark	
	0840008499	Spain	
	10400 - 1111 <b>0</b>	United States of America	
	11111*)	United States of America	
•	11112 - 11399	United States of America	
	1400014199	Finland	
	14141*)	Finland	
	14700—15 <b>599</b>	France	
	15151*) * }	France	
	16161*)	France	
	1670017699	Greece	
	17171*)	Greece	
	18181*)	China (People's Republic of)	
	1900019099	Chile	
	19191*)	China (People's Republic of)	
	19700—20199	China (People's Republic of)	
	20202*)	China (People's Republic of)	
	20300—20799		
		Italy Italy	
	21212*)	Italy	
	22222*)	Italy	
	22300—22399	Iraq (Republic of)	
•	22400—22599	Kuwait (State of)	
	2350023999	India (Republic of)	
	24300—25199	Liberia (Republic of)	
32000-32099	31900—31999	Malta (Republic of) Norway Cuba	
•	32400-34499	• • • • • • • • • • • • • • • • • • • •	
	33333*)	Norway	
	34343*)	Norway	
	36000 - 36099	Irland	
*	36200 - 36299	Luxembourg	
	36400—3 <b>8399</b>	Netherlands (Kingdom of the)	
38383 <sup>1)</sup> _	37373°) 38400—39999	Netherlands (Kingdom of the) Netherlands (Kingdom of the)	
		Germany (Federal Republic of)	
	39393*)	Germany (Federal Republic of)	
	40000-41499	Germany (Federal Republic of)	
41414*	40404*)	Panama (Republic of) Germany (Federal Republic of)	
• •	4190042199		
	42424*)	Panama (Republic of)	
	4300043499	Poland (People's Republic of)	
•	43434*)	Poland (People's Republic of)	
	43500—44099	Sweden	
	44444*)	Panama (Republic of)	
	4550046463	United Kingdom of Great Britain and Northern Ireland	
	46464*)	United Kingdom of Great Britain and Northern Ireland	
	46465-46899	United Kingdom of Great Britain and Northern Ireland	
50400-50499	47474*)	United Kingdom of Great Britain and Northern Ireland	
20400 20411	50500—50699	Israel (State of)	
	50505*)	Israel (State of)	
	51100—51499	Switzerland (Confederation of)	
	21.00 2.17//	S (Comediation of)	

#### Annex 1 (page 2)

	Blocks*) of selective call numbers for ship stations and selective call numbers for groups of ship stations	Supplied to	_
•	52600 56099	Union of Soviet Socialist Republics	_
	53535*)	Union of Soviet Socialist Republics	
	56200 - 56299	Malaysia	
	5680057099	Yugoslavia (Socialist Federal Republic of)	
	57800 - 57899	Venezuela (Republic of)	
	58100 - 58199	Algeria (Algerian Democratic and Popular Republic)	
	58200—58299	Austria	
	59400 - 59499	Libya (Socialist People's Libyan Arab Jamahiriya)	
	59700 59899	New Zealand	
	59900—59999	Monaco	
	6010060599 6100061099	German Democratic Republic Netherlands Antilles	
	6110061199	United Kingdom of Great Britain and Northern Ireland	
63200-6329	<b>9</b> _ 61500 - 61599	Dubunan (Communicately Catho)	
63400-6349		Datar (State of) Bohrain (State of)	
63400 6344	64600 - 64799	South Africa (Republic of) United Arab Emirates	
	64646*)	South Africa (Republic of)	
	65700 - 65799	Turkey	
	6600072499	Union of Soviet Socialist Republics	
	68686*)	Union of Soviet Socialist Republics	
	70707*)	Union of Soviet Socialist Republics	
	71717*) 72500—73999	Union of Soviet Socialist Republics Belgium	
•	72727*)	Belgium	
	73737*)	Belgium	
	7470074799	Sierra Leone	
	74747*)	Sierra Leone	
	75500 75756	Iceland	
	7575875999	Iceland	
	82828*)	Malta (Republic of)	
	82838*)	Malta (Republic of)	
	84848*) 86868*)	Netherlands (Kingdom of the) Italy	
	87878*)	Italy	
	88888*)	Italy	
	89898*)	Italy	
	90909*)	Italy	
	91919*)	Italy	
	92929*)	Italy	
	93939*)	Italy	
	94949*)	Israel (State of)	
	95959*)	Israel (State of)	
	96969*) 97979*)	Israel (State of) German Democratic Republic	
	98989*)	German Democratic Republic	
	, , ,	Serial Serial Republic	

As on 15.9.1979

<sup>\*)</sup> The numbers formed by the same digit repeated five times, or by two different digits repeated alternately are reserved for calling predetermined groups of ship stations, and are to be considered as not included in the blocks of call numbers for ship stations supplied to the Administrations.

#### ANNEX 2 to Part II

# TABLE OF BLOCKS OF COAST STATION IDENTIFICATION NUMBERS SUPPLIED TO ADMINISTRATIONS

(Nos. 749A Mar and 783H Mar of the Radio Regulations, Edition of 1976).

Blocks of identification numbers	Supplied to	
01000119	Argentine Republic	
0270 - 0279	Algeria (Algerian Democratic and Popular Republic)	
0330—0339	Australia	
04800489	Belgium	
05800589	Canada	
08100819	Bulgaria (People's Republic of)	
08300899	Denmark	
0990-1089	Spain	
1090—1109	United States of America	
15901609	Finland	
16301669	France	
1780—1789	Greece	
18601889	Chile	
1980 1989	treland	
2010—2019	China (People's Republic of)	
2070—-2109	Italy	
2130—2149	Iraq (Republic of)	
21802189	Kuwait (State of)	
2280 - 2289	Libya (Socialist People's Libyan Arab Jamahiriya)	
2300—2339	India (Republic of)	
2480—2489	Malta (Republic of)	
25002509	Monaco	
2510—2519	Cuba	
2550—2599	Norway	
2740—2749	Iceland	
2770—2779	Netherlands (Kingdom of the)	
28302849	Germany (Federal Republic of)	
2930—2949	Poland (People's Republic of)	
2950—2959	Sweden	
3200—3259	United Kingdom of Great Britain and Northern Ireland	
3450 3459	Israel (State of)	
3500 3509	Switzerland (Confederation of)	
3620—3769	Union of Soviet Socialist Republics	
3800 - 3809	Malaysia  Vancatoria (Socialist Folders) Population (Socialist Folders)	
3850-3859	Yugoslavia (Socialist Federal Republic of) Venezuela (Republic of)	
3910 - 3919 43304349	South Africa (Republic of)	
4360 - 4369	Turkey	
4400-4599	Union of Soviet Socialist Republics	
4600—4619	German Democratic Republic	
4620—4629	Singapore (Republic of)	
4630—4639	United Kingdom of Great Britain and Northern Ireland	
4640—4649	Sierra Leone	
4650—4659	Bahrain (State of)	
4660—4669	Seychelles (Republic of)	
4000 4007	beyonenes (republic of)	
4690-4699	Gatar (State of) United Arab Emicates	
4710-4719	United Arab Emicates	

As on 15.9.1979

#### Part III. Ship Station Identities

- 1.1 Before concluding this study on the questions related to the identification of stations, mention should be made of a new system of station identification which has been studied and is now being proposed for the identification of stations in the Maritime Mobile Service, resulting from intensive studies in both the CCIR and the CCITT. The General Secretariat participated actively therein and submitted contributions on the operational aspects to the pertinent meetings of the CCIR and CCITT.
- 1.2 This new system is not intended as a replacement for call signs but has been designed primarily for use in automatic services, and the proposed numbering scheme is organized in such a manner that once the necessary radiocommunication systems are available, telex and telephone subscribers on land can dial a ship directly. It could, however, as is the case for other forms of station identification, lead to a reduction in the need for call sign series of the kind provided for in Article N23/19.
- 1.3 The proposed new system for identifying stations in the Maritime Mobile Service is described in Section 9.2 of the Report of the CCIR Special Preparatory Meeting for the WARC-79.

INTERNATIONAL TELECOMMUNICATION UNION

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 158-E
25 September 1979
Original: English

PLENARY MEETING

### REPORT OF THE SECRETARY-GENERAL ON THE RESOLUTIONS AND RECOMMENDATIONS OF PAST CONFERENCES

- 1. This document refers to Resolutions and Recommendations of past conferences which have not yet been abrogated and on which the Secretary-General is providing information or comments (Annex 1).
- 2. The above information is completed by a list of Resolutions abrogating obsolete Resolutions and Recommendations of past conferences (Annex 2).

M. MILI Secretary-General

Annexes: 2



#### ANNEX

#### RESOLUTIONS AND RECOMMENDATIONS ON WHICH THE SECRETARY-GENERAL IS PROVIDING INFORMATION OR COMMENTS

#### Index

#### Ordinary Administrative Radio Conference, Geneva, 1959

#### Resolutions Nos.: 6 Sect. A 8 ... "Identification of Stations". See separate Document No. 9 Sect. B 11 Sect. C Sect. D 12 Recommendations Nos.: 16 Sect. E 29 Sect. F 32 Sect. G Maritime Conference, Geneva, 1967

#### Resolution No.:

Mar 2 Sect. D

#### Recommendation No.:

Mar 2 Sect. I

#### Space Conference, Geneva, 1971

#### Resolutions Nos. :

Spa2 - 6 Sect. J Spa2 - 7 Sect. G

#### Recommendations Nos.:

Spa2 - 13 Sect. H

Spa2 - 14 Sect. I

N.B. Related resolutions and recommendations are grouped in sections, where appropriate, for easier presentation of the information.

#### Maritime Conference, Geneva, 1974

#### Resolutions Nos. :

Mar2 - 5 Sect. K Mar2 - 17 Sect. D Mar2 - 19 Sect. L

#### Recommendations Nos.:

Mar2 - 6 Sect. M Mar2 - 20 Sect. N Mar2 - 21 Sect. I

#### Broadcasting-Satellite Conference, Geneva, 1977

#### Resolution No.:

Sat - 10 Sect. I

#### European VHF-UHF Broadcasting Conference, Stockholm, 1961

#### Recommendation No.:

5 Sect. 0

#### Region 1 and 3 Administrative LF/MF Broadcasting Conference, Geneva, 1975

#### Resolutions Nos.

3 ) 5 ) Sect. P Annex 1 to
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Section A

The Administrative Radio Conference, Geneva, 1959

#### RESOLUTION No. 6

#### Relating to Frequency Terminology

The terminology provided for in this Resolution is in general use since 1959. The General Secretariat believes that it would be useful if this terminology, because it is used in the Radio Regulations in a specific sense which cannot necessarily be derived from the common usage of the terms concerned, were defined in the Radio Regulations.

#### Section B

The Administrative Radio Conference, Geneva, 1959

#### RESOLUTION No. 9

Relating to the Publication of Service Documents

This resolution has proved useful and should be retained.

#### Section C

The Administrative Radio Conference, Geneva, 1959

#### RESOLUTION No. 11

#### Relative to the Convening of a Special Regional Conference

The Special Regional Conference provided for in No. 250 of the Radio Regulations (Geneva, 1959) was held from 25 April to 14 May, 1960, in Geneva. It was convened by the Secretary-General in accordance with Resolution No. 11 of the Administrative Radio Conference. Its purpose was to find a solution to the problems of joint use, by the countries in Europe concerned, of the frequency bands 68 to 73 Mc/s and 76 to 87.5 Mc/s, by the fixed and mobile services on the one hand and the broadcasting service on the other.

Delegates from twenty-three countries took part in the Conference.

The Final Acts of the Conference, which comprise an Agreement, an Associated Agreement, a Plan for sound broadcasting and a Plan for television, were signed by the delegates of the following Administrations: Albania (People's Republic of), Austria, Byelorussian Soviet Socialist Republic, Bulgaria (People's Republic of), Denmark, France, Greece, Hungarian People's Republic, Italy, Norway, Poland (People's Republic of), Federal Republic of Germany, Federal People's Republic of Yugoslavia, Ukrainian Soviet Socialist Republic, Roumanian People's Republic, Sweden, Switzerland (Confederation), Czechoslovak Socialist Republic, Turkey, Union of Soviet Socialist Republics.

See also Radio Regulation No. 250 mentioned above and Recommendation No. 13 of the Administrative Radio Conference, Geneva, 1959.

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#### Section D

Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services

The Administrative Radio Conference, Geneva, 1959,

#### RESOLUTION No. 12

Relating to the Establishment of a Manual for Use by the Mobile Services

The World Administrative Radio Conference, Geneva, 1967,

#### RESOLUTION No. Mar 2

Relating to the Establishment of a Manual for Use by the Maritime Mobile Service

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RESOLUTION No. Mar2 - 17

Relating to the Establishment of a Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services

The most recent edition of the Manual, originally provided for in Resolution No. 12 of the Administrative Radio Conference, Geneva, 1959, was issued in 1976, in pursuance of Resolution No. Mar2 - 17 of the World Maritime Administrative Radio Conference, Geneva, 1974.

The carriage of the Manual is, in accordance with Appendix 11 of the Radio Regulations, mandatory on certain kinds of ships. It might consequently be more convenient to provide for this publication in Article N24/20 "Service Documents", especially as the procedures and practices which are applied to prepare the Manual are now well established.

#### Section E

The Administrative Radio Conference, Geneva, 1959,

#### RECOMMENDATION No. 16

Relating to the Measures to be taken to prevent

the Operation of Broadcasting Stations on Board Ships

#### or Aircraft outside National Territories

The purpose of this Recommendation was to foresee

"that administrations ask their Governments to study possible means, direct or indirect, to prevent or suspend such operations, and where appropriate, take the necessary action,"

because it was felt that most national legislations could not, at the time, ensure effective compliance with the provisions of Radio Regulations No. 6214/422 and No. 7349/962. The matter had become important in 1959 as broadcasting stations of this kind were either in operation or known to be planned.

As a result of the Recommendation, a number of countries introduced national legislation or amended already existing legislation with a view to prohibiting operation of broadcasting stations on board ships, aircraft or any other floating or airborne objects outside national territories.

The texts of such new legislation and other information was, in conformity with recommends 2 of the Recommendations, brought to the attention of the Members of the Union in a series of Circular-letters of the Secretary-General.

Further attempts to set up broadcasting stations of the kind referred to in this Recommendation cannot be excluded. The text may therefore continue to be of value in the future.

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Section F

The Administrative Radio Conference, Geneva, 1959,

#### RECOMMENDATION No. 29

#### Relating to the Pronunciation of Words in the Phonetic Alphabet

The economics of the production or sale of a record of the kind referred to in this Recommendation have not been re-examined in recent years.

It is believed, however, that a more appropriate medium or support would nowadays be a cassette recording, if the matter is still considered topical.

#### Section G

The Administrative Radio Conference, Geneva, 1959,

#### RECOMMENDATION No. 32

#### Relating to the Radio Astronomy Service

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

#### RESOLUTION No. Spa2 - 7

### Relating to the Inclusion of additional Sections in List VIIIA (Article 20, Appendix 9)

Recommendation No. 32 provides, in recommends 4 that

"administrations should notify to the Secretary-General the locations of observatories in their countries and those of the bands allocated in the Table of Frequency Allocations that are in use at each observatory; and that the Secretary-General should communicate this information to Members and Associate Members of the Union."

This action has been superseded by the inclusion of List VIIIA "List of Stations in the Space Service and the Radio Astronomy Service" in Article N24/20 of the Radio Regulations by the Space Conference, Geneva, 1963. List VIIIA was expanded in conformity with Resolution No. Spa2 - 7 mentioned above and the action incumbent on the Secretary-General under these two Resolutions is therefore completed.

#### Section H

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

#### RECOMMENDATION No. Spa2 - 13

# Relating to the Use of Space Radiocommunication Systems in the Event of Natural Disasters, Epidemics, Famines and Similar Emergencies

Recommendation No. Spa2 - 13 called for action with a view to providing rapid and reliable telecommunications for relief operations in the event of natural disasters, epidemics, famines and similar emergencies. The following is a short summary of the action taken so far by the ITU with respect to this Recommendation.

"The International Telecommunication Union (ITU) aided by a US \$ 50,000 grant from the United Nations Development Programme (UNDP) produced a specification for an air-transportable earth station in September 1973. At that time it was necessary to provide frequency agility in the equipment to cover the 500 MHz of the 4-6 GHz satellite band. The need for administrations to identify preferred radio-frequency channels for relief operations still exists. Action is proposed in the Global-Domestic (GLODOM) Satellite System for Rural Development that would identify preferred channels for natural disaster operations in all participating developing countries. Technological progress now permits the use of solid-state battery powered earth stations in the unelectrified isolated areas in conjunction with an optimized satellite and with preferred radio-frequency channels identified for relief operations, a suit-case mounted earth station could be produced. The spirit and intent of the Recommendation would be followed.

The CCIR, in Report 554, reflects the work foreseen by the Recommendation. The Secretary-General brought the Recommendation to the attention of the United Nations (UN) and the specialized agencies and close collaboration has followed with the Union providing telecommunication advice for a number of years to the UN on natural disasters and other emergencies."

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#### Section I

Relating to the Possible Re-arrangement of the Radio Regulations and the Additional Radio Regulations

The World Administrative Radio Conference, Geneva, 1967,

#### RECOMMENDATION No. Mar 2

Relating to a Regrouping of the Radio Regulations and
the Additional Radio Regulations appertaining to
the Maritime Mobile Service

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

#### RECOMMENDATION No. Spa2 - 14

Relating to a revised Presentation of the Sections
of Article 1 of the Radio Regulations

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RECOMMENDATION No. Mar2 - 21

Relating to the Possible Re-arrangement of the Radio Regulations and the Additional Radio Regulations

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

#### RESOLUTION No. Sat - 10\*

Relating to the Possible Re-arrangement of the Radio Regulations and the Additional Radio Regulations

The action foreseen in Recommendation No. Mar 2 of the World Administrative Radio Conference, Geneva, 1967, and which had its origins in Administrative Council Resolutions Nos. 494, 522, 549 and Decision No. 346 led to the World Maritime Administrative Radio Conference, Geneva, 1974, making Recommendation No. Mar2 - 21. This Recommendation resulted in the Administrative Council, at its 30th Session (1975), setting up (see Resolution No. 768) a Group of Experts from Administrations to study a possible Re-arrangement of the Radio Regulations and the Additional Radio Regulations.

The Group of Experts prepared such a Re-arrangement and submitted its report to the 31st Session of the Administrative Council. This Re-arrangement takes account of the structure for Article 7 of the Regulations recommended in Recommendation

No. Spa2 - 14. Council following this included in the agenda of the Broadcasting-Satellite Conference, Geneva, 1977, matters relating to the Re-arrangement of the Radio Regulations including the consideration of the result of the work of the Group of Experts.

The latter Conference by its Resolution No. Sat - 10, among other actions:

- 1) urged ITU Member countries to use the re-arranged form of the Radio Regulations proposed by the Group of Experts and the present form of the Additional Radio Regulations as a basis for submitting proposals to the 1979 WARC for the revision of the Radio Regulations and the Additional Radio Regulations in accordance with its agenda, including any proposals relating specifically to harmonization under item 2.7 of this agenda;
- 2) requested the 1979 WARC to agree that the Re-arrangement of the Radio Regulations proposed by the Group of Experts and the Additional Radio Regulations and the texts of appendices, resolutions and recommendations as contained in the 1976 loose-leaf edition of the Radio Regulations should be used as the basic reference documents by delegates to that conference in discussing proposals.

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Section J

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

#### RESOLUTION No. Spa2 - 6

Relating to the Technical Criteria recommended by the C.C.I.R.

for Sharing Frequency Bands between Space Radiocommunication

and Terrestrial Radiocommunication Services or between Space

Radiocommunication Services

The Secretary-General consulted the Members of the Union as provided for in the above Resolution. A simple synopsis of the replies received was sent to the Members by letter RM/Z/3Cir/RR/79 of 9 July 1979 pending the publication of the consolidated List prepared by the IFRB.

#### Section K

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RESOLUTION No. Mar2 - 5

### Relating to the Introduction of New Calling Procedures for HF Al Morse Telegraphy

The General Secretariat has undertaken the work provided for in this Resolution and is continuing to perform the regular functions required by the Resolution. It should be noted that the Resolution also addresses itself to Administrations with respect to ongoing operational and coordination tasks.

(References: Circular Letter 114, RM/COT/Z/76 of 29 June 1976, Circular Letter 156, RM/Z/COT/77 of 25 February 1977).

#### Section L

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RESOLUTION No. Mar2 - 19

Relating to the Introduction of a Digital Selective Calling
System to meet the Requirements of the Maritime Mobile Service

The Secretary-General consulted the Members of the Union as provided for in the above Resolution. A synopsis of the replies received was sent to the Members by letter RM/Z/4Cir/RR/79 of 5 July 1979.

#### Section M

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RECOMMENDATION No. Mar2 - 6

Relating to the Frequencies in Appendix 17, Section C, and Appendix 17 Rev., Section B, of the Radio Regulations, provided for World-Wide Use by Ships of all Categories and by Coast Stations

Recommends 2 of the above Recommendation provides

"that administrations notify to the Secretary-General the particulars of these services for publication in the List of Coast Stations in accordance with Nos. 815 and 924 of the Radio Regulations."

From the information received by the Secretary-General, in accordance with Radio Regulation 815 Mar2, for inclusion in the List of Coast Stations it can be considered that Administrations are following this Recommendation.

#### Section N

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RECOMMENDATION No. Mar2 - 20

### Relating to the Presentation of Draft Amendments to the Radio Regulations

This Recommendation resulted in the Secretary-General in consultation with the I.F.R.B. and some Administrations preparing the "Guidelines for the Presentation of Proposals for Amendments to the Radio Regulations" which were issued in November 1977 and distributed to Administrations in preparation for the present Conference.

#### Section 0

European VHF/UHF Broadcasting Conference, Stockholm, 1961,

#### RECOMMENDATION No. 5

(Revision of the Agreement)

The European VHF/UHF Broadcasting Conference, Stockholm, 1961, provided in its Recommendation No. 5 that the Secretary-General consult the Members of the Union belonging to the European Broadcasting Zone seven years after the entry into force of the Agreement on a possible revision of the Agreement and that he report to the Administrative Council the results of this consultation.

The latest position is that the Administrative Council has, after having considered the matter at its 30th Session (1975), instructed the Secretary-General, by Resolution No. 767, that a further consultation should be carried out in 1980.

#### Section P

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

### RESOLUTION No. 3

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

#### RESOLUTION No. 5

Relating to the Accession to the Agreement of Countries

not represented at the Conference and which

did not send their Frequency Requirements

The above Resolutions were, as appropriate, brought to the attention of the countries concerned by the Secretary-General. Some of these countries have since adhered to the Agreement and it would be useful to continue to have texts aimed at encouraging Members of the Union, belonging to Region 1 or 3 and which have not yet adhered to the Agreement, to do so.

#### ANNEX 2

## RESOLUTIONS ABROGATING RESOLUTIONS AND RECOMMENDATIONS OF PREVIOUS CONFERENCES

The World Administrative Radio Conference, Geneva, 1967,

#### RESOLUTION No. Mar 1

Relating to the Abrogation of Obsolete Recommendations of the Administrative Radio Conference, Geneva, 1959

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

#### RESOLUTION No. Spa2 - 8

Relating to the Abrogation of obsolete Resolutions
and Recommendations of the Extraordinary Administrative Radio Conference
to allocate Frequency Bands for Space Radiocommunication Purposes,

Geneva, 1963, and a Recommendation of the

Administrative Radio Conference, Geneva, 1959

The World Maritime Administrative Radio Conference, Geneva, 1974,

#### RESOLUTION No. Mar2 - 1

Relating to the Abrogation of obsolete Resolutions
and Recommendations of the World Administrative Radio Conference,
Geneva, 1967, and a Resolution of the World Administrative Radio
Conference for Space Telecommunications, Geneva, 1971

The World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

#### RESOLUTION No. Aer2 - 8

Relating to the Abrogation of various Resolutions
and a Recommendation of the Extraordinary Administrative Radio

Conference, Geneva, 1966, and a Resolution of the

Administrative Radio Conference, Geneva, 1959

#### INTERNATIONAL TELECOMMUNICATION UNION

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 159-E 27 September 1979 Original : English

PLENARY MEETING

### STRUCTURE OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE GENEVA, 1979

1. The agenda of the Conference appears in Resolution No. 801 adopted by the Administrative Council at its 32nd Session (1977). This Resolution is reproduced in Document No. 1 (Annex 1) of the World Administrative Radio Conference, Geneva, 1979.

#### 2. Committee Structure and Terms of Reference

The following Committees with their terms of reference are suggested. The terms of reference have been drawn up within the framework of the Conference Agenda. The allocation to each Committee of various Articles of the Radio Regulations and the Additional Radio Regulations and related Appendices thereto as well as related resolutions and recommendations, has been made on the understanding that proposals on certain provisions will require consideration in more than one Committee and that this will be a matter for co-ordination between Committee Chairmen.

#### Committee 1 - Steering Committee

Terms of Reference: To coordinate the work of the Committees, fix the timetable of meetings, etc.

#### Committee 2 - Credentials Committee

Terms of Reference:

To verify the credentials of delegations and to report on its conclusions to the Plenary Meeting within the time specified by the latter.

#### Committee 3 - Budget Control Committee

Terms of Reference:

To determine the organization and the facilities available to the delegates and to examine and approve the accounts for expenditure incurred throughout the duration of the Conference.

#### Committee 4 - Technical Regulations Committee

Terms of Reference:

-To consider proposals concerning the following Articles:

Article N1, Terms and Definitions, Section V, Space, Orbits and Types of Objects in Space, Section VI, Technical Characteristics;

Article N2, Nomenclature of the Frequency and Wavelength Bands used in Radiocommunication;

Article N3, Designation of Emissions;

Article N4, Technical Characteristics;

Article N16, Interference;

Article N17, Tests,

and the related Appendices 3, 4, 5 and B.



#### Committee 4 (continued)

-To consider proposals concerning technical provisions included in the following Articles:

Article N25, Terrestrial Radiocommunication Services sharing Frequency Bands with Space Radiocommunication Services above 1 GHz;

Article N26, Space Radiocommunication Services sharing Frequency Bands with Terrestrial Radiocommunication Services above 1 GHz;

Article N27, Special Rules relating to Space Radio-communication Services;

Article N33, Radiodetermination Service and Radiodetermination-Satellite Service, Section IVB, Radiobeacon Stations,

and the related Appendices 28 and 29.

-To consider as appropriate to the work of the Technical Regulations Committee the resolutions and recommendations adopted by previous Administrative Radio Conferences and to take such action as may be considered necessary including the adoption of any new resolutions and recommendations and also to consider Appendix A.

#### Committee 5 - Frequency Allocations Committee

Terms of Reference :-To consider proposals concerning the following Articles:

Article NI, Terms and Definitions (Sections II-IV);

<u>Section II</u>, Radio Systems; <u>Section III</u>, Terrestrial Radio Systems, Services and Stations; <u>Section IV</u>,

Space Radio Systems, Services and Stations and Radio Astronomy;

Article N5, General Rules for the Assignment and Use of Frequencies;

Article N6, Special Agreements;

Article N7, Frequency Allocations;

Article N8, Special Rules for the Assignment and Use of Frequencies;

Article N28, Section I, Broadcasting Service;

Article N29, Fixed Service;

Article N47, Special Rules relating to the Use of Frequencies in the Aeronautical Mobile Service, and the related Appendix 24.



#### Committee 5 (continued)

-To consider as appropriate to the work of the Frequency Allocations Committee the resolutions and recommendations adopted by previous Administrative Radio Conferences and to take such action as may be considered necessary including the adoption of any new resolutions and recommendations.

#### Committee 6 - Regulatory Procedures Committee

Terms of Reference: - To consider proposals concerning the coordination, notification and registration of frequency assignments, and the activities of the IFRB and, in particular, proposals concerning the following Articles:

> Article N9, Co-ordination, Notification and Registration of Frequencies - International Frequency Registration Board, General Provisions;

> Article N1O, Internal Regulations of the International Frequency Registration Board;

Article Nll, Co-ordination of Frequency Assignments to Stations in a Space Radiocommunication Service except Stations in the Broadcasting-Satellite Service and to appropriate Terrestrial Stations;

Article N12, Notification and Recording in the Master International Frequency Register of Frequency Assignments to Terrestrial Radiocommunication Stations;

Article N13, Notification and Recording in the Master International Frequency Register of Frequency Assignments to Radio Astronomy and Space Radiocommunication Stations except Stations in the Broadcasting-Satellite Service:

and the related Appendices 1, 1A and 1B.

- To consider proposals concerning regulatory measures against harmful interference covered by the following Articles: Article N18, International Monitoring; Article N19, Reports of Infringements; Article N2O, Procedure in a Case of Harmful Interference, and the related Appendices 6, 7, 8 and 9.

- To consider as appropriate to the work of the Regulatory Procedures Committee the resolutions and recommendations adopted by previous Administrative Radio Conferences and to take such action as may be considered necessary including the adoption of any new resolutions and recommendations.

#### Committee 7 - General Administrative Committee

Terms of Reference : - To deal with proposals on general administrative matters not covered by other Committees, and in particular to consider proposals concerning the following Articles:

> Article N1, Terms and Definitions Section I. General Terms;

Article N21, Secrecy;

Article N22, Licences;

Article N23, Identification of Stations;

Article N24, Service Documents;

Article N30, Amateur Service and Amateur-Satellite Service;

Article N31, Standard Frequency Service and Time Signals Service;

Article N32, Experimental Stations;

Article N33, Radiodetermination Service and Radiodetermination-Satellite Service, Sections I, II, III and IVA;

Article N39, Special Services relating to Safety;

Article N73, Effective Date of the Radio Regulations,

and the related Appendices C, 9, 10 and 23.

- To consider proposals on the technical aspects for the use of radiocommunications for marking, identifying, locating and communicating with the means of medical transport protected under the 1949 Geneva Conventions and any additional instruments of these Conventions.
- To suggest to the Plenary Meeting, taking account also of the advice of the other Committees, a programme of future Administrative Radio Conferences to deal with specific services with a view to presenting advice on such a programme to the ITU Administrative Council for subsequent submission to the Plenipotentiary Conference.

### Committee 7 (continued)

- To consider Resolution No. Sat-4 of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, and to take such action as may be considered necessary.
- To consider as appropriate to the work of the General Administrative Committee the resolutions and recommendations adopted by previous Administrative Radio Conferences and to take such action as may be considered necessary including the adoption of any new resolutions and recommendations.

### Committee 8 - Restructure of the Radio Regulations and the Additional Radio Regulations

- Terms of Reference : To consider the specific proposals concerning the basic re-arrangement of the Radio Regulations and the Additional Radio Regulations, and the further refinement and deletion of superfluous or redundant provisions in Articles N34 - 38, N40 - 46 and N48 - 72, as well as any consequential amendments concerning those Articles, related Appendices, Resolutions and Recommendations including the adoption of any new resolutions and recommendations.
  - To consider proposals based on the CCITT. studies carried out in accordance with Resolutions Nos. Mar2-22 and Mar2-23 and to take such action as may be considered necessary.

### Committee 9 - Editorial Committee

To perfect the form of the texts of the Final Terms of Reference: Acts without altering the sense.

NOTE: The Conference would like to consider, as appropriate, the Reports of the International Frequency Registration Board, the Special Preparatory Meeting (SPM) of the CCIR and the General Secretariat which are available as Conference documents.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Addendum No. 2 to
Document No. 160-E
6 November 1979
Original: English

PLENARY MEETING

### Note by the Chairman of the Conference

DISTRIBUTION OF DOCUMENTS TO THE PLENARY AND COMMITTEES

The following documents are distributed additionally to Committee 4 for consideration:

Draft Resolutions Nos.

- IND/93/227
- AUS/102/276A
- AUS/102/276B
- CME/120/6

### Draft Recommendations

- CAN/60A/205
- IND/93/228
- E/114/10
- FIJI Document No. 489

R.J.P. SEVERINI Chairman of the Conference



UNION INTERNATIONALE DES TELECOMMUNICATIONS

# CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

(Genève, 1979)

Addendum N° 1 au Document N° 160-F/E/S 9 octobre 1979

SEANCE PLENIERE PLENARY MEETING SESION PLENARIA

Note du Président de la Conférence

Note by the Chairman of the Conference

Nota del Presidente de la Conferencia

REPARTITION DES DOCUMENTS ENTRE LA PLENIERE ET LES COMMISSIONS\*)
DISTRIBUTION OF DOCUMENTS TO THE PLENARY AND THE COMMITTEES\*)
DISTRIBUCIÓN DE LOS DOCUMENTOS ENTRE EL PLENO Y LAS COMISIONES\*)

On trouvera ci-jointe la répartition détaillée des Résolutions et Recommandations existantes entre les diverses Commissions.

Attached is the detailed distribution to Committees of the existing Resolutions and Recommendations.

Se indica seguidamente la distribución detallada de las Resoluciones y Recomendaciones existentes entre las Comisiones.

R.J.P. SEVERINI
Président de la Conférence
Chairman of the Conference
El Presidente de la Conferencia



Répartition des Résolutions et Recommandations existantes entre les diverses Commissions Distribution of existing Resolutions and Recommendations to Committees Distribución de las Resoluciones y Recomendaciones existentes entre las Comisiones

RESOLUTIONS		RECOMMENDATIONS				
Res. Comm.	Res.	Comm.	Rec.	Comm.	Res.	Comm.
1 6 6 6 6 7 8 8 9 7 9 7 10 5 11 5 12 13 15 6 8 9 1 9 10 11 11 11 11 11 11 11 11 11 11 11 11	Mar2 - 10 "	666666877774488 6667664568 566666557 666666546	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 29 31 32 33 34 35 37 Spa 4 " 5 " 8 " 9 " 10 " 11 Aer 2 Mar 2 " 3 " 6 Spa2 - 1 " 3 " 5 6 7 8 9 " 8 " 9 " 8 " 9 " 8 " 9 " 8 " 9 " 8 " 9 " 8 " 9 " 8 9 " 9 "	4444644445554546775567555775 44 55755 4 8455 6555555544	Spa2 - 10 " 11 " 12 " 13 " 14 " 15 Mar2 - 1 " 2 " 3 " 4 " 5 6 7 8 9 10 " 11 " 12 " 13 " 14 " 15 " 16 " 17 " 18 " 19 " 20 " 21 Sat 1 " 2 " 3 " 4 " 5 " 7 " 8 " 9 LMF *) 1 " 3 " 4 " 5	444784 555777775575745778778 5444445 476655555 65464

Actes finals de la Conférence administrative régionale de radiodiffusion à ondes kilométriques et hectométriques (Régions 1 et 3)

Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3) Actas Finales de la Conferencia Administrativa Regional de Radiodifusión por ondas kilométricas y hectométricas (Regiones 1 y 3)

UNION INTERNATIONALE DES TELECOMMUNICATIONS

# CONFERENCE ADMINISTRATIVE MONDIALE DES RADIOCOMMUNICATIONS

Document N<sup>o</sup> 160-F 27 septembre 1979

(Genève, 1979)

SEANCE PLENIERE
PLENARY MEETING
SESION PLENARIA

U.I.T.

GENEVE

REPARTITION DES DOCUMENTS ENTRE LA PLENIERE ET LES COMMISSIONS\*)

DISTRIBUTION OF DOCUMENTS TO THE PLENARY AND THE COMMITTEES\*)

DISTRIBUCIÓN DE LOS DOCUMENTOS ENTRE EL PLENO Y LAS COMISIONES\*)

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1, 3, 4, 144, 145, 146

Comission 1 (Direction) - Committee 1 (Steering) - Comisión 1 (Dirección)

Aucun document - No documents - Ningún documento

<u>Commission 2</u> (Pouvoirs) - <u>Committee 2</u> (Credentials) - <u>Comisión 2</u> (Credenciales)

2

<u>Commission 3</u> (Contrôle budgétaire ) - <u>Committee 3</u> (Budget control) - Comisión 3 (Control del presupuesto)

125, 126 et/and/y 127

Commission 4 (Réglementation technique) - Committee 4 (Technical Regulations) - Comisión 4 (Reglamentación técnica)

13, 64 à/to/a 69

<sup>\*)</sup> Il convient également de consulter, le cas échéant, les addenda N<sup>OS</sup> 1, 2 et 3 aux Documents N<sup>OS</sup> DT/1 à DT/11.

<sup>\*)</sup> Reference should also be made where appropriate to addenda Nos. 1, 2 and 3 to Documents Nos. DT/1 to DT/11.

<sup>\*)</sup> Véanse asimismo, si ha lugar, los addenda N. OS 1, 2 y 3 a los Documentos N. OS DT/1 a DT/11.

N l (Sec. V et/and/y VI)	DT/1A (p. 92 - 132)
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App 4	DT/3 (p. 158 - 171)
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N 26	DT/1A (p. 194 - 222) DT/1A (p. 223 - 232)
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N 27A N 33 (Sec. IV-B)	DT/1A (p. 244 - 246)
N 33 (Sec. IV-B)	21, III (p. 211 210)
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App 28A	DT/2 (p. 298 - 311)
App 29	DT/2 (p. 312 - 346)
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	DT/11
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n 6	DT/lA (p. 174)
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n 48 - n 72	DT/4 (p. 4 - 6) DT/6 (p. 21 - 22), DT/7 (p. 5 - 15)		
	·		

Modifications résultant des points 2.1, 2.2 et 2.3 de l'ordre du jour

Modifications under items 2.1, 2.2 and 2.3 of the agenda

Modificaciones resultantes de los puntos 2.1, 2.2 y 2.3 del orden del dia

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7, DT/8, DT/9

Commission 9 (Rédaction) - Committee 9 (Editorial) - Comisión 9 (Redacción)

Aucun document - No documents - Ningun documento.

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 161-E 27 September 1979 Original: French

### PLENARY MEETING

### SECRETARIAT OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE

Secretary of the Conference : Mr. M. MILI

Executive Secretary

: Mr. A. Winter-Jensen

Technical Secretary

: Mr. G. Brooks, assisted by Mr. A.A. Matthey

Administrative Secretary

: Mr. U. Petignat

Legal Adviser

: Mr. A. Noll

Plenary and Committee 1: Steering

Mr. H. Pouliquen

Committee 2 : Credentials

Mr. A. Winter-Jensen

Committee 3 : Budget Control

Mr. R. Prélaz

\_

Mr. C. Glinz

Committee 4: Technical Regulations

Mr. M. Sant

Committee 5: Frequency Allocations

Mr. R. Pluss

Committee 6: Regulatory Procedures

Mr. A. Zaccagnini

Committee 7: General Administration

Mr. J. Pelegri

Committee 8 : Restructure
Committee 9 : Editorial

Mr. R. Macheret

The Secretaries may be assisted by other officials appointed from Headquarters.



### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 162-E 27 September 1979 Original : English

> French Spanish

PLENARY MEETING

#### CHAIRMEN AND VICE-CHAIRMEN OF THE CONFERENCE

Chairman of the Conference

: Mr. R.J.P. SEVERINI (Argentina)

Vice-Chairmen of the Conference : MM. A.L. BADALOV (USSR), J. JIPGUEP (Cameroon), H. KIEFFER \* (Switzerland), LI LINCHUAN (China),

A. PETTI (Italy), Glen O. ROBINSON (USA)

Committee 1 Steering

(consisting of the Chairman and Vice-Chairmen of the Conference, and of the Chairmen and Vice-Chairmen of the

other Committees)

Committee 2

: Mr. C.J. MARTINEZ (Venezuela)

Credentials

Vice Chairman : Dr. Amer JOMARD (Iraq)

Committee 3

: Mr. Z. KUPCZYK (Poland)

Budget Control

Vice Chairman: Mr. K.P.R. MENON (Malaysia)

Committee 4

Chairman

: Mr. N. MORISHIMA (Japan)

Technical Regulations

Vice-Chairman : M. M. CISSE (Senegal)

Committee 5

: Mr. M. HARBI (Algeria)

Frequency Allocations

Vice-Chairman : Mr. J.J. HERNANDEZ-G. (Mexico)

Committee 6

Regulatory Procedures

: Mr. M. JOACHIM (Czechoslovakia)

Mr. D.E. BAPTISTE (United Kingdom)

Vice-Chairman : Mr E.J. WILKINSON (Australia)

Committee 7

: Mr. P.O. OKUNDI (Kenya)

General Administrative

Vice-Chairman: Mr. H.L. VENHAUS (Fed. Rep. of Germany)

Committee 8

: Mr. O. LUNDBERG (Sweden)

Restructure

Editorial

Vice-Chairman : Mr. G.I. WARREN (Canada)

Committee 9

: Mr. P. BASSOLE (France)

Vice-Chairmen : Mr. V. QUINTAS (Spain)

Coordinator of Committees 4, 5 and 6.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 163-E 28 September 1979

PLENARY MEETING

### Note by the Secretary-General

MESSAGE FROM THE PRESIDENT OF THE UNITED STATES

I have the honour to transmit herewith to the Conference a message of good wishes from the President of the United States of America.

M. MILI

Secretary-General

Annex: 1 (trilingual)



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### THE WHITE HOUSE \* WASHINGTON

August 28, 1979

Dear Mr. Secretary General:

On the occasion of the convening of the 1979 World Administrative Radio Conference, I send my warmest greetings on behalf of the people of the United States of America.

For one hundred and fourteen years the International Telecommunication Union has promoted the efficient use of telecommunications in all nations of the world. The Union's administrative radio conferences, in establishing an efficient framework of rules and guidelines, are a model of international cooperation.

I wish the delegates to this year's Conference every success in continuing your important work. It is my hope that this meeting will further improve the international structure for radio-communications in ways that strengthen the prospects for social harmony and economic development throughout the world.

Congratulations to you and your colleagues in the International Telecommunication Union for your work in helping to bring about a world community in which all people can share in the benefits of modern communications technology.

Sincerely,

The Honorable Mohamed Mili

Secretary General

of the International Telecommunication Union

Place des Nations

Geneva

Switzerland

Monsieur le Secrétaire général,

A l'occasion de la Conférence administrative mondiale des radiocommunications de 1979, je vous adresse mes voeux les plus chaleureux au nom du peuple des Etats-Unis d'Amérique.

Depuis cent quatorze ans, l'Union internationale des télécommunications oeuvre pour promouvoir l'utilisation efficace des télécommunications dans tous les pays du monde. Les conférences administratives des radiocommunications organisées par l'Union constituent, en établissant un ensemble efficace de règles et de directives, un modèle de coopération internationale.

Je souhaite aux délégués à la conférence réunie cette année la réussite de leurs travaux, qui contribueront au déroulement fructueux de cette activité. J'espère que la conférence améliorera encore la structure internationale des radiocommunications et élargira, ce faisant, les perspectives mondiales d'harmonie sociale et de développement économique.

Je vous félicite, ainsi que vos collègues de l'Union internationale des télécommunications, des efforts que vous déployez pour parvenir à établir une collectivité mondiale où tous les peuples pourront tirer parti de la technologie moderne des télécommunications.

Veuillez agréer, .....

J. CARTER

La Casa Blanca, Washington 28 de agosto de 1979

Señor Secretario General:

Con motivo de la celebración de la Conferencia Administrativa Mundial de Radiocomunicaciones, 1979, le transmito mi más cordial saludo en nombre del pueblo de los Estados Unidos de América.

Desde hace ciento catorce años, la Unión Internacional de Telecomunicaciones promueve la utilización eficaz de las telecomunicaciones en todas las naciones del mundo. Las Conferencias Administrativas de Radiocomunicaciones de la Unión son un modelo de cooperación internacional por cuanto establecen un eficaz encuadre de normas y directrices.

Deseo a los delegados presentes en la Conferencia de este año toda suerte de éxitos en la continuación de su importante obra. Confío en que esta reunión mejore aún más la estructura internacional de las radiocomunicaciones de un modo que consolide las perspectivas de armonía social y desarrollo económico en el mundo.

Felicito a usted y a sus colegas de la Unión Internacional de Telecomunicaciones por su contribución al establecimiento de una comunidad mundial en la que todos los pueblos puedan compartir los frutos de la tecnología moderna de comunicación.

Le presento el testimonio de mi alta consideración,

J. CARTER

M. Mohamed Mili Secrétaire général Union Internationale des Télécommunications Place des Nations Genève, Suisse

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 164-E 28 September 1979 Original: French

English
Spanish

COMITEE 6

### Note by the Secretary-General

INTERNATIONAL CRIMINAL POLICE ORGANIZATION - INTERPOL

Extract from a letter dated 19 January 1979 from the Secretary-General of the International Criminal Police Organization:

"I enclose herewith for your information a copy of a Resolution which was adopted by the General Assembly of ICPO-INTERPOL at its last session.

The police international radiotelegraph network is vital for the very existence of our Organization and certainly for its efficiency in combating international crime. The network's operating frequencies are thus an extremely important problem for us. We therefore would draw your attention particularly to this question and very much hope that ICPO-INTERPOL will have an opportunity of explaining its point of view during the Conference."

The text of the above-mentioned Resolution is annexed below.

M. MILI Secretary-General

Annex : 1



### ANNEX

47/RES/1

### RESOLUTION

#### PROTECTION OF INTERPOL RADIO NETWORK FREQUENCIES

Having been informed that a World-wide Administrative Conference on Radiocommunications is to be held in Geneva from 24 September to 30 November 1979,

<u>aware that</u> proposals may be made during this Conference with a view to re-allocating certain frequencies currently assigned to fixed stations and that the Organization's network would be deprived of some of its frequencies as a result,

realising that such re-allocation could eventually make it impossible to operate the Morse network in the Europe-Mediterranean region and the radioteletype network, and could also jeopardise some intercontinental links,

the ICPO-Interpol General Assembly, meeting in Panama City at its 47th session from 19 to 26 October 1978,

### recalls

- that the Radiocommunications Conference in Washington (1972), The Hague (1927) and Cairo (1938) allocated special frequencies for police use;
- that the procedure for selecting frequencies for the international exchange of information designed to achieve the arrest of criminals was laid down at the Radiocommunications Conferences held in Atlantic City (1947) and Geneva (1959);

reaffirms the importance of the Interpol radiocommunications network which currently covers 53 countries, which carried 330,000 telegrams in 1977, and which the countries concerned and the organization have built up and modernized at considerable expense;

draws attention to the fact that, if the Interpol radio network was unable to function, because it had been deprived of the necessary frequencies and if public telegraph services had to be used instead, international cooperation would be rendered less effective as it would no longer be possible to transmit information simultaneously to several destinations;

<u>asks</u> the National Central Bureaus to approach the competent national authorities in their countries and request them :

- to give paramount consideration to the frequencies allocated to the stations on the Interpol network, in any proposals they intend to submit with a view to modifying the Table of Frequency Allocations at the next World-wide Administrative Conference on Radiocommunications (Geneva 1979);
- 2. to protect the existing frequency allocations if proposals threatening these allocations are made at the Conference;
- 3. to ensure, in the event of the Table of Allocations being substantially altered, that the frequencies used on the Interpol network are maintained notwithstanding.

Adopted unanimously by the 82 delegations voting



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 165-E 28 September 1979 Original : English

PLENARY MEETING

### INTER-UNION COMMISSION ON FREQUENCY ALLOCATIONS FOR RADIO ASTRONOMY AND SPACE SCIENCE

### Changes to be sought at the 1979 World Administrative Radio Conference

### 1. Introduction

In preparation for the WARC (1979), IUCAF has held several meetings and has corresponded widely with the scientific community. This account of the requirements describes the general philosophy and the frequency allocations which are considered to be necessary for the scientific work to be pursued over the next twenty years.

In accordance with its remit, IUCAF has concentrated its attention on radio astronomy and space science, but has recognised that these have some common interests with other services. A philosophy is developing whereby bands would be reserved for passive (i.e. non-transmitting) observations for many purposes; radio astronomy, space research, earth exploration and a search for extraterrestrial intelligence. IUCAF has therefore needed to give some consideration to other passive services to determine whether sharing of the bands can be recommended, and with what reservations. In general the bands suggested for space research (passive) are suitable for similar observations in the earth exploration service, and this service is therefore not mentioned specifically.

### 2. Radio Astronomy

The scientific needs of radio astronomers for the allocation of frequencies were first stated clearly to a World Administrative Radio Conference during preparation for the 1959 WARC. At that time the general pattern of a frequency allocation scheme was:

- (a) that the science of radio astronomy should be recognized as a service in the Radio Regulations;
- (b) that a series of bands of frequencies should be set aside internationally for radio astronomy. These should lie at approximately every octave above 30 MHz and should have bandwidths of about 1% of the centre frequency; and
- (c) that special international protection should be afforded to the hydrogen line (1400 to 1427 MHz), the OH line (1645 1675 MHz) and to the predicted deuterium line (322 329 MHz).

At the end of the 1959 WARC considerable steps had been taken to meet these needs, and at subsequent conferences (with more limited tasks) the growing



extent of the scientific needs has been stated and further steps taken to meet them.

As the 1979 WARC approaches, it is possible to restate the views and hopes of radio astronomers for the protection of their science. First, in general, the needs for continuum observations were well-stated in 1959. They have since grown somewhat; for example, it was not found practicable to use for radio astronomy the standard frequency guard bands between 2.5 MHz and 25 MHz, and a few specific allocations are needed instead. The extension of radio techniques to work well up to more than 300 GHz has taken place. The discovery and study of pulsars and the highly significant results from very long baseline interferometry have placed an even heavier need for worldwide cleared channels of adequate bandwidths all the way from about 10 MHz upwards. The needs for improved sensitivities have led to the development of techniques for using wider bandwidths, and a 1% bandwidth is too restrictive for the most sensitive observations.

Since 1959 scientists have been delighted (and almost embarrassed) by the large number of spectral lines discovered and by the wide variety of simple and complex molecules which produce them. The protection of spectral line frequencies is a difficult task. What is needed is clear in some simple cases; for example, the value of H-line studies has grown, particularly as more sensitive instruments look further out to objects from which the radiation is doppler-shifted to lower frequencies. This in turn has made it most reasonable to look for ways to extend below 1400 MHz the H-line protection. But for many of the new molecular species it is difficult to be precise as to their relative scientific importance. Thus, continued review of the science, combined with "footnote" status, may be needed to give the right results over the years for some of the more exotic lines. Then there are still difficulties for some lines (OH, for example), where radio emissions from air-borne and space-borne vehicles exist too close to the line frequencies. Some continuum bands are similarly affected.

This last difficulty is one which, in recent years, has assumed increasing importance across the whole spectrum, particularly as the demand for more and higher-powered space transmitters has grown. Because the radio astronomy sensitivities are so great, and because propagation paths are uninterrupted, it is most difficult to avoid interference from a space-borne transmitter, even though its central sending frequency may lie correctly within its assigned band. As long ago as 1960 the vulnerability of radio astronomy to interference was being documented in the CCIR. These early estimates have been refined and improved (although they have in fact proved to be remarkably accurate for interfering sources out of the main beam) and they have most recently

been published in CCIR Report 224-4. Furthermore it is now more important to protect radio astronomy bands from adjacent-band interference from air- and was space-to-ground transmissions which may enter the main beam. In some cases it is

hoped that adjustments to uses of the spectrum may make it possible to increase the bandwidths of the radio astronomy allocations at the same time that the adjacent band interference problem is solved (e.g., at 2690 and 5000 MHz through a modification of allocations to the broadcasting satellite and MLS users, respectively) This potential interference situation from air- or space-to-ground transmissions adjacent to the exclusive radio astronomy bands will need careful scrutiny during the WARC.

Since the 1979. WARC will be essentially governing the next two decades, it is prudent for scientists to look ahead for actions which may be needed before that twenty years has elapsed. Thus the concept of a Lunar Quiet Zone has been studied and advanced as being a valuable international resource for radio astronomy and for other sciences which may be passive observers of the universe. Such a zone would not seriously restrict the use of space for research, communications and other benefits.

The 1979 WARC may consider and approve a Recommendation (based on work within the CCIR) which takes the first steps in maintaining such a quiet zone by formal agreement

### A Review of Priorities for ratio astronomy

Looking forward to the 1979 WARC, a number of general statements can be made concerning the present allocations and the future needs of radio astronomy.

- (a) The existing allocations and general protection so far provided have been vital to the science, and their continuation is of the highest priority to the future life and growth of radio astronomy.
- (b) In broad terms, the number of allocations at frequencies suitable for continuum measurements is adequate, apart from some deficiencies which are noted in Section 4, although some types of measurement need to be made at more closely-spaced frequencies and are dependent on local protection. Several line frequencies also have some degree of protection, again with some deficiencies. There are, however, a number of cases where wider bandwidths for continuum bands are needed. IUCAF places high priority on meeting this requirement but in many cases would expect to achieve this by sharing with other, compatible services.

A similar high-priority item is the need, in several of the present line allocations, to improve the protection by keeping away from the line frequencies the transmissions from certain services with which radio astronomy is incompatible.

(c) As the needs for radio services have grown, it has become increasingly difficult to provide more world-wide exclusive bands for any service.

However, the nature of radio astronomical research requires the strongest possible frequency protection. At the 1979 WARC radio astronomers will attach high priority to obtaining a minimum of new exclusive bands essential

to the science, and to obtaining extensions to existing bands and some degree of protection for new line frequencies, in such a way that the new frequencies can be shared with compatible services. It is regarded as impossible for radio astronomy to share frequencies with services transmitting from space or from aircraft or balloons without serious consequences to to the science. Moreover, since it is sometimes technologically impossible to prevent interference from space or airborne transmitters at frequencies adjacent to or harmonically related to radio astronomy bands, there will be considerable emphasis on attempting to provide protection from transmissions by such services even when their allocations are not shared with the radio astronomy service. CCIR Report 224-4, which spells out in detail the criteria needing to be followed to prevent harmful interference to the radio astronomy service, is a most valuable tool in specifying the protection needed, and its use by the telecommunications community for determining whether another service will interfere is strongly encouraged. Satisfactory sharing with ground stations, fixed or mobile, can in many cases be achieved by national arrangements, especially at the higher frequencies.

- (d) Unfortunately, one branch of the science, the simultaneous and coordinated use of antennae separated by thousands of kilometres, raises problems which can be solved only with great difficulty by local sharing arrangements. These "Very Long Baseline Interferometry (VLBI)" experiments, which frequently depend on close international cooperation, involve two or more stations, (up to seven have been used simultaneously) often on different continents. Synchronised measurements are made on precisely the same frequency to improve the angular resolution of radio astronomical measurements to fractions of a milli-arc-second. Other outcomes of the work are the extremely accurate determination of the positions of the observing antennae on the Earth's surface, and the accurate synchronisation of time systems in two participating countries.
- (e) Within the past decade, the improvement of microwave technology, both in the laboratory and at observatories, has led to the systematic search for and detection of the spectral lines of large numbers of interstellar molecules. The discovery of these lines has opened up a vast new area of research of the interstellar medium, including the study of processes of star formation, conditions in cold gas and dust clouds, as well as later stages of stellar evolution. It has also provided the realization that the interstellar medium is a unique chemical laboratory, where conditions exist which cannot be created on Earth.

It is clear that out of the hundreds of spectral lines, only those should be recommended for protection that are of the greatest significance for the study of the astrophysics of the interstellar medium, and for which extensive investigations are expected in the next several decades. The protection suggested for these lines is in the form of footnotes, aimed at the prevention of interference in bands of approximately  $\pm$  0.1% of the rest frequency.

Several molecular and atomic lines have already received footnote protection, although many footnotes require strengthening, and some continuum bands have been chosen to include a number of important lines. Extensive discussions among astronomers around the world have led to a request for protection for only a few additional lines which could be given protection by a single composite footnote, a rearrangement of one continuum band and the addition of another.

(f) There is a general requirement to strengthen footnotes by specifying that all practicable protection should be given "especially from space and airborne transmissions", the last phrase being added for reasons mentioned in (c) above. However many of the new molecular lines occur at frequencies at which there is considerable atmospheric absorption and this will lead to a desire to make observations from aircraft or spacecraft at millimetre wavelengths. Sharing even with ground transmitters will then be difficult, even though the radio astronomy antenna will be pointing at the sky, and it is not yet clear to what extent sharing even with terrestrial services is practicable. Technical studies of this situation are in hand.

### 3. Space Research

Space Research differs from radio astronomy in that only a few activities need frequencies whose location in the spectrum is determined by the nature of the science. Examples are frequencies used for ionospheric studies and for passive sensing of the atmosphere. Many other needs are for adequate communications for transmission of control signals and data between spacecraft and the earth, and the concern of scientists is mainly that the links shall have adequate capacity and reliability; their location in the spectrum is governed by these considerations rather than by scientific objectives. Another difference from radio astronomy is that governments play a much larger part in the provision of resources and therefore in the choice of frequencies. IUCAF is concerned with the communication requirements for space research and for the specific frequencies needed for ionospheric research and for sensing. Furthermore it is concerned not only with bands allocated to the Space Research service but also with those allocated to Space Operation, since these are available for use in support of space research.

### Frequencies for passive and active sensing in Space Research

Active and passive sensing is becoming an important part of Space Research relating to the earth and its atmosphere and to the planets and their atmospheres. A parallel activity is taking place in the Earth Exploration Service. The general principles being followed are:

a) for passive sensing, where scientific work related to the Earth. the planets and their atmospheres is carried out, it is proposed that, to the extent feasible, radio astronomy bands could be used, with additional bands where the nature of the observations requires observation in a particular region of the spectrum. Much of the scientific research on near-Earth satellites probing the Earth and its atmosphere will lay a foundation for continuance of this work in the Earth Exploration Service. A discussion of the many frequency regions where sensors are required for Earth Exploration is found in CCIR Report 693 (Vol. II 1978), and Recommendation 515. Many of the measurements will be made at least initially in the Space Research Service.

Care must be exercised in selecting the Radio Astronomy bands where sharing with Space Research Passive is proposed, since in those bands which Radio Astronomy already shares with terrestrial services the protection of a passive sensor in a space vehicle will introduce new sharing criteria. This is discussed in CCIR Report 694 (Vol II 1978). The CCIR Report indicates that sharing is feasible under many conditions.

It is assumed here that in all cases sharing of a band between Space Research passive and Earth exploration passive is not only feasible but desirable.

b) It is proposed that active sensors should share some radiolocation bands. Studies by the CCIR suggest that this will be technically feasible but the matter is under further consideration by administrations.

In view of sharing problems which may arise, it is clear that the proposals for remote sensing in Space Research must be well supported by scientific and technical justifications.

### 4. Requirements for Radioastronomy and Space Science

2.5 - 25 MHz (Standard frequency bands). These bands can be used in part for space research on a secondary basis. (FN 203A). This requirement is maintained.

About 13 MHz

The WARC 1971 placed on record (Rec Spa 2-7) a requirement for a frequency in the range 10-13 MHz, for radio astronomy, which can be carried out at these frequencies in suitable ionospheric conditions. Such an allocation must be world-wide and should be 100 kHz wide; a band less than 50 kHz would be of little use. Further discussions have indicated that a band within the narrower range 12-13 MHz is to be preferred but that a frequency as high as 14 MHz would be acceptable. There is some

evidence that the possibilities of obtaining such an allocation will be somewhat improved in the future on account of reduced demands by the Fixed Service.

18.052 - 18.068 MHz This secondary allocation to space research should be maintained.

21.85 - 21.87 MHz This exclusive allocation to RA has a bandwidth much smaller than the general requirement for at least 1% of the centre frequency (200 kHz) and has in practice proved to be too small for many purposes. There is some indication that a wider bandwidth would be more likely to be accommodated at a somewhat higher frequency (see next item). If this could be done, the existing band could be released.

25 - 27 MHz

TUCAF now requests the exclusive world-wide allocation of a band at least 100 kHz wide in this part of the spectrum.

If broadcasting from satellites is contemplated at these frequencies, the RA allocation should not be adjacent to any band used for this purpose,

30.005 - 30.01 MHz This SR allocation should be maintained.

37.75 - 38.25 MHz This band is important to radioastronomers and it is requested that it be given primary status, preferably with a somewhat wider bandwidth, and that aeronautical mobile users be excluded.

39.986 - 40.02 MHz This is a useful SR frequency in the harmonic series and at least the secondary allocation by FN 235 should be maintained.

40.98 - 41.015 MHz This allocation under FN 236A is used, with the established harmonic series, to make differential Faraday measurements of ionospheric transmission, and should be maintained. Its use is, however, restricted in parts of Region 1 by conflict with the broadcasting service. IUCAF requests that consideration be given to better protection from interference in the narrow band.

73.0 - 74.6 MHz ) RA has an exclusive Region 2 allocation in the first of these bands and the second is allocated by FN 261 in Regions 1 and 3.

Increasing interest in international collaboration by use of interferometry measurements over very long baselines makes it desirable to rationalise the allocations. IUCAF requests that consideration be given to a world-wide allocation, preferably on an exclusive basis.

136 - 137 MHz

This band is needed for space research using both satellites and high-altitude balloons, both for transmitting scientific data and for operational functions. The uses are for space-Earth links, and will be needed for several years.

- 137 138 MHz The space research uses of this band are the same as for the previous band, and need to be continued.
- 138 143.6 MHz A secondary Space-Earth allocation in Regions 2 and 3 and at least in part in some Region 1 countries (FN 281C, 282A, 283A).

  The footnotes should be retained unless the allocation was made world-wide.
- 139 141 MHz Frequencies in this range have been used for some satellite beacon experiments and it would be desirable for specific allocations to be made at 139.0556, 140.0560 and 141.0564, in harmonic relation to allocations near 20 and 40 MHz.
- 143.6 143.65 MHz A primary shared SR allocation (Space-Earth), No gains would follow from any change to the allocation.
- 143.65 144 MHz A secondary SR allocation in Regions 2 and 3 and in some Region 1 countries. No advantages would accrue from any change unless the allocation was made world-wide.
- 148.0 149.9 MHz By FN 285A this band is authorised for space telecommand, subject to agreement, with individual transmissions limited to 15 kHz bandwidth. To enable tracking functions to be added, the use should be re-designated Earth-Space and the permissible bandwidth increased to 25 kHz. The requirement will continue for several years.
- 149.9 150.05 MHz Emissions from radio-navigation satellites may be used for space research (FN 285C). This facility continues to be needed.
- 150.05 153 MHz This valuable RA allocation in Region 1 is marred by use of the frequencies for meteorological balloons. An exclusive allocation is highly desirable. In the longer term, extension to other regions is desirable to close a large gap in the octave series of allocations.
- 183.1 184.1 MHz A secondary SR allocation by FN 294. No reasons for a change are evident.
- 267 272 MHz)

  These are space-operation allocations used for space research, the lower band being secondary and the upper band shared primary. The space research use is largely for sounding rockets. Use is in practice difficult in some countries and a more widely applicable allocation in this part of the spectrum highly desirable. The requirement is for three bands, each 2 MHz wide.

322 - 328.6 MHz

This band (see FN 310 and 310A) is being used by an increasing number of astronomers, in all Regions, because major telescopes are operating or planned on these frequencies to study the structure of radio galaxies. Protection from interference is requested, including especially the avoidance of transmissions from satellites and aircraft.

360 - 361 MHz

Frequencies in this range have been used for some beacon satellite experiments and it would be desirable for specific allocations to be made at 360.044, 360.144 and 361.244 MHz in harmonic relation to allocations near 20 and 40 MHz.

399.9 - 400.05 MHz Emissions from radio-navigational satellites may be used for space research (FN 285C). This facility should be maintained.

400.15 - 401 MHz

This primary allocation is well-used for transmissions from both satellites and sounding rockets to Earth and should be maintained.

401 - 402 MHz

This allocation is also used for satellites and sounding rockets and should be maintained for space-Earth transmissions.

406.1 - 410 MHz

This is an important band for many radioastronomers who desire that it be well-protected, but its usefulness is decreased by interference from balloon-borne transmitters which nominally operate in the band 400.15 - 406 MHz.

It would be desirable to reduce the interference potential by lowering the upper limit of this meteorological aids band or by extending the RA band upwards by a few MHz so that emissions near the lower end of the band could be avoided.

433.75 - 434.25

By agreement under FN 319B this band may be used for space operation in France and Guyana and is available for the SR However there appears to be no more general need for its use in connection with the SR service.

449.75 - 450.25 MHz By agreement under FN 319A, this band may be used for space telecommand and space research. It should be maintained.

602 - 614 MHz

Various RA allocations are made within this range, with various degrees of protection, to fit in with local television assignments, one television channel usually being available for RA (see FN 329A, 330A, 330B and 332). Radioastronomers attach considerable importance to the maintenance of this allocation since, without it, there would be a large gap between the 410 and the 1400  $\mbox{MHz}$ allocations, in one of the most interesting parts of the spectrum.

It is requested that in those parts of the world in which the allocation to RA is on a temporary basis, greater security can be afforded and RA given the maximum possible protection from both inband and adjacent transmissions. Primary allocations with several MHz common to all Regions, are desired.

900 - 960 MHz

Specific portions of this band may be used on a secondary basis for space research, under FN 339A. The allocation should be maintained.

1215 - 1300 MHz ·

The SPM identified a need for the use of active sensors on satellites, at a frequency near 1 GHz, for the measurement of the wave structure of the ocean. (See SPM Report, Section 5.2.3.3). These measurements may sometimes be carried out as a space research activity and account should be taken of this possibility. The band 1215 - 1300 MHz is the nearest currently-allocated radio location band to 1 GHz and would be suitable for the purpose. The suggested bandwidth is 60 MHz.

1330 - 1400 MHz

This band is needed for important observations of Dopplershifted radiation from hydrogen. FN 349A provides some protection down to 1350 MHz. An extension down to 1330 MHz on the same basis would be desirable to facilitate observations on more distant sources at those observatories with the largest aerials. Such observations can often be made at frequencies shared with low-power ground transmitters, but high power transmitters or any transmitters in aircraft or satellites could cause interference. Efforts to avoid conflicting allocations should be made. In particular a strong effort should be made to obtain an exclusive or primary allocation from 1370 to 1400 MHz. It is hoped that the temporary use of radio navigation (Footnote 349) will be phased out.

1400 - 1427 MHz

This is an important band for studies of the hydrogen line and for continuum observations and should be maintained. There is a space research requirement for passive sensing (see SPM report Table 5.2.3.2.1.) which could be met in part by sharing this radioastronomy band, with strict prohibition of any emissions. The band could also be used, with the same restriction, for a search for emissions from extraterrestrial civilizations.

1427 - 1429 MHz

A space operation band available currently for use in connection with space research. It is designated for telecommand (i.e. in an Earth-space direction). It should be retained, and a more general Earth-space designation would enable a need

for tracking signals to be met. The restriction to the Earth-space direction is necessary for the protection of radioastronomy in the adjacent lower band.

1525 - 1535 MHz

A space operation band for which there is a continuing need for space research operations and which should be maintained. It should be designated Space—Earth and its use widened to include tracking signals.

1610 - 1614 MHz

An important OH line used in conjunction with the main OH bands in the next higher band. Footnote 352K gives some protection within band 1611.5 - 1612.5 MHz. Better protection is needed, excluding all but ground transmissions, and with an extension of protection to a somewhat wider band of 1610 - 1614 MHz to take account of the larger doppler shifts now being detected.

1660 - 1670 MHz

This is an important radioastronomy band for measurements of both the OH lines and the continuum. A discontinuation of the use of the band for balloon-borne transmitters in the Meteorological Aids service would remove a serious risk of interference and the band 1664.4 - 1668.4 at least should be allocated for the exclusive use of radioastronomy. Successful use of this band will depend also on the avoidance of interference from meteorological satellites having assignments in the adjacent band.

1670 - 1690 MHz

The radioastronomy band 1660 - 1670 MHz is extended to 1690 MHz in some countries by FN 354. Such sharing with meteorological satellites does not appear to be feasible as a general rule, but no specific reasons for changing the footnote are known.

1700 - 1710 MHz

This space research band has not been extensively used because there is no suitably related Earth-Space band to accommodate the normal tracking facilities requirement. The space research requirement would diminish or even disappear if satisfactory allocations could be made in the range 2.0 - 2.3 GHz (see below). However the narrow band footnote allocation for radio beacons at 1700 MHz (FN 354D) would still be required unless a lower-frequency alternative, harmonically related to 40 MHz, could be allocated.

1720 - 1721 MHz

This band is for observations of the OH lines associated with those in the band 1660 - 1670 MHz and protection needs to be improved beyond FN 352K by excluding airborne and space transmissions.

1750 - 1850 MHz

By FN 356A this band may be used, subject to agreement, for Earth-space transmissions in the SR service. There is a continuing need for an allocation for this purpose.

2000 - 2300 MHz

A space-research requirement for frequencies in this range, to take advantage of the relative freedom from atmospheric effects, introduces some of the most difficult allocation problems. Currently there is provision by FN 356 AB and 356 ABA for Earthspace transmissions in the band 2025 - 2120 MHz and by FN 356A for space-Earth transmissions in the band 2200 - 2290 MHz, all with various geographical limitations and other conditions. Additionally the band 2290 - 2300 MHz is a shared primary allocation to SR for Space-Earth transmissions. known that frequencies used for deep space missions cannot be shared with other space research activities and the allocation at 2290 - 2300 MHz has been used for deep-space missions associated with an Earth-space allocation at 2110 - 2120 MHz. limitation should now receive formal recognition. Other space research requirements need to be met by allocations in the band 2100 - 2290 MHz and these need to be world-wide.

The requirement could be met, for example by allocations of at least 10 MHz in each direction adjacent to the corresponding allocations for deep-space research, or by allowing access to much wider bands to provide more flexibility in negotiating assignments. Shared allocations need to be on a primary basis to give space research the necessary security for long-term missions.

2670 - 2690 MHz

Use of this band for radicastronomy (FN 364F) will be impracticable if it is shared with transmissions in the broadcasting satellite service. Exclusive use for radio-astronomy to extend the adjacent higher band to a 1% bandwidth would be highly desirable, but sharing with some services transmitting only from the ground seems feasible. An SR requirement for passive sensing could be met in part by sharing this band.

2690 - 2700 MHz

This important radioastronomy band needs to be widened, as suggested under 2670 - 2690 MHz, and also protected from interference by satellite transmissions with assignments in adjacent bands (FN 364H). A space research requirement for passive sensing (see SPM Report Table 5.2.3.2.1.) could be met in part by sharing this band.

3100 - 3400 MHz

There is a need for active sensing of meteorological and geological features using frequencies near 3000 MHz (see SPM Report Section 5.2.3.3.1) and this is the most appropriate The recommended bandwidth is 100 MHz. radiolocation band. Account should be taken of the possible need to carry out such activities as part of the space research service.

The band does not include a general allocation to radioastronemy but contains important CH lines which are being observed. Some protection, eg by a strong footnote, is needed for bands 6 MHz wide around 3263.8, 3335.5 and 3349.2 MHz.

IUCAF is unable to confirm a continuing need for use of 3165 - 3195 MHz by radioastronomers in some countries (FN 354).

4200 - 4400 MHz

The SPM identified a requirement for passive sensing of sea temperatures, using frequencies near 5 GHz, and recommended that there are limited sharing possibilities with aeronautical radio This band is therefore appropriate for sea-sensing, navigation. and account should be taken of the possible need for some of this work to be carried out as part of the space research service.

There is a continuing use of this band by radio-4800 - 4810 MHz astronomers in some countries (FN 354).

4825 - 4835 MHz The importance of the formaldehyde line at 4829.66 is such that at least a stronger footnote is needed (see FN 382A) to protect radioastronomy. Some radioastronomers would be in favour of a wide band (e.g. 4850 - 4890 MHz) for continuum measurements in this part of the spectrum being located to include the formaldehyde line.

4950 - 4990 MHz This band is used by radioastronomers as an extension of the next higher band which is too narrow (see FN 382B). would be improved if transmissions from aircraft could be excluded. Use of this band for space research would be a valuable addition to the facilities available for the measurement of sea temperatures by passive sensing.

This primary (exclusive in Region 2) radioastronomy band is A much-needed improvement would be to extend the narrow. allocation downwards to 4950 MHz by sharing with compatible services as suggested in the last item. To reduce the risk of interference from aeronautical services just above 5000 MHz, exclusion of air-to-ground transmissions from the band 5000 - 5010 MHz is strongly recommended.

> The band could also be used for the passive sensing of sea temperatures.

4990 - 5000 MHz

5250 - 5350 MHz

The SPM identified a need for active sensing near 5 GHz for measurements of the moisture content of soil and this would be an appropriate radiolocation band in which to carry out this work. Account should be taken of the possible need for some of the work to be done in the space research service. The lowest 5 MHz of the band includes a secondary allocation to space research, but the active sensing requirement is for a 100 MHz bandwidth.

5670 - 5725 MHz

Space research has a primary allocation in this band in some countries, and secondary elsewhere. It is the only band specifically allocated for deep-space research at present. It should be maintained.

5750 - 5770 MHz

No change is suggested by radioastronomers in the status of this band for observations of excited hydrogen (Footnote 391A).

5800 - 5815 MHz

There is a continuing use of this band for radioastronomy in some countries (FN 354).

6425 - 7250 MHz

See under 7145 - 7235 MHz for possible SR requirement.

7145 - 7235

This band may be used for Earth-space transmissions in the space research service (FN 392B) and could meet a need for deep space links in this part of the spectrum (see SPM Report Annex 5.2.2.2.5.1) However such use is not compatible with other space research uses which would need to be accommodated on other nearby frequencies (see SPM Report Annex 5.2.2.1). A bandwidth of 50 MHz is suggested, preferably in a fixed and mobile band (e.g. 6425 - 7250 MHz) to avoid sharing with other space services.

7750 - 7900 MHz

See under 8400 - 8500 MHz for possible SR requirement.

8400 - 8500 MHz

This is the lowest space research band which is suitable for wideband transmissions from space and it is allocated on a primary (shared) basis. There are restrictions on its use in some countries. There is a need for a band in this part of the spectrum for transmissions from deep space (see SPM Report Annex 5.2.2.2.5.1.) and reservation of this band for the purpose would fulfil the need. However other frequencies near 8 GHz would need to be found for other space-Earth transmissions in the space research service. A bandwidth of 100 MHz is required for this purpose, and to avoid difficulties of sharing with other space services, the fixed and mobile band 7750 - 7900 MHz would offer suitable opportunities for sharing.

8680 - 8700 MHz

There is a continuing use of this band for radioastronomy in some countries (FN 354).

9200 - 10,050 MHz The SPM identified a need for active sensing of precipitation at frequencies near 10 GHz. The radiolocation bands
9200 - 9300 MHz and 9500 > 10,050 MHz are most suitable for this activity. The suggested bandwidth is 100 MHz. Account should be taken of the possible need to carry out some of this work in the space research service.

10.60 - 10.70 GHz Although the importance of this RA band makes an exclusive world-wide allocation desirable (since it is one of the most important bands used for internationally co-ordinated observations over long baselines) the use of the exclusive band 10.68 - 10.70 GHz with downward extension with the help of local protection seems to be adequate at most observatories. However, exclusion of aeronautical mobile from the band 10.60 - 10.68 GHz is essential to safeguard observations in this band. The band is also appropriate to meet a space research need for passive sensing of various terrestrial phenomena, as identified in the SPM report (Table 5.2.3.2.1).

13.25 - 15.35 GHz The SPM identified a need for links to deep space of up to 400 MHz bandwidth in the frequency range 10 - 14 GHz and for associated links of similar bandwidth in the reverse direction between 12 and 20 GHz. (See SPM Report Annexes 5.2.2.2.5.1 and 5.2.2.2.5.2) There are also other space research requirements at these frequencies (see SPM Report Annex 5.2.2.1). The present provisions, under footnotes 407A (13.25 - 14.2 GHz) and 408B (14.4 - 15-35 GHz) are barely adequate in extent to cater for deep space and other research activities separately. Somewhat wider bandwidths and improved status are highly desirable.

The band 14.485 - 14.515 GHz is important for radioastronomical observations of formaldehyde, and at least its footnote status (Footnote 408C) should be strengthened. Footnotes 408B and 408C should be cross-referenced to avoid interference to radio—astronomy from space research. However see the comment on the next band.

15.35 - 15.40 GHz This is an important radioastronomy band in the continuum series and needs to be widened to 15.30 - 15.55 GHz by sharing with compatible services. The possibility of moving it down in frequency to contain the above formaldehyde line near 14.5 GHz has been discussed. A band at least 200 MHz wide would then be sought, so located to avoid the risk of interference from radio navigation satellites below 14.4 GHz. This location

would have the advantage of being within a band currently allocated to Fixed and Mobile, rather than the present location between bands available for Space Research (Space-to-Earth) and Aeronautical Radio navigation, which makes an extension of the present band difficult. The Fixed-satellite service in the lower band is designated as Earth-space and should not be a serious source of interference. This band could also be used to satisfy in part a space research requirement for passive sounding (see SPM Report 5.2.3.2.1). However the requirement for a bandwidth of 200 MHz could be met only if the suggested increase in the RA bandwidth was agree.

15.7 - 17.7 GHz

The SPM identified a need for active sensors for various investigations of the Earth's surface and atmosphere, using frequencies near 14 and 17 GHz. This radio location band could be used to meet these requirements and account should be taken of the possible need for some of the work to be carried out in the space research service.

17.7 - 21.2 GHz

The SPM identified a need for passive sensing of various terrestrial parameters using a band 200 MHz wide near 18 GHz. This need could be met by sharing part of this band with fixed and mobile services or with the down-links of the fixed satellite service. Account should be taken of the possible need to carry out some of this work in the space research service.

21.2 - 22 GHz

Provision should be made for passive sensing of atmospheric H<sub>2</sub>O in the space research service. The bandwidth needed is 200 MHz.

22.21 - 22.5 GHz

This band can be used for radioastronomy under FN 410A. A space research requirement for measuring atmospheric  $\rm H_2O$ , identified by the SPM, could be met by sharing with the existing services.

23.6 - 24 GHz

This exclusive radioastronomy band is important for continuum measurements and for the study of ammonia. It should be retained but could be shared to meet a space research need (passive) identified by the SPM. An extension of the band to 22.6 - 24.6 to cover additional NH<sub>3</sub> lines would be desirable.

31.0 - 31.3 GHz

In this band there is a primary allocation to SR in some countries and secondary in others, and no reason for any change is apparent. Footnote 412I is designed to permit a downward extension of the adjacent, higher, radioastronomy band, but such use might be restricted by space research use. Use of the band therefore needs to be co-ordinated.

- 31.3 31.5 GHz This exclusive world-wide RA allocation should be maintained and if possible extended to 31.8 GHz if the SR usage makes this feasible.
- 31.5 31.8 GHz The SPM identified a need for passive sensing of various terrestrial parameters near 30 GHz with a bandwidth of 500 MHz. Restriction of the SR use of this band to passive sensing and extension to include the previous band would enable this need to be met, and would also provide a wider bandwidth for RA.
- 31.8 32.3 GHz This is a primary allocation to space research in a few countries and secondary elsewhere. No reasons for changes in this situation are apparent.
- 33.0 33.4 GHz This includes an RA allocation in Region 1 only and could be relinquished if an RA allocation could be obtained for 31.0 31.8 GHz, as discussed under that band.
- 33.4 34. GHz This band is used for RA in a few countries, but the suggested consolidation of RA allocations into 31.0 31.8 GHz might make this allocation inessential.
- 34.2 36 GHz The SPM identified a need for active sensing of snow at frequencies near 35 GHz, using a suggested bandwidth of 100 MHz. This radiolocation band would be suitable, and account should be taken of a possible need to carry out such measurements in the SR service.
- 36.46-36.5 GHz This band is used for RA in a few countries for observations of a line of excited hydrogen and FN 310A should be maintained. The band could also be used to meet a need, in part, for passive sensing of various meteorological parameters (see SPM Report, Table 5.2.3.2.1). Some of this work may need to be carried out in the SR service.
- 42.820) These lines of silicon monoxide (SiO) are the subject of RA
  43.122) GHz
  43.425) measurements. Footnote protection is needed for a band
  100 MHz wide around each frequency.
- 48.991 GHz An RA line of carbon monosulphide (CS). Footnote protection is needed for a 100 MHz band.

50 - 66 GHz

The SPM identified a need for several bands near 55 GHz for space research involving the measurement of atmospheric temperature. (See SPM Report Table 6.2.5.1.1).

Current SR allocations at 51 - 52, 52 - 54.25, 58.2 - 59 and 64 - 66 GHz span the oxygen absorption line and are likely to be well-used for SR. It may prove necessary to use other frequencies in this range to utilize the fine structure of the oxygen lines.

72.409 GHz

Footnote protection is desirable in a band 150 MHz wide for RA observations on this formaldenyde line ( $H_2CO$ ).

86 - 92 GHz

This is an important RA band for continuum measurements and contains several natural lines, two of which are considered of special importance (see SPM Report, Annex 5.2.1.2.2). Transmissions from broadcasting satellites in the contiguous band 84 - 86 GHz are a potential source of interference in the long-term.

The band can also meet a requirement for passive sensing, which may be carried out partly in the space research service (see SPM Report Table 6.2.5.1.1).

93.17 GHz

Footnote protection is desirable for this line of diazenylium (HNN+).

97.98 GHz

Footnote protection is needed for this line of carbon monosulphide (CS) which has been identified as of high priority (see SPM Report Annex 5.2.1.2.2).

100 - 102 GHz

Observations of this nitrous oxide  $(N_2O)$  line at 100.49 GHz may need to be carried out in the space research service (see SPM Report, Table 6.2.5.1.1). A band 2GHz wide is needed, and this could be achieved by extending downwards the current allocation at 101 - 102 GHz.

105 - 116 GHz

This band, not currently allocated to radioastronomy, is one of the most important bands in the radio frequency spectrum, at least equal in importance to the hydrogen line band 1400 - 1427 MHz. The band contains many spectral lines, in particular the lines of carbon monoxide and its isotopes (CO) at 109.78, 110.20, 112.36 and 115.27 GHz which are not only the most powerful tool in the study of isotope ratios, but are also essential in the study of cool clouds, regions of star formation, and structure of our Galaxy and other galaxies. The line at 115.27 GHz is currently given some protection by Footnote 412K. Other lines

in this band are the cyanogen radical (CN) and lines of methyl cyanide (CH $_3$ CN), isccyanic acid (HNCO), carbonyl sulphide (OCS) and cyanoacetylene (HC $_3$ N).

Very high priority is placed on making this band a primary world-wide allocation to the RA service. It could also meet a requirement for observations based on both the CO lines and the ozone line, at 110.80 GHz, in the SR service (see SPM Report, Table 6.2.5.1.1).

118.70 GHz

The SPM identified a need for passive sensing on this frequency, in a band 2 GHz wide, as a means of measuring atmospheric temperatures (see SPM Report, Table 6.2.5.1.1). Such measurements may be needed in the SR service.

125.61 GHz

The SPM identified a need for passive sounding of nitrous oxide at this frequency, and this may be needed in the SR service.

(See SPM Report Table 6.2.5.1.1).

130 - 140 GHz

This is a useful primary allocation for both RA and SR (passive). However its use would cease to be essential if the suggested allocation of 105 - 116 GHz is made.

140 - 151 GHz

Footnote protection is needed for RA bands 300 MHz wide centred on:

140.839 GHz Formaldehyde (H<sub>2</sub>CO)

144.827 GHz Deuterated Hydrogen cyanide (DCN)

145.603 GHz Formaldehyde (H<sub>2</sub>CC)

146.969 GHz Carbon montsulphide (CS)

150.498 GHz Formaldehyde (H<sub>2</sub>CO)

These have been identified as having high priority (see SPM Report Annex 5.2.1.2.2)

Additionally there is a nitrous oxide line at 150.74 GHz which needs to be observed as part of the space research service. (See SPM Report Table 6.2.5.1.1).

164 - 168 GHz

A SR allocation is needed in this range for passive sensing of chlorine oxide (164.38 and 167.20 GHz). (See SPM Report Table 6.2.5.1.1).

174 - 182 GHz

This band contains useful lines for RA at 174.6, 174.85, 177.26, 178.4 and 181.2 GHz. Also the nitrous oxide line at 175.86 GHz needs to be observed in the SR service (see SPM Report Table 6.2.5.1.1)

182 - 185 GHz

This band, currently allocated to SR (Passive) contains important lines of water vapour at 183.5 GHz and ozone at 184.75 GHz and the allocation needs to be retained. The band should also be allocated to RA as a primary service.

186.6 GHz

A line of diazenylium which is observed in the RA service for which at least FN protection is requested.

200.98 GHz

This nitrous oxide line needs to be observed in the SR service, and at least FN protection is requested.

219 - 221 GHz

Two lines of carbon monoxide (CO) at 219.560 and 220.399 GHz need to be observed in conjunction with CO lines in the band 105 - 116 GHz. This is an important RA requirement, listed in SPM Report Annex 5.2.1.2.2. and a world-wide exclusive allocation is desired; in any case airborne and space transmissions should be excluded.

226.09 GHz

This nitrous oxide line needs to be observed in the SR service (see SPM Report Table 6.2.5.1.1).

230 - 240 GHz

An RA continuum band which also contains a carbon monoxide line at 230.538 GHz needed for RA (SPM Report Annex 5.2.1.2.2) and SR (SPM Report Table 6.2.5.1.1). This table also shows a need for passive sensing of lines of ozone (235.71 and 237.15 GHz). The continuing allocation is essential and extension down to 229 GHz would include another interesting carbon monoxide line.

251.21 GHz

This is a nitrous oxide line to be observed in the SR service.

261 - 272.5 GHz

Recommended as a new world-wide band for radioastronomy, or possibly shared with ground-based transmissions only. The reason for this recommendation is that the band contains a very important series of spectral lines of the molecules C<sub>2</sub>H (262.5 GHz), HCN, hydrogen cyanide (265.9 GHz), HCO<sup>+</sup>, formalyl ion (267.6 GHz), and HNC, hydrogen isocyanide (272.0 GHz). Rather than seeking individual protection for each of these lines, allocation of the entire band is proposed.

Above 275 GHz

If consideration is given by the WARC (1979) to the allocation of frequencies above 275 GHz, proposals for radioastronomy would be based on the need for continuum bands in the atmospheric windows, e.g. around 415 and 500 GHz, bearing in mind the existence of many molecular line frequencies, the relative importance of which will be clarified as work proceeds. Diazenylium (HNN) at 279.5 GHz will need protection if allocations are extended to 300 GHz.

A nitrous oxide line at 276.33 GHz needs to be observed in the SR service (see SPM Report Table 6.2.5.1.1.).

## Appendices

Various special considerations relevant to radioastronomy allocations are discussed in the following appendices:

- 1. The Lunar Quiet Zone
- 2. Footnotes for Radioastronomy and Space Research (Passive) services
- 3. The effect of broad-band transmissions on Radioastronomy.

27th July 1979

### APPENDIX 1

### THE LUNAR QUIET ZONE

Recent advances in Space Respearch have demonstrated that it is now feasible to undertake programmes to implant and operate radio devices on that part of the surface of the moon which is permanently faced away from the Earth. It has also been demonstrated that it is feasible to establish an artificial satellite of the moon. In its orbit about the moon the satellite, if close in, is for a significant part of the time, but less than half, in space which is shielded from the Earth by the moon. These considerations have led the CCIR to study the question of establishing a Lunar Quiet Zone so that passive radio observations, such as radio astronomy observations could be carried out in this zone free from interference from terrestrial transmitters. The establishment of a quiet zone is of extreme importance to radioastronomy. The present situation is as follows:

At frequencies below about 30 MHz any allocation of spectrum bands to the Radio Astronomy Service must be on an exclusive basis because of the long propagation paths made possible by the ionosphere.

At frequencies below about 10 MHz the penetrations of the ionosphere by signals from space is highly dependent on solar and ionospheric activity, and is marginal at best.

At all frequencies, radioastrony receivers, attempting to detect and measure the weakest signals far below the levels normally used in telecommunications, are vulnerable to harmful interference caused by spurious emission, principally from transmitters in adjacent bands and by harmonics generated by transmitters in bands at lower frequencies.

At those high frequencies where line-of-sight propagation prevails and where radioastronomy observations, free of interference, are made possible by horizon and site shielding, harmful interference is caused by transmitters in high-flying aircraft and in satellites.

Radioastronomy observations made from within the Lunar Quiet Zone would a) not be impeded by the ionosphere and b) be shielded to an extreme degree from terrestrial transmitters in the same band and from spurious transmissions from transmitters in any band.

The CCIR, recognizing the valuable research and operational activity carried out by means of Earth satellites, defined the Lunar Quiet Zone

based on a sphere with a radius of 100,000 kilometres from the centre of the Earth (beyond these limits terrestrial satellites would not normally operate).

Recognizing the importance and the unique possibility of making observations of galactic and extragalactic radiation over the entire radio spectrum, the CCIR proposes that the entire radio spectrum with the exception of those bands allocated to Deep Space Research, when vehicles travel into interplanetary space beyond the moon, be set aside in the Lunar Quiet Zone for passive operational use.

IUCAF strongly endorses the pertinent CCIR Report and Recommendation.

An action taken at the WARC aimed at preserving this region for future passive observation of any kind would contribute to the advancement of science and telecommunications.

#### APPENDIX 2

### FOOTNOTES FOR RADIO ASTRONOMY AND SPACE RESEARCH (PASSIVE) SERVICES

TUCAF believes that Article 5 of the Radio Regulations could be improved if the many footnotes pertaining to Radio Astronomy were consolidated into four general footnotes in accordance with the method proposed below:

- 1. For all cases where a band is allocated to Radio Astronomy on a Primary Exclusive basis or to Radio Astronomy on a Primary basis shared with Space Research (Passive) the recommended footnote would read:
  - A. All emissions are prohibited in the following bands:
    (List all bands)
- For all cases where the allocation to Radio Astronomy and/or Space Research (Passive) is a) Primary shared with another service,
  - b) Primary with another service secondary, c) Secondary,
  - d) Secondary by footnote, on a world wide basis, or d) on a world wide basis with no mention of Primary or Secondary, the recommended footnote would read:
  - B. In making assignments to other services to which the following bands are allocated:

(List all bands)

Administrations are urged to take all practicable steps to protect Radio Astronomy and Space Research (Passive) observations from harmful interference. Space and airborne transmissions present particularly serious sources of interference to these services.

3. C. Radio Astronomers observe a number of important spectral lines in the bands listed below. Administrations are urged to take all practicable steps to protect Radio Astronomy observations from harmful interference. Space and airborne transmitters present particularly serious sources of interference to the radio astronomy service.

(List all bands on IUCAF list)

- 4. For all cases where the allocation to Radio Astronomy or Space Research Passive is by footnote on a regional basis the recommended footnote would read:
  - D. In making assignments to other services to which the following bands are allocated:

(List all bands)

Administrations are urged to take all practicable steps to protect Space Research (Passive) and Radio Astronomy observations from harmful interference. Space and airborne transmissions present particularly serious sources of interference to these services.

If the above general footnotes are used, the only remaining footnotes will be those dealing with exceptions of various kinds.

### APPENDIX 3

### THE EFFECT OF BROAD-BAND TRANSMISSIONS ON RADIO ASTRONOMY

Spurious emissions have been of concern to the ITU since the beginning of radio communications. Initially it was the broad-band nature of spark transmission that made it appear that the number of bands available in the spectrum and the extent of use of those bands would be severely limited. Fortunately, the tuned circuit and the vacuum tube were invented making it no longer necessary to rely on spark generation for transmitters. Immediately the number of bands available and the potential use of the bands were greatly increased. Shortly thereafter theoretical work was done to show the fundamental relationship between the amount of information per unit time and the required bandwidth. These developments resulted in the more efficient use of the spectrum existing today.

In recent years vast improvements in the sensitivity of radio receivers have been achieved making possible the improvement of existing services and the introduction of new services which are dependent on sensitive receivers for their operation. At the same time new methods of modulation have been introduced, many of which are broad-band in nature. The sensitive receivers and broad-band modulation are flying a collision course.

As with most methods of modulation, broad-band modulation does not cut off sharply at the band edges, but falls off at a rate of some dB per megahertz, the value of "some" depends on the particular type of modulation and the care exercised in the design of the transmitter. The rate of fall-off can generally be increased by means of well designed filters. The degree to which filtering out the out-of-band radiation affects the quality of the transmission requires further study. On the other hand, the input bandwidth of a sensitive receiver does not normally fall off sharply at the band edges. Here the rate of cut-off can be increased by the use of filters with no adverse effect on the operation of the receiver.

The existing regulations defining bandwidth, spurious emission, and harmful interference were adopted before the widespread use of broadband emission and sensitive receivers occurred.

Becuase of its impact on the two Services of concern to IUCAF, Space Research and Radio Astronomy, IUCAF suggests that the WARC -79 considers asking the CCIR to study on a broad basis the effects of the use by one service of broad-band modulation techniques on interference to other services using sensitive receivers and to propose methods to alleviate the problem. The WARC may also wish to request the CCIR to review the pertinent regulations and propose those changes required on technical grounds to control out-of-band radiation and spurious emissions with the purpose of reducing the occurrence of harmful interference.

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 166-E 28 September 1979 Original: French

COMMITTEE 5

## People's Republic of Bulgaria

### PROPOSALS FOR THE WORK OF THE COMMITTEE

The Administration of Bulgaria requests that the name of Bulgaria should be deleted from the following footnotes to the Table of Frequency Allocations:

3611/303	3745/382
3625/311A	3759/390
3633/316	3765/392G
3637/318A	3766/392Н
3672/342	3675/398
3678/348	3784/405B
3685/352	3792/407
3697/354	3812/412G
	3625/311A 3633/316 3637/318A 3672/342 3678/348 3685/352

Reasons : The footnotes do not reflect the use of these bands and/or frequencies in Bulgaria.



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 167-E 29 September 1979 Original: English

COMMITTEES 4 AND 5

#### Greece

PROPOSALS FOR PROTECTION OF RADIOCOMMUNICATION SERVICES FROM PROBABLE INTERFERENCES WHICH MAY BE CAUSED FROM THE RADIATION OF INDUSTRIAL, SCIENTIFIC AND MEDICAL (ISM) EQUIPMENTS

#### Introduction

- As it is well known, the number of ISM applications and equipments steadily increase. Most of those equipments are high and very high power generators of radio frequencies, up to hundreds of kWs. Though they are destined for local use, for several reasons, they may cause serious interferences to the radio services. They may also cause damages to the human body in case of irrational use. Therefore, though the usefulness of ISM equipments cannot be disregarded, necessary measures have to be taken to safeguard the good function of the radio services and the protection of the good use of the spectrum and of the environment.
- 2. Article 35 of the Convention urges administrations of taking all practicable steps to protect telecommunication services and particularly safety, radionavigation, mobile services and other services working with very low field strengths. ISM equipments have therefore not to produce high level spurious and harmonic products which will create harmful interference particularly to those telecommunication services. Furthermore the administrations through the ITU "shall in particular effect allocation of the radio frequency spectrum and of assignments in order to avoid interference to radio services and stations" (Article 4).
- 3. In the present Radio Regulations a number of frequencies are mentioned for ISM purposes. However,
  - a) the ISM use is not itself defined in the Radio Regulations;
  - b) the reference to the ISM use is done with several footnotes, which are not uniformly phrased, (see Radio Regulations 3513/217, 3522/225, 3533/236, 3645/321, 3670/340, 3709/357, 3760/391 and 3803/4100);
  - c) there is no apparent relationship amongst the ISM frequencies;
  - d) an adequate protection of the radio services from possible interferences from ISM equipments cannot any more be safeguarded with the above mentioned footnotes.
- In order to protect adequately the radio services and at the same time permit a rational development and function of the ISM equipments necessary regulatory actions have to be taken in due time. Greece deems that the WARC-79 is the right moment for such regulatory steps, and proposes the following:
  - a) frequency bands for ISM purposes should have a world-wide allocation;
  - b) frequencies for ISM applications should be harmonically related and should not, in any way interfere with the safety of life frequencies;
  - c) free-radiation from the ISM equipment should be as low as possible. To this purpose strict radiation limits should be specified.



- 5. To achieve the above mentioned goals Greece deems necessary :
  - a) a clear definition of what ISM is, to be included in the Radio Regulations to avoid any ambiguity;
  - b) frequencies for ISM to be selected harmonically as far as possible through footnotes simply and uniformly phrased;
  - c) the interference due to a probable radiation from ISM frequencies to be strictly limited through a closer cooperation of CCIR and CISPR. To this purpose a relevant Resolution has to be approved.

Therefore in order that a basis in the Radio Regulations is found for the appropriate regulatory actions for the protection of radio services from ISM, the following proposals are submitted to the Conference.

GRC/167/496 ADD 3030A ISM: The application of equipment destined for the generation and use of radio frequency energy for industrial, scientific and medical and similar purposes but excluding all telecommunication applications.

Reasons: To define the ISM term appearing in the Radio Regulations.

GRC/167/497 SUP 3513/217 3523/225 3533/236 3645/321 3670/340 3709/357 3760/391 3803/410C

GRC/167/498 ADD 3502B The frequency 3 515 KHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/499 ADD 3509A The frequency 7 030 KHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/500 ADD 3513A The frequency 14 060 KHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/501 ADD 3524A The frequency 28.120 KHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/502 ADD 3534A The frequency 42.18 MHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/503 ADD 3561A The frequency 84.36 MHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/504 ADD 3645A The frequency 433.92 MHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/505 ADD 3668A The frequency 915 MHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/506 ADD 3709A The frequency 2 450 MHz is also designated for ISM purposes, see Resolution (GRC A).

GRC/167/507	ADD	3760A	The	frequency	4	900 MHz	is	also	designated	for	ISM
		purposes, see Resolut	ion (	(GRC A).							

- GRC/167/508 ADD 3777A The frequency 9 800 MHz is also designated for ISM purposes, see Resolution (GRC A).
- GRC/167/509 ADD 3803A The frequency 24.125 GHz is also designated for ISM purposes, see Resolution (GRC A).
- GRC/167/510 ADD 3814A The frequency 48.250 GHz is also designated for ISM purposes, see Resolution (GRC A).

Reasons: To simplify the Table of Frequency Allocations whilst introducing provision for the right use of ISM applications in the Radio Regulations.

 $\underline{\text{Pro mem}}$  : Consequential changes have to be made to corresponding boxes in the Table.

GRC/167/511 ADD

#### RESOLUTION (GRC A)

## Relating to the protection of telecommunication services against interference caused by radiation from ISM-equipment

The World Administrative Radio Conference, Geneva, 1979,

#### considering

- a) that ISM equipment generates and uses local radio frequency energy, whereby outward radiation is not required but cannot always be avoided;
- b) that there is an increasing proliferation of ISM equipment working on numerous frequencies throughout the spectrum;
- c) that only certain frequencies are at present designated for ISM purposes by footnotes to the Table of Frequency Allocations;
- d) that in some cases a considerable part of the energy radiated by ISM-equipment occurs on harmonics of the working frequency;
- e) that radio services, especially those using low field strengths (e.g. radionavigation and other safety services), may suffer interference caused by radiation from ISM equipment;
- f) that the increasing sensitivity of modern receivers enhances the likelihood of interference by radiation from ISM equipment;

#### is of the opinion

- a) that there is a need for clear designation of frequencies for ISM purposes throughout the frequency spectrum;
- b) that it would be advantageous to select the ISM frequencies with their tolerance in a harmonic relationship;
- c) that it is necessary to define the limits of radiation of ISM equipment outside the designated ISM frequency bands;
- d) that it is necessary to define the limits of radiation of ISM equipment within the ISM frequency bands.

#### resolves

- 1. a) to designate for ISM purposes the frequency bands determined on the basis of the frequencies and tolerances, set out in Table A of the annex;
  - b) that the radiation from ISM equipment outside the bands designated for ISM shall be as low as possible.
- 2. that radio services operating in the frequency bands designated for ISM must accept harmful interference caused by radiation from ISM equipment satisfying the provisions set out in the annex;

- 3. that outside the frequency bands designated for ISM, radio services operating in accordance with the relevant provisions of the Radio Regulations have absolute priority and shall not suffer interference from ISM equipment;
- 4. that the CCIR be invited to undertake, as quickly as possible in collaboration with IEC/CISPR, a study with the object of establishing a recommendation concerning the limits, to be imposed on the radiation from ISM equipment; and frequency tolerance for each category of these equipments in order to safeguard the use of the telecommunication services which may suffer interferences from these equipments;
- 5. that the relevant CCIR Recommendation will be considered an integral part of the annex to this Resolution.

TABLE A

No.	1 frequencies (MHz	2 frequency tolerances %	band limits
1234567891123	3.515 7.030 14.060 28.120 42.180 84.36 433.92 915 2450 4900 9800 24125 48250		

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 168-E 1 October 1979 Original: French

COMMITTEE 5

### People's Republic of Angola

### PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of the People's Republic of Angola requests that the above designation should be retained in the texts of the following footnotes to the Table of Frequency Allocations:

AGL/168/1	MOD	3469/176 with the text proposed in ZMB/34/2.
AGL/168/2	MOD	3539/241 with the same text and the country's present designation.
AGL/168/3	MOD	3568/269 with the text proposed in BOT/52/27.
AGL/168/4	MOD	3574/274 with the same text and the country's present designation.
AGL/168/5	MOD	3574/275 with the text proposed in BOT/52/29.
AGL/168/6	MOD	The name of Angola should be included in the footnote 3612/304 to the Table of Frequency Allocations with the text proposed in BOT/52/38.
AGL/168/7	MOD	The name of Angola should be deleted from the footnote 3578/275A to the Table of Frequency Allocations.

Reasons: To update the footnotes, bringing them into line with the present situation of these bands in the People's Republic of Angola.



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 169-E 1 October 1979 Original : French

COMMITTEE 7

#### Republic of Upper Volta

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

- 1. The Republic of Upper Volta requests that the call sign series XTA-XTZ should be allocated to it definitively.
- 2. The Republic of Upper Volta further notes that in the Preface to the International Frequency List certain names of countries, towns, etc. are no longer in use and asks that these names be updated.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 170-E 1 October 1979 Original : French

### Note by the Secretary-General

### PANAFRICAN TELECOMMUNICATION UNION

A letter from the observer for the Panafrican Telecommunication Union (UPAT) is reproduced below for the information of the Conference:

Dear Mr. Secretary-General,

I have the honour to inform you that Mr. Mpembele MUNTU and myself are obliged to return to UPAT Headquarters in Kinshasa.

In our absence, the Panafrican Telecommunication Union will be represented at the World Administrative Radio Conference by the following delegates :

- 1. Mr. Ali BEL HADJ (Algeria)
- 2. Mr. Charles ANIRA (Kenya)
- 3. Mr. H.A. MEBUDE (Nigeria)
- 4. Mr. Aka BONNY (Ivory Coast)

Yours faithfully,

(Signed) Mamadou Bobo CAMARA

M. MILI Secretary-General



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 171-E 1 October 1979 Original : English

## Note by the Secretary-General

ASIA-PACIFIC BROADCASTING UNION (ABU)

A telegram from the Asia-Pacific Broadcasting Union is reproduced below for the information of the Conference.

## atten: mr. m mili, secretary general, itu

thanks yrtel 28 september re warc-79. as previously advised you by my 16 august telex we regret abu unable to send its own representative according to decision of abu administrative council meeting in suva last may but have requested mr irfanullah who is member of pakistan national delegation to conference and present chairman of abu engineering committee to also speak for abu in advisory capacity, grateful if you can confer this information to conference officers concerned. mr. irfanullah already at geneva.

kind regards and hoping for successful conference.

matsui, acting secretary general, abu

9/28/79 17:30

M. MILI
Secretary-General



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 172-E 1 October 1979 Original: English

COMMITTEE 4

### United Kingdom

PROPOSALS FOR THE WORK OF THE CONFERENCE

## Out-of-band emissions from 12 GHz broadcasting satellites in Regions 1 and 3

The frequency band immediately below the broadcasting-satellite band at 12 GHz in all Regions and the band immediately above it in Region 1 are allocated on a primary basis to the fixed-satellite service for space-to-Earth links, and systems operating in these adjacent bands need to be protected against interference from broadcasting-satellite out-of-band emissions. This fact was recognized at the 1977 WARC for planning of the broadcasting-satellite service in the 12 GHz band, and guardbands of 14 MHz and 11 MHz were included at the lower and upper edges respectively of the broadcasting-satellite band in order to reduce the out-of-band radiation. However, no specific limits on the levels of out-of-band radiation were established, and it is considered important that such limits should be laid down.

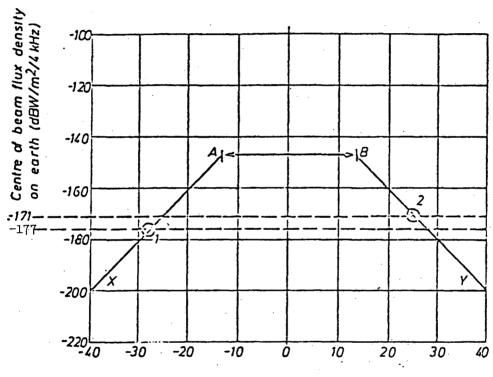
The maximum PFD due to out-of-band radiation which would be acceptable for the fixedsatellite service is shown for various conditions in Table 5.2.8.2.6.2 of the SPM Report, based on Report 712. The Table shows that to protect a typical narrowband carrier in the lower adjacent fixed-satellite band a PFD limit of about -200 dBW/m2/4 kHz would be required where the fixed-service satellite and broadcasting satellite are co-located. In general it is considered that it should be possible to co-locate fixed-service satellites using 11.45 to 11.7 and 12.5 to 12.75 GHz bands with broadcasting satellites, and constraints on the use of particular types of carrier such as narrowband carriers within the fixed-satellite service should be avoided as far as possible. Nevertheless it was recognized at the broadcasting-satellite WARC that to achieve a PFD limit of -200 dBW/m<sup>2</sup>/4 kHz at the very edge of the broadcasting-satellite band. would call for rather wide guardbands within the broadcasting-satellite allocation. It was further noted that with broadband fixed-satellite carriers some allowance can be made for the decay of the interfering spectrum across the bandwidth of the wanted carrier, so that a somewhat higher band edge interfering PFD can be accepted for such carriers (e.g.-177 dBW/m<sup>2</sup>/4 kHz for a 20 MHz 612 channel carrier, assuming a 4 MHz guardband within the fixed-satellite allocation and making an assumption, discussed below, about the rate of spectral decay of the out-of-band emissions).

The width of the guardband incorporated in the broadcasting-satellite plan at the lower band edge was therefore based on the protection requirements of broadband fixed-satellite carriers, and it was accepted that the use of narrowband carriers would be constrained towards the edge of the fixed-satellite band (alternatively narrowband carriers could be used up to the band edge if a moderate orbital separation from the broadcasting-satellite was available).

It is concluded in Section 5.2.8.2.6.1 of the SPM Report that the spectrum of out-of-band radiation from a broadcasting satellite could be as shown in Figure 2 of Report 807. Taking the worse of the two lines shown, and allowing for the guardbands of 14 MHz and 11 MHz mentioned previously, the band edge interfering PFD could be about -171 dBW/m²/4 kHz and -165 dBW/m²/4 kHz at the lower and upper band edges respectively. These values of PFD are



somewhat higher than the acceptable values given in the SPM Table, since the values of necessary guard bandwidth were derived at the WARC using slightly different assumptions for the spectrum shape (see Figure attached). In view of the SPM conclusions it is considered appropriate to base the out-of-band radiation limits on Figure 2 of Report 807, but it is noted that these results apply where the beam centre PFD of the broadcasting-satellite carrier is -94 dBW/m², and the actual values adopted in the Plan for the lowest and highest channels are considerably lower than this (the highest PFD for channel 1 is -96.6 dBW/m² and most values are in the range -98 to -99 dBW/m²). It is therefore proposed that the maximum band edge interfering PFD should be limited to -174 dBW/m²/4 kHz in the lower adjacent band. The accepted interference limits for the fixed-satellite service would then be achieved everywhere except within the beam area of the broadcasting-satellite emission, and this would be a reasonable compromise to conform with Report 807.



MHz from TV channel centre

A - B is nominal TV channel bandwidth
X - A, Y - B, are bounds on out-of-band radiation

Circles 1 and 2 indicate bounds in regions of 11.7 and 12.5 GHz respectively.

Figure 15 - Bounds on spectrum of spurious radiation from a TV broadcast repeater operating near the TV-band edge



### PROPOSED AMENDMENT TO THE RADIO REGULATIONS, ARTICLE N27

G/172/966 ADD

New Section - Out-of-band Emissions from Broadcasting Satellites

G/172/967 ADD

The power flux-density at the Earth's surface produced by out-of-band emissions from a space station of the broadcasting-satellite service transmitting in the frequency band 11.7 - 12.5 GHz (11.7 - 12.2 GHz in Regions 2 and 3) shall not exceed the following values:-

- below 11.7 GHz, at a frequency f MHz
  - 200  $dBW/m^2$  in any 4 kHz band or
  - 174 -2.3 (11700-f) dBW/m<sup>2</sup> in any 4 kHz band, whichever is the greater
- at any frequency above 12.5 GHz (Region 1 only)
  - $168 \text{ dBW/m}^2$  in any 4 kHz band

Reasons: To protect the fixed-satellite service where there is an allocation for space-to-Earth links in the adjacent band.

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 173-E 2 October 1979 Original : English

COMMITTEE 5

## Note by the International Chamber of Shipping (ICS)

1. In presenting its compliments, ICS wishes to express its appreciation at this opportunity of participating in the work of WARC-79 and, in particular, in the activities of Committee 5. ICS speaks for the shipowner associations in 28 countries, who operate almost two-thirds of world shipping, whose interests in the decisions of this Conference are:

First, to ensure that adequate provision is made for maritime distress, urgency and safety and

second, to ensure that adequate provision is made for maritime radiocommunications facilities, sufficient to serve the operational needs of the world's merchant fleets as they expand to meet the requirements of a rapidly growing world population.

- 2. Mobile maritime users of radiocommunications depend entirely on this means for the purposes of distress, urgency and safety. Additionally, they have no other means of controlling the operations which transport:
  - a) the world's energy resources from the sources to the users;
  - b) the world's food supplies from those with a surplus, to those with a deficit;
  - c) the world's manufactured goods from those who produce, to those who use;
  - d) finally, but most importantly the raw materials which can pay for what many developing countries will require under the above headings.
- Against this background there is one important and unassailable fact. The world population is growing at a rapid rate. According to UN estimates, it will have increased by a further 2,000 million by the end of this present century (to a total of some 6,300 million). Such a figure will impose a heavy burden on world shipping - just to carry sufficient food. The number of vessels world-wide is, of course, increasing at a similar rate to absorb the needs of population growth. The number of vessels over 100 grt increased from 29,240 in 1948 to 67,863 in 1977 - an increase of over 130 %. If this trend continues, as there seems every likelihood that it will, there could be as many as 110,000 ships by the year 2000. Even this figure is not a true indication of the increased radiocommunications facilities which will, as a result of the increase in numbers, be required. The requirement for maritime radiocommunications for the effective management of more complex modern ships (e.g. Liquid Natural Gas carriers) has itself increased. Moreover there is an increasing international tendency for administrations to require safety and pollution reports of a routine nature from ships - all of which increase the demands upon spectrum space. Many developing countries are now actively engaged with their ships in maritime trade, and these fleets are growing to such an extent as to be an increasingly important factor in our deliberations. It is unlikely that many of these ships will be fitted with satellite terminals, at least for the immediate future. It is thus even more important that terrestrial maritime frequency allocations should take this factor into account, particularly with regard to HF.
- 4. The increase in the number of recreational craft (many of whom use radiocommunications) is rapid and growing. Fishing vessels world-wide make greater use of radiocommunications to



receive the latest meteorological and other information which will enable them to make the best catches. In the increasing search for new reserves of raw materials and energy beneath the sea-bed, exploration and exploitation requires vessels to use maritime radiocommunications to a marked degree. Social factors are already leading to an increased demand for radiocommunications facilities from seafarers who, while accepting the inevitability of physical separation from their families, wish, more often, to be able to hear their voices.

- 5. It has been said that a maritime satellite system for radiocommunications will solve all these problems. ICS is optimistic that such systems, with increased allocation at appropriate frequencies, will continue to enhance the quality and speed of maritime radiocommunications. However many informed authorities consider that the use of maritime satellites will <u>only</u> cope with the increase in traffic which the system itself will generate in much the same way as has been the experience of those countries which have introduced automatic land telephone systems with payment for "time-on-line" instead of a fixed charge.
- 6. For all these reasons, ICS makes this urgent plea to distinguished delegates to take account of maritime needs. All countries need goods transported by ships even those without access to the sea like our own host country to the Conference. It is, of course, important to provide radio spectrum space for radio and television education and social purposes, and for other worthwhile uses. But we would submit that maritime needs are vital if the world is to continue to be supplied with the essential requirements of its inhabitants. Indeed if maritime operations were to be stifled due to inadequate radiocommunications, many people would suffer privation. We shall at various stages in the Conference, be expressing maritime views in working groups and committees. We urge that these are given serious attention.
- 7. It is a matter of great concern to those representing maritime interests that a number of documents submitted pay little regard to maritime needs and, indeed, some seek to reduce our present requirements which are barely adequate for the existing world fleet.
- 8. Decisions taken at this Conference will affect maritime trade well into the 21st century. We respectfully ask that these decisions should be the correct ones. There will be no opportunity to correct errors later, short of convening another World Conference.



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 174-E 2 October 1979 Original : French

COMMITTEE 7

## Note by the Secretary-General

SYSTEM OF NUMERICAL SHIP STATION IDENTIFICATION

I hereby transmit to the Conference the attached memorandum by the Director of the CCITT.

M. MILI

Secretary-General

Annex: 1



### ANNEX

No. COM II-256/YB

1 October 1979

## MEMORANDUM

To : Mr. M. MILI, Secretary-General of the ITU

From : L. BURTZ, Director of the CCITT

- During the present study period, CCITT Study Groups I and II jointly developed, in the form of a draft Recommendation, a ship station numerical identification system common to the radiotelex and radiotelephone services and applicable both in the VHF and in the satellite systems. On the basis of the principles laid down in this draft Recommendation, the CCIR drew up a draft Recommendation on the assignment and use of identities in the maritime mobile service.
- 2. The new numerical identification system mentioned above, which is essentially intended to permit the gradual automation of radiomaritime relations, is described in Section 9.2 of the Report of the CCIR Special Preparatory Meeting for the 1979 World Administrative Radio Conference (see Document No. 13 of the Conference, Section 9.2).
- 3. Bearing in mind that basic principles for the numerical identification of ship stations in the maritime mobile service would prove useful for the work of the Conference, CCITT Study Groups I and II decided that it was necessary to have the draft Recommendation in question formally approved. At the unanimous request of the two Study Groups, it was therefore submitted to the accelerated procedure of provisional approval in pursuance of Resolution No. 2 of the CCITT VIth Plenary Assembly (Volume I of the Orange Book).
- I wish to inform you that following the consultation conducted among all the Member Administrations of the ITU, the draft Recommendation has just been approved on a provisional basis.\*) In view of the fact that reference is made to this draft Recommendation in the SPM Report, I should be grateful if you would kindly arrange to bring the above information to the notice of WARC-79.

<sup>\*)</sup> It was approved on 15 September 1979 and distributed in CCITT Circular No. 154 dated 1 October 1979.

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 175-E 2 October 1979 Original : English

COMMITTEES 5 and 6

GENÈVE

### Note by the International Transport Workers' Federation

#### MF RADIOTELEGRAPHY IN THE MARITIME MOBILE SERVICE

1. While the professional conduct of Radio Officers, both in coast stations and on board ships, is governed by the Radio Regulations, the efficiency with which they can carry out their work is to a major extent determined by the frequency spectrum available for their use.

Lack of frequency spectrum and/or inadequate planning of channels available lead to intense interference and disruption of communications. While the Radio Officer has professional expertise and an intimate knowledge of procedures, he can only ameliorate the worst effects of the lack of suitable frequencies coupled with the increasing number of ships competing for their use.

2. Radio Officers are not only aware of the most modern techniques but an increasing number are using them. From this practical experience they are convinced that additional <u>exclusive</u> frequency spectrum is required to satisfy the current need of the maritime mobile service and particularly so in the Medium Frequency Band (415 to 525/535 kHz).

Their vast fund of experience in the MF band leads Radio Officers to the confident declaration that re-allocating 573 coast station normal working frequencies and 109 secondary working frequencies together with five ship working frequencies would lead to chaos in the many congested shipping areas of the world.

3. To provide what they hoped would be a helpful illustration of the present day situation on the MF band in one of the more congested shipping areas, a survey was carried out by 20 very experienced Radio Officers serving on 14 ships trading continuously in the North Sea, Straits of Dover, English Channel and the Irish Sea.

A draft report based on the initial survey, carried out between 1 and 15 July 1979, was circulated to the participating Radio Officers. They further commented on the draft report and filled in gaps during a follow-up survey in early August 1979.

- 4. Points affirmed strongly in the survey were:
  - i) excessive congestion on ship working frequencies and the consequent need for additional frequencies;
  - ii) severe mutual interference between coast stations on inadequately separated working frequencies, leading to garbling of important navigational warnings and traffic lists;
  - iii) blocking of the wideband receivers (auto alarm and reserve receivers) by high-power coast stations on working frequencies from 485 kHz up;
  - iv) interference from aeronautical radiobeacons on 418, 480, 518.5 and 520.5 kHz;
  - v) severe broadcast and RTT interference in the sub-band 510 525 kHz. This included German and Arabic language broadcasts on 515 and 525 kHz; and RTT on 522 kHz from an unidentified source;
  - vi) the essential need for 410 kHz, which is used by helicopters to home on to ships either for SAR or commercial purposes.

5. An analysis of the Radio Officers' reports showed that the number of coast stations giving consistent signal strength QSA 4/5, within the area surveyed, together with five ship working frequencies, could not be accommodated even in the presently allocated band. This refers only to normal working frequencies and no account has been taken of secondary working frequencies or narrow band direct printing.

In the North Sea 20 other coast stations giving QSA 3 were logged and these could be a source of interference in certain parts of the North Sea where the coast stations listed as QSA 4 in fact fall below this value.

- 6. Radio Officers depend on their broadband receivers so they can maintain an aural watch on 500 kHz while working on IF or HF. So in view of the blocking of these receivers by high-power coast stations on working frequencies within ± 15 kHz of 500 kHz, they would regard any narrowing of the 500 kHz guard bands with great concern particularly with regard to the reception of signals from survival craft portable radio equipment. It is their strong view that no coast station or digital selective calling transmissions should be permitted with 490 495 and 505 510 kHz. Also RR 6697/1131 and RR 6698/1132 should be maintained unchanged.
- 7. Modern techniques should make it possible for an increasing number of ships to be permitted to avail themselves of RR 5922/418. Coast stations should be encouraged to implement this Radio Regulation and thus increasingly relieve the situation on ship working frequencies.
- 8. In view of the severe interference from secondary services during the hours of darkness, in the sub-band 510 525 kHz, the sub-band should be made exclusive to the maritime mobile service. With the lessons learned from this, Radio Officers view with horror any incursion, on a secondary or permitted basis, by other services in the sub-band 415 490 kHz.
- 9. The views expressed in this paper have the full support of the International Federation of Radio Officers and also of non-affiliated Radio Officer organizations, including Federation Nationale des Syndicats d'Officiers Radio-Electroniciens de la Marine Marchande (CGT), the Marine Radio Officers Union of Japan and the New Zealand Merchant Service Guild.

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 176-E 2 October 1979 Original : English

COMMITTEE 2

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 2

(CREDENTIALS)

Saturday, 29 September 1979, at 0900 hrs

Chairman : Mr. C.J. MARTINEZ (Venezuela)

Subjects discussed

Document No.

1. Organization of work



## 1. Organization of work

- 1.1 The <u>Chairman</u>, referring to Article 67 of the Convention on the credentials of delegations to conferences, pointed out that the terms of reference of the Credentials Committee were reproduced in Document No. 159.
- 1.2 In accordance with the decision taken by the Conference, Committee 2 would have to submit its Report to the Plenary Meeting to be held at 1000 hours on Monday, 19 November.
- 1.3 He observed that a Working Group was usually set up to examine credentials as they were submitted to the Secretariat of the Conference. It was proposed to appoint the representatives of five countries, one from each region.
- 1.4 It was <u>decided</u> that the Working Group should be composed as follows:

### Country

Germany (Federal Republic of) Hungarian People's Republic Colombia Algeria Thailand.

- 1.5 The delegations of the aforesaid countries were <u>invited</u> to inform the Committee Secretary of the names of the people who would take part in the Working Group.
- 1.6 The Chairman said that 80 delegations had already submitted their credentials of the 148 participants in the Conference. He expressed the hope that all the original credentials would have been submitted by Wednesday, 10 October, when the first meeting of the Working Group was to be convened.

The meeting rose at 0925 hours.

The Secretary:

The Chairman:

A. WINTER-JENSEN

C.J. MARTINEZ

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 177-E 2 October 1979 Original : French

## Republic of Guinea-Bissau

PROXY

The delegation of the Republic of Guinea-Bissau wishes to give the delegation of the Algerian Democratic and Popular Republic a mandate to exercise its right to vote at one or more meetings in accordance with No. 371 of the International Telecommunication Convention (Malaga-Torremolinos, 1973).



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 178-E
3 October 1979
Original: French

COMMITTEE 7

## Democratic Republic of Madagascar

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Democratic Republic of Madagascar requests that the series of call signs 5RA to 5SZ, 6XA to 6XZ allocated on a provisional basis since 1959 should be definitively allocated to Madagascar by the present Conference.



## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 179-E 3 October 1979 Original: English

COMMITTEE 5

#### FIRST REPORT OF WORKING GROUP 5A TO COMMITTEE 5

#### Standard texts for footnotes

Having examined Document No. DT/19(Rev.1) at its first meeting, Working Group 5A submits the following report for consideration by Committee 5.

#### 1. Text 1 : Additional allocation

The Working Group <u>unanimously agreed</u> to the standard text shown in paragraph 1 of the Annex to the present document.

#### 2. Text 2: Alternative allocation

The Working Group <u>unanimously agreed</u> to the standard text shown in paragraph 2 of the Annex to the present document.

- 3. Comments on standard texts relating to the additional or alternative allocations
- 3.1 If the standard texts shown in paragraphs 1 and 2 of the Annex are adopted by Committee 5, Working Group 5A would examine the provisions of Nos. 3431/140 to 3440/147 of Article N7/5 of the Radio Regulations to see whether any consequential changes are required to these provisions.
- 3.2 The Working Group recommended the use of country names with the possibility of using simplified names as indicated in No. 3449/155 of the Radio Regulations.
- 3.3 Within the framework of the principles contained in Nos. 3431/140 to 3440/147, the Working Group recommends that the standard texts in paragraphs 1 and 2 of the Annex should be used whenever additional or alternative allocations are to be indicated in the footnotes. It further urges all delegations to keep such allocations to the minimum.

#### 4. Text 3 in Document No. DT/19(Rev.1)

- 4.1 Suggested standard texts in "1st choice" and "3rd choice" of Text 3 were not considered acceptable.
- 4.1.1 In case of "1st choice", the Working Group was of the view that the frequency assignments are not always required to be notified to the IFRB and having such frequency assignments recorded in the Master Register would increase the workload of the administrations and the IFRB, especially in cases where notification of such frequency assignments was not required by the relevant procedures of Articles N12/9 and N13/9A.
- 4.1.2 In the case of the suggested standard text in "3rd choice", it was considered impractical to indicate the names of countries in the footnotes at the present Conference.
- 4.2 As regards standard text in "2nd choice", the Working Group was of the view that its consideration should be deferred until Committee 6 had taken a decision on the proposal G/53A/111.

(Note by the Chairman: It would be desirable to draw the attention of Committee 6 to the need to give priority consideration to the proposal G/53A/111).



## 5. Text 4 in Document No. DT/19(Rev.1)

- In considering the suggested Text 4, the Working Group agreed that wherever possible, the terms "shall not cause harmful interference", "shall ensure that no harmful interference is caused", "causing the least harmful interference to other services", "subject to not causing harmful interference", "shall not cause interference" should be replaced by a secondary allocation in the framed part of the table or in the footnote as the case may be. When it is not possible, standard text should be used.
- 5.2 In this regard the attention of the Working Group 5A was drawn by the representative of the IFRB to No. 3442/148 of the Radio Regulations.

V. QUINTAS
Chairman of Working Group 5A

Annex: 1

## ANNEX

1.	Text 1 : Additional allocation		
allocated	Additional allocation: in _country name(s)_7, the band(s) _c to the		Lso
2.	Text 2 : Alternative allocation		
to the _	Alternative allocation: in [country name(s], the band(s) [  J service(s) on a [primary/permitted/secondary] basis.	<i>]</i> is (are) a	ıllocated

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 180-E 3 October 1979 Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 6
(REGULATORY PROCEDURES)

Friday, 28 September 1979, at 1005 hrs

Chairman : Mr. JOACHIM (Czechoslovakia)

## Subjects discussed

Document No.

1. Organization of the work of Committee 6

159 and 160

2. Appointment of the Drafting Group



- 1. Organization of the work of Committee 6 (Documents Nos. 159 and 160)
- 1.1 The Chairman invited the views of the Committee on the establishment of Working Groups, each with its own Chairman, to deal with the specific tasks allocated to Committee 6 under its terms of reference.
- 1.2 The <u>delegate of the United Kingdom</u> proposed that, as the subject matter was easily divided into two parts, two Working Groups should be set up: Working Group 6A, charged with the revision and review of Articles N11, N12 and N13 as a whole, with Appendices 1, 1A and 1B and the regulatory aspects of Appendices 28 and 29; and Working Group 6B, which would deal with all other substantive articles before the Committee. As many delegations were limited in number, the setting up of too many Working Groups would severely limit their participation.
- 1.3 The delegates of India and Italy supported that proposal.
- 1.4 The delegate of Japan, while agreeing with the division of work suggested, believed that Working Group 6A would also be required to consider Resolutions adopted by previous Administrative Radio Conferences and that Resolution No. Spa2 3 would have to be brought up to date in the light of the decisions taken in 1977 in respect of space broadcasting-satellite services.
- 1.5 The <u>delegate of Mexico</u> was also in favour of the procedure suggested, but urged that, in the interest of small delegations, meetings of both Working Groups should not be held simultaneously.
- 1.6 The <u>Chairman</u> noted that there was agreement to set up two Working Groups, and gave an assurance that they would not meet concurrently.
- 1.7 The <u>Technical Secretary</u> drew attention to the list contained in Document No. 160, which showed the allocation of documents to Committee 6. The Secretariat was preparing a full list, by Article and by Section, bringing the documentation up to date, and he requested delegations to notify the Secretariat of any errors and omissions.
- 1.8 The Chairman put forward the name of Mr. Bj $\phi$ rnsj $\phi$  (Sweden) as Chairman of Working Group 6A.
  - Mr. Bjørnsjø (Sweden) was elected Chairman of Working Group 6A by acclamation.
- 1.9 The Chairman said that there would be an opportunity, before the next meeting of the Committee, for informal discussions regarding the nomination of a Chairman for Working Group 6B.
- 1.10 The <u>Vice-Chairman of the IFRB</u> said that the terms of reference of Working Group 6A could accordingly be expressed as the following:

"To consider proposals concerning the co-ordination, notification and registration of frequency assignments, contained in Articles N11, N12 and N13, and the related Appendices, Resolution No. Spa2 - 3 and appropriate Resolutions and Recommendations, as well as proposals concerning new procedures in respect of those Articles."

Those terms of reference were agreed.

### 2. Appointment of the Drafting Group

It was <u>agreed</u> to appoint a Drafting Group, with terms of reference similar to those of the Editorial Committee, consisting of Mr. Garidou (France), Mr. Dunn (United Kingdom) and Mr. Fernandez Cabrera (Cuba).

The meeting rose at 1120 hours.



Chairman :

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 181-E 3 October 1979 Original: English

COMMITTEE 3

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 3 (BUDGET CONTROL)

Friday, 28 September 1979, at 1405 hrs

Chairman : Mr. Z. KUPCZYK (People's Republic of Poland)

Sub,	jects discussed	Document N
1.	Terms of reference of the Budget Control Committee	159
2.	Organization of the work of the Budget Control Committee	. <b>-</b>
3.	Budget of the Conference	125
4.	Contributions of non-exempted recognized private operating agencies and international organizations	126



The Chairman welcomed all participants in Committee 3 and submitted for consideration the agenda of the meeting.

The agenda was approved.

- 1. Terms of reference of the Budget Control Committee (Document No. 159)
- 1.1 The Chairman pointed out that the terms of reference of Committee 3 fell into two distinct parts; determining the organization and the facilities available to the delegates, in connection with which points might arise at any time during the Conference; and examining and approving the Conference accounts.

The terms of reference set out in Document No. 159 were approved.

- 2. Organization of the work of the Budget Control Committee
- The <u>Secretary of the Committee</u> said that the organization of the Conference and the facilities available to delegates could be discussed at any meeting of the Committee, but that a meeting every two weeks should suffice to compare the actual expenditure against the credits established by the Administrative Council. The margins for expenditure were very small; on the other hand the estimates had been worked out with some margins so that the budget ought not to be exceeded unless unforeseen circumstances occurred.

At the penultimate meeting, a draft report would be submitted for the Committee's approval at its last meeting and the final report would be submitted to the Plenary Meeting in accordance with No. 444 of the Convention.

The organization of work suggested by the Secretary was approved.

- 3. Budget of the Conference (Document No. 125)
- 3.1 The Secretary of the Committee explained that the draft budget approved by the Administrative Council in 1978 had been adjusted early in 1979 to take into account the information about the volume of work announced by Administrations. It should be noted that, in accordance with the Administrative Council's decision at its 1976 session, Common Service expenditure was not charged to the Conference budget but to a special section of the ordinary budget.

Document No. 125 was approved.

- 4. Contributions of non-exempted recognized private operating agencies and international organizations (Document No. 126)
- 4.1 The <u>Secretary of the Committee</u> said that the contributions required from participating agencies and organizations were calculated in accordance with No. 554 of the Convention. The Secretariat would write to the organizations whose admission to participate had been approved at the first Plenary Meeting to find out how many units they wished to contribute. The final list would be annexed to the report of Committee 3 to the Plenary.

The figure in the second line of the second paragraph of Document No. 126 should be "8,411,600 Swiss francs".

4.2 The <u>delegate of Spain</u> asked whether international organizations admitted to participation in the Conference were aware that that participation was subject to a contribution towards defraying the costs, whether they were entitled to renounce their participation if they were not prepared to contribute and whether the expenditure calculated had taken account of applications for participation.



- 4.3 The Executive Secretary of the Conference said that when the Secretary-General received requests for participation, he naturally drew the attention of non-exempted organizations to the fact that they would have to contribute to defraying the expenditure of the Conference. The amount indicated was 10,000 Swiss francs, representing the value of about one-half of the contributory unit.
- 4.4 The Secretary of the Committee added that under No. 554 of the Convention the contributions of non-exempted organizations "shall be considered as Union income". Accordingly, the contributions of Members had not been calculated with those contributions in mind and they were to be regarded as supplementary income in the ordinary budget.

Document No. 126 was approved.

The meeting rose at 1425 hours.

The Secretary:

The Chairman:

R. PRELAZ

Z. KUPCZYK

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 182-E 3 October 1979 Original: English

COMMITTEE 7

#### Peoples' Republic of Bangladesh

PROPOSAL FOR THE WORK OF THE CONFERENCE

As per Radio Regulation No. 5343 (old No. 749) Bangladesh was allocated call sign S2A-S3Z provisionally by the Secretary-General of ITU.

The Bangladesh Administration requests that the call sign should be confirmed in this Conference and should be entered in the new Appendix C APC/3 of new Radio Regulations.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 183-E 3 October 1979 Original: English

COMMITTEE 5

### Democratic Republic of Afghanistan

PROPOSALS FOR THE WORK OF THE CONFERENCE

MHz 216 - 235

AFG/183/1 MOD

AFG/183/2 MOD

MOD

AFG/183/3

Region 3 216 - 225 AERONAUTICAL RADIONAVIGATION BROADCASTING Radiolocation 225 - <del>235</del> 230 FIXED MOBILE AERONAUTICAL RADIONAVIGATION BROADCASTING Radiolocation 230 - 235FIXED MOBILE AERONAUTICAL RADIONAVIGATION

Reasons: At present TV service utilizes the frequency band 174 - 181 MHz in the capital city of Afghanistan (Kabul).

We have planned to extend TV services to other parts of Afghanistan also. This project is very important to us, because by this service we can train and educate our people. The number of available channels close to our present TV service is limited, therefore we would like that the band 216 - 230 MHz should be allocated as shown above.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 184-E 3 October 1979

Original : English

French Spanish

COMMITTEE 6

### Note by the Chairman of Working Group 6A

Working Group 6A has agreed on the following draft note, which it requests Committee 6 to transmit to the Chairman of Committee 5:

### "DRAFT NOTE TO CHAIRMAN OF COMMITTEE 5

Committee 6 has under consideration a proposal (G/53A/111) for a new procedure for obtaining agreements required by footnotes to the Table of Frequency Allocations. This consideration is based on existing footnotes, such as 3618/308A. / Working Group 6A / is of the opinion that such a procedure could be of value to Administrations and the IFRB. Before pursuing this proposal, / Working Group 6A / requests the views of Committee 5 on the matter. In particular, if Committee 5 maintains footnotes providing for prior agreement, is Committee 5 of the opinion that the adoption of such a procedure would be of value? If the reply from Committee 5 is affirmative, / Working Group 6A / would then further consider the matter."

J.K. BJÖRNSJÖ Chairman of Working Group 6A



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Corrigendum No. 1 to
Document No. 185-E
17 October 1979
Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

Please amend item 3 on the cover page and in the text, to read :

"Appointment of the Chairman of Working Groups"

and correct the end of paragraph 3.1 as follows :

"In the absence of further nominations, he declared those Chairmen appointed."



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 185-E 28 September 1979 Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4
(TECHNICAL REGULATIONS)

Friday, 28 September 1979, at 1015 hrs

Chairman: Mr. N. MORISHIMA (Japan)

# Subjects discussed

- 1. Opening of the meeting
- 2. Organization of the work of the Committee
- 3. Election of the Chairmen of Working Groups
- 4. Allocation of documents to Working Groups



### 1. Opening of the meeting

The <u>Chairman</u>, declaring open the first meeting of Committee 4, expressed his sense of the great honour done to him and to his country by his election and said that he would do his best to fulfil his responsibilities in collaboration with his Vice Chairman, Mr. Cisse. Technological development in the field of radiocommunications during the past twenty years had been remarkable and there was no doubt that the momentum of technical progress would be maintained during the forthcoming twenty years. To keep pace with that progress it was essential to provide for future technical possibilities by bringing up to date the technical regulations aspect of the Radio Regulations. It was the task of Committee 4 to secure efficient utilization of the frequency spectrum through the establishment of the appropriate technical regulations on a sound engineering basis, taking into account various situations in all parts of the world. The technical bases for the Committee's work had been provided by the CCIR and the results of the XIVth CCIR Plenary Assembly, held in Kyoto, and those of the Special Preparatory Meeting were now available as a guide to the Committee's deliberations. He invited delegates to collaborate with him and his Vice-Chairman in making the Committee's work a success.

# 2. Organization of the work of the Committee

- The <u>Chairman</u> drew attention to Document No. DL/2, which showed a possible sub-division of the work of Committee 4 among three working groups. Working Group 4A might consider proposals relating to Article N1 (Sections V and VI) and Article N2. Working Group 4B might consider proposals relating to sharing criteria between space systems and between space and terrestrial systems, namely Articles N25, N26 and N27 and Appendices 28 and 29. Appendices 1A and 1B came within the terms of reference of Committee 6, but any technical aspects of proposals concerning them might be transmitted to Committee 4 for comments. Finally, Working Group 4C might consider other technical provisions, namely Articles N3, N4, N16, N17 and N33 (Section IVB) and Appendices 3, 4, 5, A and B.
- 2.2 The <u>delegate of the United States of America</u> said that Article N28 (Section I) was attributed to Committee 5 (Allocations), but many items in that area were of a technical nature and he suggested they should be considered by Working Group 4A.
- 2.3 The Chairman agreed that Committee 5 might invite Committee 4 to consider certain technical aspects of Article N28, but the matter could be left in abeyance until Committee 5 made such a request.
- 2.4 The <u>delegate of Papua New Guinea</u> said that Working Group 4A, which was to deal with definitions, should complete its work at an early stage in the Conference, since its output would affect the work of Working Groups 4B and 4C. He suggested that, when Working Group 4A had completed its task, some other items might be allocated to it in order to speed up the Committee's work.
- 2.5 The Chairman noted the suggestion and said he would take it into account in due course.
- 2.6 The <u>delegate of India</u> asked how the Chairman intended to deal with the resolutions and recommendations, which were indicated in Document No. 159 as being within the terms of reference of Committee 4.
- 2.7 The <u>Chairman</u> said that those would be left in abeyance for the time being and, at a later stage, when all resolutions and recommendations in connection with other Committees had been reviewed, Committee 4 would decide to which Working Groups it should allocate resolutions and recommendations.



2.8 <u>Mr. Brooks</u> (Technical Secretary) said that by an oversight, two areas mentioned in Document No. 160 had not been included in Document No. DL/2, namely new Article N27A and new Appendix 28A. He suggested that they should be allocated to Working Group 4B.

It was so agreed.

2.9 <u>It was further agreed</u>, at the suggestion of the <u>delegate of the United States of America</u>, that proposals for Appendix 28B should also be allocated to Working Group 4B.

The organization of the Committee's work as discussed was approved.

- 3. Election of the Chairmen of Working Groups
- 3.1 The Chairman said that, after consultation with his Vice-Chairman, he wished to make the following nominations for the Chairmen of Working Groups:

Working Group 4A - Mr. Bastikar (Canada)

Working Group 4B - Mr. Craig (Australia)

Working Group 4C - Mr. George (Federal Republic of Germany).

In the absence of further nominations, he declared those Chairmen elected.

3.2 <u>Mr. Sowton</u> (member of the IFRB) made the following nominations for Secretaries of Working Groups:

Working Group 4A - Mr. Glinz

Working Group 4B - Mr. Kane

Working Group 4C - Mr. Nasution.

The IFRB would provide additional technical assistance from its Secretariat as and when the need might arise.

- 3.3 Mr. Kieffer, coordinator of Committees 4, 5 and 6, said that he considered it important that the Committee should establish a drafting group to deal with the drafting of documents in three languages, so that no disputes would arise when the documents were eventually submitted to Committee 9.
- 3.4 The <u>delegate of Greece</u> supported that proposal.
- 3.5 The Chairman invited the delegations of Spain, France and the United Kingdom to nominate one expert each to form the drafting group.

That procedure was approved.

- 4. Allocation of documents to Working Groups
- 4.1 The <u>Chairman</u>, drawing attention to Document No. 160, said that with the exception of resolutions and recommendations, documents would be automatically allocated to the Working Groups in accordance with their terms of reference.

It was so agreed.

The meeting rose at 1050 hours.

The Secretary:

The Chairman:

M. MORISHIMA

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 186-E 3 October 1979 Original: French

COMMITTEE 7

### NOTE BY THE CHAIRMAN OF COMMITTEE 5 TO THE CHAIRMAN OF COMMITTEE 7

At its second meeting on Monday, 10 October 1979, Committee 5 expressed the view that it was necessary, for a proper understanding of the Table of Frequency Allocations, to define the following terms:

allocate, allocation allot, allotment assign, assignment.

Committee 5 considers that the definitions, which should be included in Section 1 of Article N1, fall within the competence of Committee 7 and it would be grateful if you would give this note your attention.

M. HARBI Chairman of Committee 5



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 187-E 3 October 1979 Original: English

PLENARY MEETING
COMMITTEES 4, 5, 6, 7 and 9

### FIRST REPORT OF COMMITTEE 8 (RESTRUCTURE)

Committee 8 having considered the basic structure of the Re-Arrangement of the Radio Regulations and Additional Radio Regulations <u>unanimously adopted</u> the basic Re-Arrangement proposed in the Report of the Group of Experts and endorsed in principle by the WARC, Geneva, 1977, in Resolution No. Sat-10, it being understood that any adjustment of the order of sections and paragraphs inside certain Articles of the Radio Regulations has still to be finalized by the individual Committees concerned.

The Committee considered that the Appendices, Resolutions and Recommendations should appear at the end of the regulatory texts.

The Committee's attention had been drawn to the distinction to be made between :

- the Final Acts of this Conference to be signed and approved by Administrations, and
- the future publication of the Radio Regulations to be used as working documents in Administrations, RPOAs, etc., as for example the Red Book, the manuals, instructions, etc.,
- publications can be arranged in various ways to meet the requirements of particular users.

O. LUNDBERG Chairman of Committee 8



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 188-E 4 October 1979 Original : English

> French Spanish

COMMITTEE 5

### NOTE TO CHAIRMAN OF COMMITTEE 5

Committee 6 has under consideration a proposal (G/53A/111) for a new procedure for obtaining agreements required by footnotes to the Table of Frequency Allocations. This consideration is based on existing footnotes, such as 3618/308A. Committee 6 is of the opinion that such a procedure could be of value to Administrations and the IFRB. Before pursuing this proposal, Committee 6 requests the views of Committee 5 on the matter. In particular, if Committee 5 maintains footnotes providing for prior agreement, is Committee 5 of the opinion that the adoption of such a procedure would be of value? If the reply from Committee 5 is affirmative, Committee 6 would then further consider the matter.

Dr. M. JOACHIM
Chairman of Committee 6



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 189-E 4 October 1979 Original : English

COMMITTEE 8

### China (People's Republic of)

#### PROPOSALS FOR THE WORK OF THE CONFERENCE

The Chinese Delegation can agree in principle, to the CCITT Recommendations E.190/F.110 and D.90/F.111. However, we would like to propose some modifications to these Recommendations.

Furthermore, a new draft Article N62A is proposed.

CCITT RECOMMENDATION E.190/F.110

### OPERATIONAL PROVISIONS FOR THE MARITIME MOBILE SERVICE

#### DIVISION A

CHN/189/138 MOD

A9 1.8 Government radiotelegrams with priority (ETATPRIORITE) and government radiotelephone calls for which priority has been expressly requested; (the rest unchanged)

Reasons: The word "radiotelephone" is added to make the term consistent with "government radiotelegrams".

#### DIVISION B

CHN/189/139 MOD

B4 2.3 In order to avoid any confusion with a telegraph office or a fixed station of the same name, the land station may, if desirable, complete the indication of the name of the mobile station of origin by the word SHIP er-AIRCRAFT, placed before the station of origin.

 $\underline{\text{Reasons}}$ : The word "AIRCRAFT" can be deleted since this is a provision for the maritime service.

CHN/189/140 MOD

B12 4.3 However, the name and call sign required under B9 may be replaced, at the risk of the sender, by particulars of the passage made by such mobile station, indicated by the names of the ports or-airports-of-departure-and of-destination, or by any equivalent indication.

Reasons : The words "or airports of departure and of destination" may be deleted as this is an operation provision for the maritime mobile service.

CHN/189/141 MOD

Bl3 4.4 Mobile stations not supplied with the international list of telegraph offices may add to the name of the telegraph office of destination:

- the name of the territorial subdivision;
- the destination-or-country name of the destination country; or
- both of the above,



### Document No. 189-E

Page 2

if it is doubtful whether, without such addition, the radiotelegram could be correctly routed without difficulty.

Reasons: Modified according to Article A88, the provisions of instruction for the international public telegram operations.

CHN/189/142 MOD

Bl4 4.5 The land station operator receiving the radiotelegram retains-or-deletes-these-particulars; from the mobile station should check, add or amend the name of the office of destination as-is-necessary-or-sufficient for-forwarding-the-radiotelegrams-to-its-proper-destination.

Reasons: In order to transmit the telegram to the correct destination in time, it is necessary for the operator to check the name of the office of destination. The Note added with the consent of the sender should be transmitted as it is.

CHN/189/143 MOD

B21 1.1 In the mobile service, when communication becomes difficult, the two stations in communication make every effort to complete the radiotelegram in course of transmission. The receiving station may request not more than two repetitions of a radiotelegram of which the reception is doubtful;

Reasons : See B22.

CHN/189/144 MOD

B22 1.2 If this triple transmission is ineffective, the radiotelegram is kept on hand in case a favourable opportunity for completing its transmission occurs.

Reasons: It is not necessary to lay down the strict limit of two repetitions only. The number of repetitions may be decided by both sides according to concrete circumstances.

CCITT RECOMMENDATION D.90/F.111

# CHARGING, ACCOUNTING AND REFUNDS IN THE MARITIME MOBILE SERVICE

CHN/189/145 MOD

B27 1.2 The total charge for radiotelegrams is generally collected from the sender, with the exception of charges applicable to radiotelegrams to be redirected at the request of the addressee (as provided in Recommendation F.1). Administrations\*) may, either by participating in the Transferred Account telegraph service (the TA service) provided for in Recommendation F.41, or by special agreement and at the express request of the addressee or other party undertaking payment, admit telegrams of all classes without payment of charges in the origin country. These charges shall be collected from the addressee or other party undertaking payment.

Reasons: The addition of TA service is suitable according to Article A28 Division A, Recommendation F.42 and Article B35 Divison B, Recommendation D.90/F.111.

CHN/189/146 ADD

C25A For accounting purposes, collect radiotelegrams (if collect is admitted) shall be regarded as originating in the destination country or mobile station.

 $\frac{\text{Reasons}}{\text{CCITT}}$ : This addition is appropriate according to the provisions of CCITT Recommendation F.42 and paragraph C25 of D.90/F.111.

<sup>\*)</sup> or recognized private operating agency (agencies)

#### ARTICLE N62A

Public Correspondence in the Maritime Mobile Service

#### Section I. General Provision

1. The provisions of the Telegraph Regulations and the Telephone Regulations and the Protocols annexed thereto, taking into account CCITT Recommendations, shall apply to radiocommunications in so far as the provisions of the Radio Regulations do not provide otherwise.

#### Section II. Accounting Authority

- 1. Charges for radiocommunications from ship to shore are in principle, and subject to national law and practice, to be collected from the maritime mobile station licensee:
  - a) by the Administration that has issued the licence; or
  - b) by a recognized private operating agency; or
  - c) by other entity or entities designated by the Administration to carry out this accounting.
- 2. The Administration or the recognized private operating agency or the designated entity (or entities) is referred to in this Article as the "accounting authority".
- 3.! The name(s) and address(es) of the accounting authority(ies) shall be notified to the Secretary-General of the ITU for inclusion in the List of Ship Stations; taking into account CCITT Recommendations, the number of such names and addresses shall be limited as far as possible for the common benefit of Administrations.\*)

### Section III. Accounting Charges

- 1. Each Administration\*), subject to its national law and practice, shall fix the land station charges and the landline charges per word for transmission over its national network of telecommunications in communications with another country and shall notify them in gold francs to the Secretary-General of the ITU for publishing in ITU List IV, the List of Coast Stations.
- 2. Taking into account CCITT Recommendations, each Administration shall notify to the Secretary-General of the ITU of the ship station charges expressed in gold francs for publishing in ITU List V, the List of Ship Stations.
- 3. New or modified charges, either general or of detail, relative to the accounting charges, shall not be effective for countries other than those which establish the new charge or charge modification until 15 days after its notification by the Secretary-General, counted from the day of despatch, and it shall not be applied until the first day of the month following the expiry of the above-mentioned period.

<sup>\*)</sup> or recognized private operating agency (agencies)

- a) for traffic from the ship station to the land station, the modifications of charges shall be applied after the period of one month and 15 days;
- b) for traffic from the land station to the ship station, the period for modification of charges is 15 days, but it shall be reduced to ten days if the modified charge is in line with those on competing routes.

### Section IV. Accounting

- 1. Exchange and verification of accounts shall be carried out in accordance with the Telegraph Regulations and the Telephone Regulations, taking into account CCITT Recommendations.
- 2. The accounts shall be sent as promptly as possible but in any case before the end of the third month following that to which they relate.
- 3. In principle, an account shall be considered as accepted without the need for specific notification of acceptance to the Administration\*) that sent it.
- 4. However, any accounting authority shall have the right to question the contents of an account for a period of six months after despatch of the account.
- 5. All maritime accounts shall be paid by the accounting authority without delay and in any case within six months after despatch of the account.
- 6. If international maritime accounts remain unpaid after six months, the Administration that has licensed the ship station shall on request take all possible steps, within the limits of applicable national law, to ensure settlement of the accounts from the licensee.
- 7. In the case referred to in 4. above, if the account is seriously delayed in transit, the receiving accounting authority should at once notify the originating Administration\*) that queries and payment may be delayed. The delay shall, however, not exceed three months from the date of receipt of the account.
- 8. The debtor accounting authority may refuse the settlement and adjustment of accounts presented more than 18 months after the date of handing-in of the radiotelegrams or the date of establishment of the radiotelephone calls or radiotelex calls to which the accounts relate.

#### Section V. Payment of Balances

1. Payment of balances shall be carried out in accordance with the Telegraph Regulations and the Telephone Regulations.

<sup>\*)</sup> or recognized private operating agency (agencies)

#### Section VI. Archives

- 1. The original or facsimile copies of radiotelegrams and radiotelex calls and the relevant documents relating to handing in, transmission (if practicable) and delivery, which should be retained by the Administrations\*), shall be preserved with all precautions necessary to ensure secrecy, until the accounts relative thereto are settled and, in any case, for at least six months counting from the month after that in which the accounts were sent. Administrations\*) may preserve the information by any other means, e.g. magnetic or electronic records.
- 2. However, should an Administration\*) deem it desirable to destroy such documents before the above-mentioned period, and hence is not in a position to carry out an enquiry in respect of the services for which it is responsible, such Administration\*) shall bear all the consequences both as regards refund of charges and any difference in the international accounts in question that might otherwise have been observed.

Reasons: It is necessary to delete Article 40A, and add Article 62A and the section of accounting charges in the new Chapter XI.

<sup>\*)</sup> or recognized private operating agency (agencies)

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 190-E 4 October 1979 Original: French

COMMITTEE 6

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 6
(REGULATORY PROCEDURES)

Tuesday, 2 October 1979, at 0900 hrs

Chairman : Dr. M. JOACHIM (Czechoslovakia)

### Subjects discussed

Document No.

1. Organization of the work of the Committee (continued)

159, 160 DT/16(Rev.1), DT/17



- 1. Organization of the work of the Committee (continued) (Documents Nos. 159, 160, DT/16(Rev.1), DT/17)
- 1.1 Referring to Document No. DT/17, the <u>Chairman</u> proposed that the Drafting Group of Committee 6 should be called "Group 6R".

It was so decided.

With regard to Working Group 6B, he proposed that Mrs. Garcia-Davis (Costa Rica) should be appointed Chairman.

It was so decided.

- 1.2 The <u>Secretary</u> said that the Secretariat officials appointed to assist the Working Groups were Mr. Bozonnet and himself for Working Group 6A and Mr. Garcia-Rios for Working Group 6B.
- 1.3 The <u>Chairman</u> said that an addendum to Document No. DT/16(Rev.1) would be issued setting out the exact terms of reference of the Committee's Working Groups.

The meeting rose at 0910 hours.

The Secretary:

The Chairman:

R. PLUSS

M. JOACHIM



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 191-E 4 October 1979 Original : English

COMMITTEE 4

# FIRST REPORT OF WORKING GROUP 4A TO COMMITTEE 4

Working Group 4A has held three meetings to consider the provisions of Article N1, Section V.

After having examined the proposals submitted to the Conference by the Administrations, Working Group 4A unanimously proposes the texts annexed hereto.

N. MORISHIMA Chairman of Committee 4

 $\underline{\text{Annex}}$ : 1



# ANNEX TO THE FIRST REPORT OF WORKING GROUP 4A to COMMITTEE 4

_	NOC	Art.	Nı	Section V. Space, Orbits and Types of Objects in Space 7
	NOC	3123	84BA Spa2	Deep Space: Space at distances from the Earth approximately equal to, or greater than, the distance between the Earth and the Moon.
	NOC	3124	84BAA Spa2	Spacecraft: A man-made vehicle which is intended to go beyond the major portion of the Earth's atmosphere.
	NOC	3125	84BAB Spa2	Satellite: A body which revolves around another body of preponderant mass and which has a motion primarily and permanently determined by the force of attraction of that other body.
	SUP	3125.	84BAB. Spa 2	
	MOD .	3126	84BAC Spa2	Active Satellite: A satellite carrying a station intended to transmit or re-transmit radiocommunication signals.
	MOD	3127	84BAD Spa2	Reflecting Satellite : A satellite intended to reflect radiocommunication signals.
	(=0	3128 :an/604	Spa2	Orbit: The path, relative to a specified frame of reference, described by the centre of mass of a satellite or other object in space subjected primarily to natural forces, mainly the force of gravity.
	MOD <del>NOC</del>	3129	84BC Spa2	Inclination of an Orbit (of an earth satellite): The angle determined by the plane containing an orbit and the plane of the Earth's equator.
		3130 PNG/39 <i>E</i>	Spa2 T	Period (of a satellite): The period of a satellite is he time: elapsing between two consecutive passages of a satellite through a characteristic point on its orbit.
	NOC	3131	84BE Spa2	Altitude of the Apogee (Perigee): The altitude of the apogee (perigee) above a specified reference surface serving to represent the surface of the Earth.
	NOC	3132		Geosynchronous Satellite: An earth satellite whose period of revolution is equal to the period of rotation of the Earth about its axis.
	MOD	3133	Spa2	Geostationary Satellite: A satellite which remains fixed relative to the Earth's surface; in a wider sense, a satellite which remains approximately fixed relative to the Earth's surface.
	ADD	3133-h	A	A geostationary satellite is a geosynchronous satellite, in equatorial, circular and direct orbit.  Geostationary satellite orbit: The orbit on which a
_	<del>יעטח</del>	⊃±32 <u>-</u> 6	ਾਫ਼ .	satellite must be placed to be a geostationary satellite.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 192-E 4 October 1979 Original : English

COMMITTEE 5

### People's Republic of Mozambique

# PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of the People's Republic of Mozambique requests that the name of Mozambique should be retained in the following footnotes to the Table of Frequency Allocations:

MOZ/192/1	MOD.	3469/176	With the text proposed in MWI/30/1.
MOZ/192/2	MOD	3539/241	With the same text.
MOZ/192/3	MOD	3568/269	With the text proposed in MWI/30/32.
MOZ/192/4	MOD	3574/274	With the same text.
MOZ/192/5	MOD	3577/275	With the text proposed in BOT/52/59.
MOZ/192/6	MOD.	3578/275A	With the text proposed in BOT/52/34.

Reasons: To update the footnotes.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 193-E 4 October 1979 Original: English

COMMITTEE 6

### NOTE BY THE CHAIRMAN OF COMMITTEE 5

Proposal (G/53A/111)

With reference to the Note by the Chairman of Working Group 6A contained in Document No. 184, at its third meeting on 4 October 1979, Committee 5 agreed to request Committee 6, and eventually Working Group 6A, to give priority consideration to developing a procedure on the lines of the proposal (G/53A/111) to enable identification of countries with whom an agreement would be necessary.

- 2. It would be premature at this stage to indicate if any footnotes such as 3618/308A would be adopted at the present Conference. Nevertheless, Committee 5 having considered the possible alternatives in such cases came to the conclusion that if such footnotes were to be adopted some kind of procedure would be useful to permit their application by the Administrations and the I.F.R.B.
- 3. This also replies the question in Document No. 188.

M. HARBI Chairman of Committee 5



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 194-E 5 October 1979 Original: Russian

COMMITTEE 4

#### USSR

#### PROPOSAL FOR THE WORK OF THE CONFERENCE

#### ABOUT APPENDIX 28 OF RADIO REGULATIONS

The procedure of determining the zones round the Earth stations described in Appendix 28 of the Radio Regulations is based on the radio-wave propagation data obtained till 1971.

The researches on radio-wave propagation carried out in recent years in various countries including the USSR have shown that the data on wave propagation once put into the base of Appendix 28 want a considerable updating, especially for the climatic zones B and C.

Figures 1 - 3, as a matter of example, show the dependence of basic transmission loss L not exceeded during 0.01 % of time of the worst month for zones A, B and C on the distance  $\alpha$  for 4 GHz at zero elevation angles of the main beam of an Earth station antenna. The solid curves in these figures correspond to Appendix 28, the dotted curves correspond to Report 728 of CCIR (Kyoto, 1978). And the dash-dot lines in Figures 1 - 2 show the dependence based on the experimental data obtained in the Soviet Union on routes with the length of up to 430 km during 1969-1975 period.

Proceeding from the Figures 1 - 3 one can make the following conclusions:

- 1. For climatic conditions of A zone where a great number of experiments was carried out, the discrepancy between all the curves is comparatively low.
- 2. For the climatic conditions of B and C zones the results of recent experiments witness about considerably lower values for L in comparison to those in Appendix 28. And this leads to a fairly considerable expansion of coordination zones, to which the attention of CCIR has been drawn already in the SPM.

The number of experiments carried out in zones B and C is not great though, especially for values of  $\alpha$  exceeding 400 km. That is why one cannot consider the statistical value of the dependence L (d) as reliable. Further, more thorough and specific researches are required for that.



### Document No. 194-E

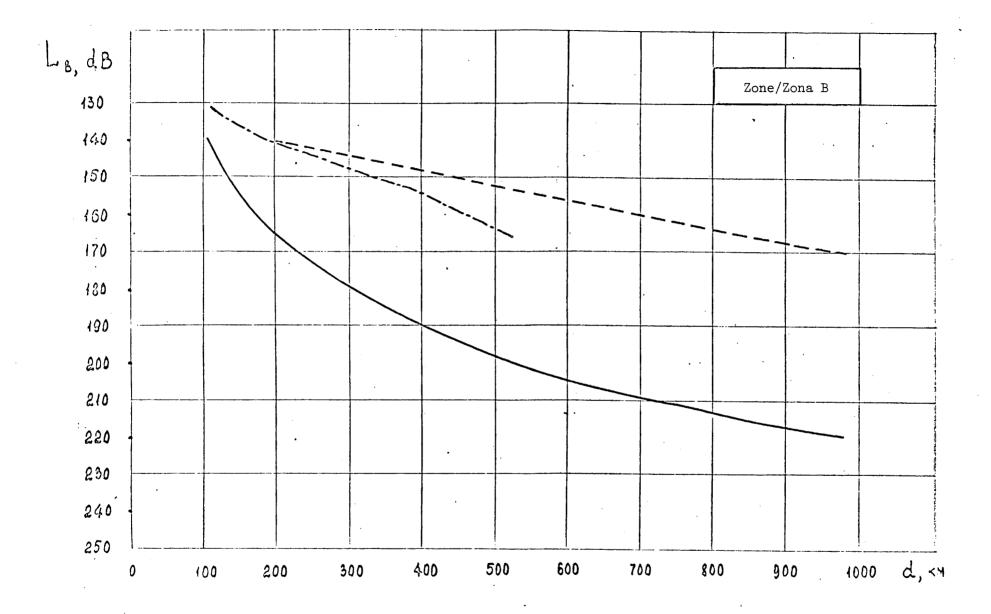
Page 2

Taking into consideration the above mentioned, the USSR delegation thinks it appropriate to :

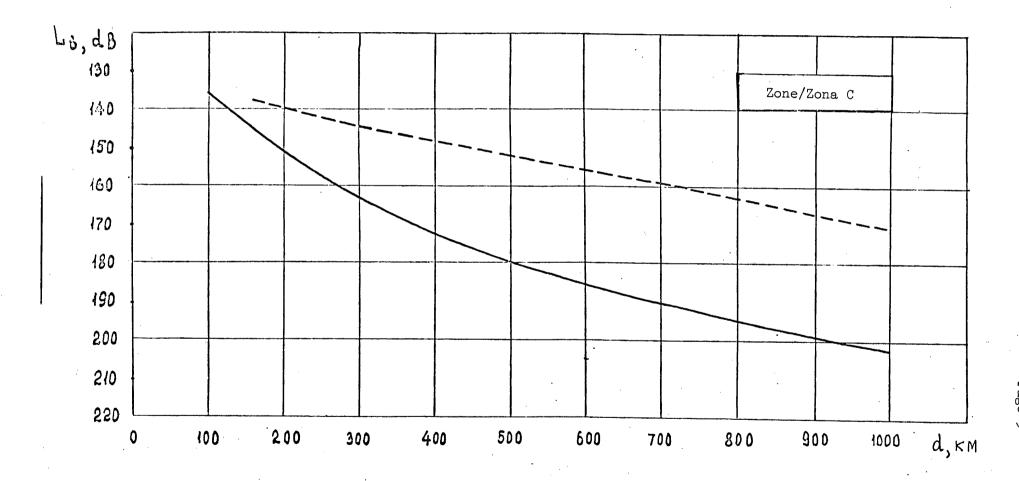
- a) include in the new Radio Regulations only a general procedure of determining coordination zones, including the determining of permissible values of basic transmission loss for a definite percent of time of the worst month;
- b) determine the value of coordination distance with the help of dependence  $L_{\rm b}$  (d) based on the results of findings prepared by CCIR under consideration of all latest experimental data on radio-wave propagation.

Document N<sup>O</sup> 194-F/E/S Page 3

Figure/Figura 1



Figure/Figura 2



Figure/Figura 3

# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 195-E 5 October 1979 Original : French

COMMITTEE 7

## Republic of the Niger

### PROPOSALS FOR THE WORK OF THE CONFERENCE

The Republic of the Niger requests that the series of call signs 5UA to 5UZ allocated on a provisional basis since 1959 should be definitively allocated to Niger by the present Conference.



# WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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PLENARY MEETING

MINUTES

OF THE

FIRST PLENARY MEETING

Thursday, 27 September 1979, at 1605 hrs

Chairmen : Mr. Per MORTENSEN (Norway)

Dean of the Conference

later : Mr. Roberto J.P. SEVERINI (Argentina)

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### 1. Opening by the Dean of the Conference

Mr. Mortensen (Norway), Dean of the Conference, said it was a great honour for him to open WARC-79. He was one of the relatively few delegates present who had taken part in the last general WARC, exactly 20 years previously. Developments in radiocommunications had been enormous during that period and had necessitated a number of specialized conferences, beginning with the Space Conference in 1963 and resulting in a number of new provisions in the Radio Regulations; yet none of those conferences had been empowered to make a general revision of the Regulations, the structure of which had remained virtually unchanged since the Atlantic City Conference of 1947. The time had thus come for serious consideration of a revision of that structure and also of the Table of Frequency Allocations, which had not been fundamentally changed since the 1959 Conference. All delegates were aware of the importance of the Conference and of the task before them, namely to adjust the Radio Regulations to developments which had taken place and those which were expected to take place. He wished the participants all luck and success in their work and declared WARC-79 open.

#### 2. Election of the Chairman of the Conference

2.1 The <u>Dean of the Conference</u> announced that the meeting of Heads of Delegations had unanimously decided to propose the candidature of Mr. Roberto J.P. Severini (Argentina) for the chairmanship of the Conference.

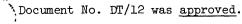
That proposal was adopted by acclamation.

- 2.2 Mr. Severini took the Chair and delivered the address reproduced in Annex 1.
- 3. Election of the Vice-Chairmen of the Conference
- 3.1 The Secretary-General announced that the meeting of Heads of Delegations proposed the candidature of the following delegates for the vice-chairmanship of the Conference:
  - Mr. A.L. Badalov (USSR)
  - Mr. J. Jipguep (Cameroon)
  - Mr. H. Kieffer (Switzerland)
  - Mr. Li Linchuan (China)
  - Mr. A. Petti (Italy)
  - Mr. G.O. Robinson (United States of America)

on the understanding that Mr. Kieffer would also act as Coordinator of Committees 4, 5 and 6.

That proposal was adopted by acclamation.

- 4. Addresses by the Secretary-General of the ITU, the Chairman of the IFRB and the Director of the CCIR
- 4.1 The Secretary-General delivered the address reproduced in Annex 2.
- 4.2 The Chairman of the IFRB delivered the address reproduced in Annex 3.
- 4.3 The <u>Director of the CCIR</u> delivered the address reproduced in Annex 4.
- 5. Committee structure and organization of the work of the Conference (Document No. DT/12)
- 5.1 The <u>Secretary-General</u> said that the Committee structure and terms of reference set out in Document No. DT/12 had been thoroughly discussed and approved by the meeting of Heads of Delegations.



## 6. <u>Election of Committee Chairmen and Vice-Chairmen</u>

6.1 The <u>Secretary-General</u> said that the following distribution of the chairmanship and vice-chairmanship of Committees had been approved at the meeting of Heads of Delegations:

Committee 1 - Steering

Chairman : the Chairman of the Conference Vice-Chairmen : the Vice-Chairmen of the Conference

Committee 2 - Credentials

Chairman : Mr. C.J. Martinez (Venezuela)

Vice-Chairman : Dr. Amer Jomard (Iraq)

Committee 3 - Budget Control

Chairman : Mr. Z. Kupczyk (Poland) Vice-Chairman : Mr. K.P.R. Menon (Malaysia)

Committee 4 - Technical Regulations

Chairman : Mr. N. Morishima (Japan) Vice-Chairman : Mr. M. Cisse (Senegal)

Committee 5 - Frequency Allocations

Chairman : Mr. H. Harbi (Algeria)

Vice-Chairman: Mr. J.J. Hernandez-G. (Mexico)

Committee 6 - Regulatory Procedures

Chairman : Mr. M. Joachim (Czechoslovakia) Vice-Chairman : Mr. E.J. Wilkinson (Australia)

Committee 7 - General Administrative

Chairman : Mr. P.O. Okundi (Kenya)

Vice-Chairman: Mr. H.L. Venhaus (Federal Republic of Germany)

Committee 8 - Restructure

Chairman : Mr. O. Lundberg (Sweden)
Vice-Chairman Mr. G.I. Warren (Canada)

Committee 9 - Editorial

Chairman : Mr. P. Bassole (France) Vice-Chairmen : Mr. V. Quintas (Spain)

Mr. D.E. Baptiste (United Kingdom)

Those proposals were adopted by acclamation.

#### 7. Composition of the Conference Secretariat

7.1 The <u>Secretary-General</u> suggested that the following members of the Secretariat be placed at the disposal of the Conference and its Committees:

Secretary of the Conference : Mr. M. Mili, Secretary-General of the ITU

Executive Secretary : Mr. A. Winter-Jensen

Technical Secretary : Mr. G. Brooks, assisted by Mr. A.A. Matthey

Administrative Secretary : Mr. U. Petignat

Legal Adviser : Mr. A. Noll

Meeting Secretaries

Plenary Meetings Mr. H. Pouliquen

Committee 1 : Steering Mr. H. Pouliquen

Committee 2 : Credentials Mr. A. Winter-Jensen

Committee 3 : Budget Control Mr. R. Prélaz

Committee 4 : Technical Regulations Mr. C. Glinz

Committee 5: Frequency Allocations Mr. M. Sant

Committee 6 : Regulatory Procedures Mr. R. Pluss

Committee 7 : General Administration Mr. A. Zaccagnini

Committee 8 : Restructure Mr. J. Pelegri
Committee 9 : Editorial Mr. R. Macheret

The Secretaries might be assisted by other officials.

The list suggested by the Secretary-General was approved.

- 8. Allocation of documents to Committees (Document No. DT/14(Rev.1))
- 8.1 The <u>Secretary-General</u> drew attention to a few slight errors in the document under consideration and said that detailed lists of documents could be drawn up for each Committee.
- 8.2 The <u>delegate of Japan</u> observed that Document No. 5, concerning the results of the XIVth Plenary Assembly of the CCIR in Kyoto, had been omitted from the list. That document mentioned CCIR Recommendations 570 and 535 and Opinion 62; the first Recommendation should be allocated to Committee 4 and Recommendation 535 and Opinion 62, to Committee 7.

The <u>Secretary-General</u> pointed out that the substance of the texts referred to by the Japanese delegate appeared in Document No. DT/1A.

The <u>Director of the CCIR</u> endorsed that remark and said there would be no difficulty in allocating Document No. 5 to Committees 4 and 7 as suggested.

8.3 In reply to comments by the delegates of Italy and Algeria, the Secretary-General said that Document No. DT/14(Rev.1) had been issued for the general guidance of delegations and would naturally be updated in each Committee as necessary.

Document No. DT/14(Rev.1) was approved, subject to the above comments.

- 9. <u>Convening of the Conference</u> (Document No. 4)
- 9.1 The <u>Secretary-General</u> said that Document No. 4 had been submitted for information only.

  The Conference took note of Document No. 4.

### 10. Invitations to the Conference (Document No. 146)

10.1 The <u>Secretary-General</u> said that Document No. 146 had been submitted for information only. Since its publication on 18 September 1979, Democratic Kampuchea and the Kingdom of Tonga had notified their intention of sending a delegation to the Conference; the figure in paragraph 1.2 of the document and the list in paragraph 1 of its Annex should be amended accordingly.

The Conference  $\underline{\text{took note}}$  of Document No. 146 with the corrections indicated by the Secretary-General.

- 11. Participation of international organizations in the work of the Conference (Document No. 144 and Addendum No. 1)
- 11.1 The <u>Secretary-General</u> said that requests for admission to the Conference had been received from the international organizations listed in Document No. 144 and Addendum No. 1. Pursuant to No. 332 of the International Telecommunication Convention, the Conference was invited to decide whether those organizations were to be admitted as observers.

It was <u>decided</u> that the organizations listed in Document No. 144 and Addendum No. 1 could be admitted to the Conference.

#### 12. Date by which the Credentials Committee must submit its conclusions

On a proposal by the Secretary-General, it was <u>agreed</u> to set the date and time by which the Credentials Committee must submit its final report to the Conference at Monday, 19 November 1979 at 1000 hours.

### 13. Working hours of the Conference

13.1 The <u>Secretary-General</u> suggested that, in accordance with customary practice, the working hours of the Conference should be 0900-1200 hours and 1400-1700 hours. In order to avoid overtime and make optimal use of the interpretation services, he appealed to Committee Chairmen to observe those hours.

The working hours suggested by the Secretary-General were approved.

# 14. Message and statements

### 14.1 Message from the President of the United States

By message dated 28 August 1979, the President of the United States transmitted to the Secretary-General his good wishes for the work of the Conference. The text of the message is reproduced in Annex 5.

### 14.2 Statement by the representative of the United Nations

- 14.2.1 The representative of the United Nations said it was an honour and pleasure for him to attend the Conference as the representative of his Organization. After congratulating the Chairman on his election, he emphasized that the outcome of the Conference would be of great interest to the United Nations, for it was not purely technical in nature but would have significant implications for various of the objectives and principles embodied in the United Nations Charter, such as the maintenance of international peace and security and economic and social cooperation among peoples.
- 14.2.2 He had pleasure in reading out the following message addressed to the Conference by the Secretary-General of the United Nations, Dr. Kurt Waldheim:

"It is with great pleasure that I send my greetings to the World Administrative Radio Conference of 1979.

The importance of telecommunications to industrialized economies is obvious but the vital role they can play in developing countries, particularly in such fields as education, weather forecasting, communications with remote areas and disaster relief is also being increasingly recognized. The building of indigenous telecommunications capacities in these countries is thus a necessary element in their development.

I congratulate the ITU on its continuing efforts to encourage and promote the application of telecommunications to the advantage of all nations and I send you my best wishes for a rewarding conference."

- 14.3 The <u>delegate of Colombia</u> made the statement reproduced in Annex 6.
- 14.4 The <u>delegate of Costa Rica</u> made the statement reproduced in Annex 7.
- 14.5 The <u>delegate of Afghanistan</u> made the statement reproduced in Annex 8.

The meeting rose at 1815 hours.

The Secretary-General:

The Chairman:

M. MILI

R.J.P. SEVERINI

#### ANNEX 1

### ADDRESS BY MR. R.J.P. SEVERINI, CHAIRMAN OF THE CONFERENCE

Mr. Dean and former Acting Chairman,
Distinguished Delegates and Heads of Delegation,
Mr. Secretary-General,
Mr. Deputy Secretary-General,
The Directors of the CCIR and the CCITT,
The Chairman and Vice-Chairman of the IFRB,
Ladies and Gentlemen,

Owing to a combination of circumstances I find myself today presiding over this Conference which some people say will be the most important to date in the history of the ITU.

Clearly it is not on account of my personal merits that I now occupy this honourable post, but that does not detract from the importance of the task.

It took us four days to reach this solution which, while entailing a delay in starting the work of the Conference, cannot be regarded as wasted in the strict sense of the term.

Those days of feverish activity enabled us to display man's most admirable qualities, such as friendship and understanding, and to give expression to them by the gift of speech.

We are met here to frame an international agreement of world-wide scope which, since it will have been freely adopted and accepted, we shall be in duty bound to apply.

With the high sense of responsibility that we all share, we are aware that the task imposed on us is of the most delicate and difficult character and far-reaching in scope.

In the present situation, the various degrees of development, the differences in size, and in the geographical and geopolitical conditions of the countries we represent, result in different approaches to the exploitation and use of the radio spectrum which, by its very essence, is a limited natural resource, the common property of mankind - which knows no frontiers.

It is for this reason that the past four days of extreme tension have constituted, so to say, a school in the exercise of those qualities which we shall be called upon to display to the utmost in the near future when we have to coordinate, for the common good, the vast number of different proposals sent into this Conference, which cover some thousands of printed pages.

We have before us many days of intensive effort, far from our friends and families, in which we must seek the best solutions to the problems which will inevitably arise.

Since there are no miracle workers, we have to try and practise the spirit of cooperation, understanding and tolerance and, above all, brotherhood as human beings living in a world which, thanks to the technological progress produced by human genius, enables all the inhabitants of the world to be placed in contact within the space of a few hours and to converse with one another within a few minutes or seconds by means of the marvellous network of telecommunications whose regulations it is our task to revise.

The successful conclusion of this task will be a success for every one of us: delegates, ITU Secretariat, auxiliary staff, interpreters, messengers and all those who, in one way or another, will be helping us - each in his specific field - to achieve a fruitful outcome satisfactory to all. I beg each of you for his fullest collaboration and it is my heartfelt desire that God shall guide our work.

Thank you, Ladies and Gentlemen, for the signal honour done to my country and to myself.

### ADDRESS BY MR. M. MILI, SECRETARY-GENERAL OF THE ITU

Mr. Chairman,

On behalf of the ITU and myself, I am very glad to offer my sincere congratulations on your outstanding election as Chairman of the World Administrative Radio Conference.

Your numerous activities in the field of telecommunications, at the national level, where you have recently attained the high rank of Technical Under-Secretary, at the regional level, since you are the current Chairman of COM/CITEL and the Plan Committee for Latin America, and on the international plane, at which you have taken part in numerous ITU conferences and mainly the first Space Conference of 1963, made you a natural choice for the position of Chairman of this Conference.

Among your many qualities, both as outstanding engineer and skilled diplomat, I must emphasize your courage, and we all know that you have no lack of it. A great deal of it will be required to conduct a conference such as this. This difficult task will fortunately be considerably facilitated by the assistance that you will receive from the Vice-Chairman of the Conference and the Chairmen of the Committees, to whom I offer my advance congratulations on their election. You can also count on the aid and support of the staff of Union Headquarters at all levels, who will likewise be doing their utmost to ensure the success of the Conference.

Mr. Chairman, Ladies and Gentlemen,

What words can we use to describe a conference as important as the one we are opening today? With its 1,800 participants, its 14,000 proposals amounting to nearly 5,000 pages and coordinated documentation in several volumes totalling nearly 3,000 pages, no term seems to be adequate to designate the largest conference ever organized under the auspices of the ITU.

It is no exaggeration to assert that this Conference will establish the framework that will regulate radiocommunications up to the year 2000. Moreover, since its task is to seek an equitable balance between everyone's most immediate needs and the long-term requirements of all the services which will become operational during the next two decades, it will influence the planning and utilization of services well beyond the year 2000.

1979 will thus mark a turning-point in the history of telecommunications and consequently in the history of mankind.

Let us recall in this connection that the year 1879, exactly a century ago, saw the death of James Clark MAXWELL, whose principal achievement was to unify our knowledge of the phenomena of light and electromagnetics, and also the birth of Albert EINSTEIN, who took up Maxwell's famous equations and tried to combine them with the laws of gravity in a single formula.

Although this attempt was not completely successful, since the single equation covering all these physical phenomena is still being sought, it shows the great interest that the most eminent scientists have taken in the electromagnetic field.

In our times, radioelectricity still seems to be one of the happiest and most productive discoveries of all ages. As we approach the year 2000 and an era when telecommunications, closely linked with computer science, will occupy a preponderant place in society, it is brought home to us that, from the dawn of the 20th century, radiocommunications have constituted a decisive factor in the prodigious development of the world. Have they not from the outset put an end to the isolation of seamen and of the most distant regions and, through broadcasting, have they not proved to be the most powerful of mass communication media?

Unfortunately, we are all aware that the marvellous opportunities they offer us are dependent upon a frequency spectrum which is still limited, although its upper limit is constantly expanding as the result of technological advances.

The first users soon realized this limitation, since serious problems arose from the beginning of the century for the maritime service and some 20 years later for broadcasting, making it necessary to convene world conferences, which were already apprehensive about the saturation of the radio spectrum. The first of these conferences was held in 1906 in Berlin.

It was very soon observed not only that radio waves knew no frontiers, but also that they were propagated over very long distances and could thus cause harmful interference. Radiocommunications therefore represented an area of activity in which the major problems could only be dealt with at the world level. There are, of course, specific requirements, regional and even national, and their disparity has led to the division of the world into three regions for the purposes of the Radio Regulations and particularly to a proliferation of footnotes in the Table of Frequency Allocations.

You are all aware of the difficulties caused by these famous footnotes. They result in a less satisfactory use of the spectrum and introduce additional complications for frequency planning and coordination and for the standardization of equipment. We therefore hope that your conference will make every effort to get rid of as many of them as possible.

So we see that as early as 1906 the plenipotentiaries convened in Berlin for a radiotelegraph conference of the Union were already drafting the first Radio Regulations. Much later, in 1947, after the upheavals brought about by the Second World War, and then in 1959, the Radio Regulations were twice revised in their entirety. Since 1959, technological advances and the expansion of radiocommunication systems have been such that specialized conferences have had to be convened for partial revisions of the Regulations which concerned only certain categories of users. We have thus had space, maritime and aeronautical conferences, but these revisions, being strictly limited to specific services, could not cover the provisions common to several services.

Yet the need for a complete revision was felt more and more, and the Plenipotentiary Conference of Malaga-Torremolinos decided by its Resolution No. 28 "that a World Administrative Radio Conference to revise, as necessary, the Radio Regulations and the Additional Radio Regulations shall be convened in 1979".

It will thus be twenty years since the Regulations were revised in their entirety and the mere fact that the Table of Frequency Allocations to the various services has not been reviewed as a whole since 1959 emphasizes the importance attached to this Conference.

A great deal has happened in the past twenty years. First of all, technology has made giant strides: in 1959 there was hardly any mention of large-scale integrated circuits and satellites were mainly for research. Moreover, for lack of suitable equipment, frequencies above a few GHz were scarcely used, and optical waves even less.

During those twenty years some far-reaching political events also occurred. In 1959, the Union had only 96 Members and 5 Associate Members, some of them not yet fully independent. Today the membership is 154, making an increase of over 60 %. The Union is thus faced with new obligations, especially since telecommunications are increasingly becoming the cornerstone of a country's infrastructure and consequently determine the success of national development as a whole. In many countries, radiocommunications of all kinds can be brought into operation more rapidly than any other methods of transmission and can be maintained more easily.

Ladies and Gentlemen.

The agenda of the Conference has been examined in great detail by the Administrative Council. This was done in successive stages to enable all administrations to make their views on the subject known.

First of all, in 1975, following the instructions of the 1973 Plenipotentiary Conference in Resolution No. 28, the Council requested the Members of the Union to communicate to it any suggestions they might wish to make concerning the agenda and the date and duration of the Conference (see Circular-letter No. 56 of 10 September 1975).

Among the suggestions made, we may single out the proposal for convening a special preparatory meeting of the CCIR and also the wish expressed by many administrations to limit the duration of the Conference to about ten weeks. Since the special preparatory meeting was to deal in detail with all the technical questions on which the work of the Conference would be based, a reasonable amount of time was allowed for it.

On the basis of the suggestions made by administrations, the Administrative Council, at its 1976 session, prepared a draft agenda for the Conference, which it at once submitted to the Members of the Union for approval, leaving open the possibility that it might take the subject up again at its 1977 session if necessary (see Circular-letter No. 145 of 31 December 1976).

In response to this consultation, 73 administrations approved the draft agenda and only a few of them proposed slight changes in the opening date or a different duration.

In 1977, therefore, the Council was able to finalize the agenda of the Conference and to fix its duration at ten weeks. For the last time, these proposals were submitted to the Members for approval. Apart from some comments on minor points, they were supported by 83 Members. The agenda thus approved appears in Council Resolution No. 801.

To complete the picture, I would remind you that the Re-Arrangement of the Radio Regulations and the Additional Radio Regulations was entrusted to a group of experts set up by the Council in 1975 and that the resulting document was given general approval in 1977 by the Broadcasting-Satellite Conference.

Thanks to this document, your Conference will be able to concentrate on the revision of the Regulations without first having to consider a new structure for them.

We should also bear in mind that the need for such a re-arrangement became evident very soon after the 1959 Conference, since the Administrative Council had already raised the problem in 1962 by its Resolution No. 494.

In concluding these general remarks, I must draw attention to the fact that, unlike the earlier conferences, which were held concurrently with the Plenipotentiary Conferences of 1947 and 1959, your Conference has been convened three years before the next Plenipotentiary Conference. Accordingly, any decision affecting the Convention that you may adopt should take the form of a proposal by your Conference to the forthcoming Plenipotentiary Conference.

Ladies and Gentlemen,

I should now like to make some comments on the agenda with which you are to deal.

First of all, I must refer to the International Telecommunication Convention, which is our guide, drawing special attention to Article 33. This Article consists of two basic provisions, Nos. 130 and 131, which directly concern your work.

- No. 130 "Members shall endeavour to limit the number of frequencies and the spectrum space used to the minimum essential to provide in a satisfactory manner the necessary services. To that end they shall endeavour to apply the latest technical advances as soon as possible."
- No. 131 "In using frequency bands for space radio services Members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources, that they must be used efficiently and economically so that countries or groups of countries may have equitable access to both in conformity with the provisions of the Radio Regulations according to their needs and the technical facilities at their disposal."

During the negotiations that are sure to take place between delegations and during the debates in Committees and at plenary meetings, these institutional obligations must be duly taken into account in order to conform with the directives of the Convention.

Particular attention will naturally be paid to such services as the mobile and broadcasting services, for which there is no economically viable solution other than the use of one or more frequency bands.

But it is also important to take longer-term interests into consideration, by ensuring the allocation of adequate frequency bands to the various services and by adopting provisions whereby countries which are not in a position to do so today may, in the more or less distant future and at a time they consider appropriate, introduce new services to meet their national or international requirements. In such cases, they should be able to do so without giving rise to congestion or causing interference for the users of other services.

The agenda proper thus covers all the subjects that cannot be dealt with by a specialized conference. Accordingly, you will have to consider questions relating to several services at a time, leaving it to the specialized administrative conferences which will be convened during the next decade to deal in detail with matters concerning specific services.

In particular, the Conference will not be able to assign frequencies to countries; its task will be to extend and revise the international framework within which such assignments can be made at the proper time, in accordance with the provisions that will be drawn up, with a view to meeting the requirements and protecting the interests of all users.

WARC-79 will also examine the recommendations adopted by all the administrative radio conferences held since 1959 so that they may be taken into account in the preparation of the new Regulations.

I have no intention, of course, of reviewing all the items of the agenda one by one. I shall, however, make an exception for items 2.10 and 2.11, because they introduce an innovation.

Item 2.10 implies that the Conference will be in a position to draw up a calendar of conferences dealing with specific services and provide guidelines for the technical preparation for such conferences.

The Plenipotentiary Conference and the Administrative Council will of course retain their prerogatives in these matters as stated in the Convention, but under this item of the agenda the WARC can take decisions which will obviously have repercussions on the development of radiocommunications and on the work of our Union until the end of the 20th century.

Item 2.11 emphasizes the importance of technical studies in the preparations for administrative conferences. It is thanks to these studies that radiocommunications have been able to expand their potential in quality and quantity since the beginning of the century. This perpetual race between demands on the spectrum and its capacity calls for increasingly elaborate technical measures. For many years, progress was made only with regard to a few specific technical points, such as propagation and modulation, and to equipment, particularly antennae. But now all the characteristics have to be considered with a view to reaching the optimal solution, that is to say, maximum utilization of every band in the spectrum.

In point of fact, this procedure is not a new one for the ITU. At the 1977 Broadcasting-Satellite Conference, for example, the various technical characteristics were studied systematically with a view to optimizing the use of the allocated band - an optimization which, in the final stages, could not have been completed without using the computer. The problems of course vary greatly according to the frequency bands used and the service concerned, but there can be no doubt that the optimization of the spectrum has become a vital necessity.

Mr. Chairman, Ladies and Gentlemen,

I hope you will excuse me for dwelling on these aspects of an agenda which has been the subject of very detailed study. I thought it would be useful to do so in order to stress the very strict framework that the Administrative Council meant to establish for this Conference, with the agreement of the Members of the Union, in order to fix the right duration, which must be scrupulously observed, since it would be practically impossible for us to prolong it.

I should like to make one more very important point, reminding you that under Article 42 of the Convention, ratification of that instrument or accession to it "involves acceptance of the Administrative Regulations in force at the time of ratification of accession". This means that the agreement of every one, on all the provisions of the Regulations you will adopt, is essential. To this end, great understanding and a spirit of full cooperation must be shown, as has always been the case at earlier conferences. I am sure that all the delegations present here will be most anxious to ensure that WARC-79 is an outstanding success.

With the expression of this hope, which I believe to be a certainty, I shall conclude by wishing you all the fortitude you will need to accomplish in ten weeks a task which one and all consider to be extremely difficult.

### A N N E X 3

### ADDRESS BY MR. S. FUJIKI, CHAIRMAN OF THE IFRB

First of all, Mr. Chairman, on behalf of the International Frequency Registration Board, I congratulate you on your election as Chairman of the Conference. I should also like to thank you for having allowed me to extend a welcome to all the delegations.

My speech will be brief.

A number of complex and difficult problems are in front of us and they have to be solved by you all within the ten weeks ahead.

To carry out this task, and in accordance with the Radio Regulations, the IFRB has been making technical preparations for the last four years, and the outcome of the preparation can be found in some Circular-letters of the Board and the WARC documents entitled "Report of the International Frequency Registration Board". These documents describe the activity of the Board, as provided for in the Radio Regulations, including the additional duties as prescribed by radio conferences. They also contain the IFRB's comments on the anomalies, discrepancies and difficulties encountered in the course of its activities, and the daily applications of the Radio Regulations, as well as comments on the action taken by the Board on Resolutions and Recommendations of Administrative Radio Conferences. I trust that these comments may have been helpful to all Administrations in their preparation for the WARC-79 and will prove useful for discussions throughout the Conference.

As in past conferences, the IFRB is providing the Technical Secretary of the Conference and the Technical Secretaries of certain committees. These will no doubt be essential for the work of the WARC-79. Needless to say that the Members of the Board will participate in each committee, where necessary, and always be ready to assist.

As you are well aware, and as Mr. Mili said, radiocommunications have to utilize two limited natural resources, namely, the radio frequency spectrum and the geostationary satellite orbit. As laid down in the International Telecommunication Convention, every effort should be made to distribute those resources amongst all nations as efficiently, economically and equitably as possible.

This Conference should carry out its work and solve difficulties, taking account of that principle above all.

Finally, I should like to express my most sincere wishes that the Conference be crowned with great success.

Thank you Mr. Chairman.

### ADDRESS BY MR. R.C. KIRBY, DIRECTOR OF THE CCIR

Mr. Chairman, Mr. Secretary-General, Distinguished Delegates, Ladies and Gentlemen:

First of all, congratulations on your election as Chairman of this Conference and my best wishes for every success.

CCIR preparation of the technical bases for this great World Administrative Radio Conference has been a continuing process over several years. Studies have been carried out in response to Resolutions of the last general radio conference held in 1959, and in response to subsequent conferences which have requested CCIR Recommendations on a variety of topics ranging from classification and designation of emissions to coordination of geostationary satellite networks.

An all out effort began from 1976, and in response to Resolution No. 804 of the ITU Administrative Council, the Special Preparatory Meeting of the CCIR Study Groups was held in November 1978. The report of that meeting was transmitted to Administrations in February 1979 and is a document of this Conference. Some 750 delegates, representing the technical resources of 85 countries participated in that Special Preparatory Meeting held eleven months ago in this hall.

Prior to the Special Preparatory Meeting, the Plenary Assembly itself adopted two Recommendations which are submitted as formal proposals to this Conference. One of these modernizes the system for classification and designation of emissions. The other concerns standard time and proposes the use of Coordinated Universal Time (UTC) in all international telecommunications and in radio regulation. This step, in line with modern legal time basis adopted by many countries, permits unambiguous timing of events in remote parts of the world to within 1 microsecond, a capability essential for many space applications and digital networks.

The SPM Report itself brings to the Conference in a single volume a concise but comprehensive summary of the conclusions of the CCIR on technical topics of concern to the WARC-79. It was prepared, in accordance with the Administrative Council Resolution, both to assist Administrations in their preparatory work and to provide the technical bases for this Conference. It is therefore a conference document. The report is presented in a form consistent with the conference agenda and is designed to be self-contained, requiring reference to the CCIR Volumes only in special cases. It is based not only on the texts approved by the CCIR XIVth Plenary Assembly but also on more than 300 contributions of Administrations participating in the SPM.

Introduction of the SPM Report of course awaits the appropriate sessions of the Conference. Broadly, the report covers technical terminology, the technical bases for frequency allocation and regulation for space and terrestrial radio services, technical characteristics of equipment, a look at the existing and scientifically possible new uses of the spectrum above 40 GHz, some technical guidance for future optimum use of the frequency spectrum, and a survey of current knowledge of radio wave propagation as it relates to the tasks of the Conference.

This Conference can have full confidence that the report represents the best effort of the experts, laboratories and Administrations of the ITU working through the CCIR to provide a careful, objective and up-to-date technical basis for the tasks of this Conference.

### A word on technical bases for radio regulation

A sound technical foundation is one of the vital elements of international radio regulation, because the ultimate purpose of radio regulation is to assure the greatest benefits of radiocommunication to the greatest community of users. From the earliest days of radio the usable spectrum has always been considered very limited in comparison to need. But by really deep studies of the technical possibilities - emission, reception, and the propagation of radio waves - and by maintaining the greatest possible flexibilities for development - it has been possible for ITU to foster continually more intensive use of the radio spectrum by an ever

increasing number of users. The technical possibilities have become more and more complex, and when one reviews 13 volumes, 5,000 pages of CCIR material, it may be tempting to wish for a simpler life. But the reward of continuing careful understanding of this complex technology is clearly greater access to the spectrum by more users. To oversimplify the technical basis is to limit flexibilities in radio regulation and to deny much of the potential for spectrum utilization.

A final point concerns the increasing thrust of CCIR work in support of the technical needs of future administrative radio conferences. As the vehicle through which the ITU member countries themselves, with their technical resources, contribute and develop the technical basis for radiocommunication, CCIR will surely place high priority on this task in the next few years. The series of planning conferences which may be foreseen by this WARC, would pose substantial technical questions for CCIR study. Careful Resolutions by this Conference could assist the CCIR to produce rapid, practical and unequivocal technical advice for these future conferences.

Mr. Chairman, besides this large written report, there are participating in this Conference hundreds of delegates, radio engineers who have already contributed to the CCIR technical preparatory work. Also, the counsellors and engineers of the CCIR Secretariat are placed at the disposal of this Conference as members of the Conference Secretariat.

Thus CCIR, body and soul, is present to assist the Conference in its objectives to foster radiocommunication development over the next two decades.

Mr. Chairman, I thank you and all the distinguished delegates for this opportunity to bring these words on behalf of CCIR. I wish you every success in the coming weeks.

### MESSAGE FROM THE PRESIDENT OF THE UNITED STATES

THE WHITE HOUSE

Washington

August 28, 1979

Dear Mr. Secretary-General:

On the occasion of the convening of the 1979 World Administrative Radio Conference, I send my warmest greetings on behalf of the people of the United States of America.

For one hundred and fourteen years the International Telecommunication Union has promoted the efficient use of telecommunications in all nations of the world. The Union's administrative radio conferences, in establishing an efficient framework of rules and guidelines, are a model of international cooperation.

I wish the delegates to this year's Conference every success in continuing your important work. It is my hope that this meeting will further improve the international structure for radiocommunications in ways that strengthen the prospects for social harmony and economic development throughout the world.

Congratulations to you and your colleagues in the International Telecommunication Union for your work in helping to bring about a world community in which all people can share in the benefits of modern communications technology.

Sincerely,

(Signed) Jimmy Carter

### STATEMENT BY THE DELEGATION OF COLOMBIA

I desire to convey to you the message of the Government of Colombia and more specifically that of the Minister of Communications.

I take this opportunity to congratulate the Chairman and the other officers elected by the Conference. The Colombian delegation also welcomes the election of a Latin American Chairman.

The Conference opening today is undoubtedly the most important event in telecommunications for the international community in many decades, during which far-reaching social changes have occurred, very largely owing to the effects of communications. Telecommunications have indeed ceased to be a purely technical matter; they have acquired an unmistakable political content, having become, with as yet unforeseeable consequences, the most effective instrument for the training and cultivation of human consciousness and hence for guiding societies in the fulfilment of their destiny. Communications constitute a vehicle which acknowledges no frontiers of any kind - political, geographical, racial or administrative.

In the past few years, communications have surpassed, at a headlong pace and within a range previously inconceivable to man, the purely inter-personal aspects of human relations and have acquired a universal character. At the same time, they have become a decisive factor in development and hence in changing the quality of life.

A great truth was expressed by a writer who said: "It was the pressure of communications which led to the downfall of the traditional societies and in the future the creation of new channels of communication will be a decisive factor opening up new vistas for the nations of the world."

Every day new and more sophisticated forms of telecommunications emerge, giving man a new dimension of the universe and of his environment. The range of his knowledge is thus widened and new perspectives are opened to both material and spiritual values.

Thus, human beings of all latitudes, whatever the colour of their skin, their political creed or their philosophy are no longer content to be mere pawns in this historical process. They no longer accept the condition of passive observers of the changes affecting humanity but ask to be active participants.

In this age of informatics, man cannot accept the idea that sophisticated technologies might belong exclusively to a few groups which have achieved a high level of development more rapidly than others.

Communications, I should say, have created a universal human condition and those who lead the field in science and technology cannot disregard this profound and radical change which brings about new attitudes stemming from this unmistakable and momentous phenomenon: the need for free access by all peoples to the benefits of civilization, without vexatious discrimination, without the restrictions which in practice negate postulates that are theoretically unexceptionable. These are the realities which should guide those bearing the important charge of managing, for the great majority of the world's nations, the magnificent tool of telecommunications.

We know the concern of some Members of the ITU at the possibility that this Conference, which should be technical, might assume a highly political character. We share these fears inasmuch as it is not aroused by the developing countries' decision to uphold their interests and express their concerns, in vital matters which affect their present and future, and which are submitted for consideration and decision by this Conference.

I do not know exactly whether, for example, the obvious identity of views regarding many of these disquieting matters and the solidarity displayed in expressing them can be considered a political attitude. If this is so, such a level of politicization will be inescapable and it would not be dictated to philosophical or ideological considerations but by the repeated effort of the economically marginal countries to ensure that their requirements are reasonably met in a spirit of understanding and with an awareness of the profound responsibilities borne by the wealthy economies in the international community.

I could not specify in purely theoretical terms whether the initiative leading to the commercial limitation of the HF band and the clear opposition of several developing countries to that initiative has a political content or not. But I know for certain that if such a proposal were to be adopted by the Union, it would entail a great social cost for a large number of countries, which would clearly be at variance with the objectives and domestic policies followed by some of them to overcome economic difficulties.

In my country in particular, a vast infrastructure has been established for longand medium-distance communications in this band, a situation which would be very difficult to change in the short, medium and even long term, since the nature of the terrain precludes a rapid changeover to other systems in higher bands. I also know the legitimate anxiety felt by the developing countries at the unrestrained ideological, commercial and cultural penetration effected by the developed countries by means of the radio, pervading each individual listener's environment; this of course has a clear political implication, even if such is not the intention.

We deem it equally political to use reconnaissance satellites, which enable countries possessing advanced technologies to open a large window onto the developing countries, carrying out, without any legal sanction and any restriction safeguarding the dignity of those observed, a permanent inspection of their physical and geographical conditions and even of purely personal activities.

A few years ago the developing countries lacked the information and training required to envisage a future with such advanced technologies as satellite communication. It was not easy for any of our peoples to draw a distinction between the fantastic and what was real or even possible in such areas. Today, the broad highway opening up with the use of satellites is not only viewed with optimism, but direct access to satellite technology is desired. This is why, with the prospects of our distant future in mind, we are zealous in the defence of the physical factors and the natural resources which are ours by virtue of our geographical situation, aware of the far-reaching implications which these powerful conquests of civilization have for our societies.

This new dimension of the awareness of the developing nations is aptly expressed in the document known as the "Declaration of Bogotá", signed by the Equatorial countries, with Brazil as an observer, which says: "The 1967 Treaty on the principles governing the activities of States in the exploitation and utilization of outer space, including the moon and other heavenly bodies, signed on 27 January of that year, cannot be regarded as a conclusive answer to the problem, particularly when the international community establishes as criteria all those rules of international law which were fixed at a time when the developing countries lacked adequate scientific advice and were unable to detect and evaluate the drawbacks, incongruities and inconsistencies of the texts drafted very skilfully by the industrial powers for their own benefit."

This is the reason why the countries situated on the Equator, hence known as the Equatorial countries, view with some disquiet any attempts to allocate the 12 GHz band, which would constitute an infringement of their sovereignty, in addition to running counter to basic principles of justice and international law.

We are convinced however that a spirit of equity will prevail and that the fact that the United Nations Committee on the Peaceful Uses of Outer Space is at present examining the question of the geostationary orbit will be borne in mind by the present Conference, which is therefore not competent to assign fixed orbital positions situated over States crossed by the Equator.

The following points should be noted in connection with the geostationary orbit.

In the first place, the right to sovereignty affirmed by the Equatorial countries does not preclude free orbital transit or communications between spacecraft scheduled and authorized under the International Telecommunication Convention whenever such spacecraft transit in gravitational flight through the segment of space situated above their respective territories, from any altitude practically to infinity. However, it distinctly excludes the case of spacecraft scheduled to be located at a fixed point in that segment of the geostationary orbit, which is considered by the Equatorial countries as constituting one of their natural resources and as such has always been regarded as a third dimension of their territory, over which they exercise full sovereignty.

The above position was unequivocally and consistently upheld by the Colombian Government at the 30th General Assembly of the United Nations and was approved without reservation by almost all the Equatorial countries.

In the second place, it is recorded in the Declaration of Bogotá that the sovereign rights affirmed by the Equatorial countries are intended to benefit their respective peoples and mankind as a whole, as distinct from the present situation in which the orbit is used primarily to the advantage of the most developed countries. It is further stated that the segments of the orbit correponding to areas of the high seas outside national territorial waters will be considered as a common heritage of humanity, the use and operation of which is to be regulated by the competent international organizations.

From 10 January to 12 February 1977, a world administrative conference was convened by the ITU in Geneva in order to establish a frequency plan for the broadcasting satellite service in the frequency bands 11.7 to 12.2 GHz in Regions 2 and 3, and from 11.7 to 12.6 GHz in Region 1. On that occasion, Colombia outlined its position in several documents, of which I shall quote Document No. 223:

"All the various concepts of geostationary orbit planning put forward at this Conference entail the assignment of frequencies and orbital positions to Administrations and Regions in perpetuity.

The introduction of the concept of frequency-orbit in the footnote on page 3 of Document No. 187 confirms that the Conference is not only seeking to allocate frequencies, but also to assign geographically fixed points in space.

The task of apportioning the geostationary orbit cannot have been assigned to the World Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in frequency bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1) either by Resolution No. 27 of the Plenipotentiary Conference of Malaga-Torremolinos, 1973, or by Resolution No. Spa2 - 2 of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971, or by ITU Administrative Council Resolution No. 762. There is no provision in the Convention or in its associated Regulations empowering the Union, its organs or its administrative conferences to dispose of physical space in any sense whatever. The purposes of the Union and its organs are fully set out in Article 4 of the Convention. This Conference, therefore, has no legal power to assign segments or locations in perpetuity for fixed communications stations.

We take the view, therefore, that this matter must be clearly settled before giving final form to the work of the Conference."

In the protocol of the Final Acts of the World Broadcasting-Satellite Administrative Radio Conference, the delegations of Colombia, Congo, Ecuador, Gabon, Kenya, Uganda and Zaire entered Reservation No. 51 which reads as follows:

"For the Republic of Colombia, People's Republic of the Congo, Ecuador, Gabon Republic, Republic of Kenya, Republic of Uganda, Republic of Zaire:

The delegations of the above-mentioned countries declare that their Governments are not claiming sovereignty in space, in accordance with the letter and spirit of the Treaty on the Peaceful Uses of Outer Space, since there can be no doubt that these countries have always exercized sovereignty over their internationally recognized territories and within their projections."

Consequently, the Equatorial countries made the following reservations :

#### First reservation:

The delegations of the above-mentioned countries officially declare that they do not accept and accordingly are under no circumstances bound, through the signature of the Final Acts, by the resolutions, agreements and decisions of this Conference regarding the location of geostationary satellites on the segments of the orbit over which these States exercise sovereign rights.

### Second reservation:

The positioning of such geostationary satellites will require the prior authorization of the Equatorial country concerned and their functioning and operation shall be subject to the provisions of the national laws of the Equatorial States concerned.

### Third reservation:

The Equatorial countries reserve the right to take whatever steps they may deem fit to preserve and secure the observance of their sovereign rights which include the segments of the geostationary orbit corresponding to their respective national territories, in accordance with the constitutional and legal rules in force in each country.

At a meeting preparatory to the present Conference held recently in Bogotá, Colombia drew attention to the allocation of the 12 GHz band in the following terms: The Colombian delegation urges the countries of Region 2 to study the relevant proposals in depth in order to obtain a detailed picture of all the implications of the allocations proposed in the 12 GHz band.

In addition to reaffirming the rights of the Equatorial countries over the geostationary orbit, the position of Colombia is that of the developing countries which are determined to defend the instruments of change. It is therefore essential in my opinion that the Conference should take account of their demands and that the technical nature of the Conference should not obscure the incontrovertible reality which underlies any discussion of the interests of the industrialized and developing countries, particularly where natural resources are involved.

### STATEMENT BY THE DELEGATION OF COSTA RICA

The delegation of Costa Rica wishes to join the other delegations in congratulating you, Mr. Chairman, on your well-deserved election to the highest office of this Conference, an election which is a tribute not only to your own merit and experience at other international gatherings but also to the acknowledged importance of your country in the field of telecommunications.

On the threshold of the XXIst century there is already an incipient awareness of the wide-ranging significance of the era of communications. It is the task of the World Administrative Radio Conference met here today to produce a technical design of the legal framework required for the development of this new era. We are participating in a technical conference whose decisions will have a marked impact on the culture, development and security of all peoples throughout the world. Political realities, both explicit and implicit, will preside over our debates and our decisions. The very task of apportioning a resource and regulating its use on the basis of scientific and technical criteria is an eminently political matter. We are meeting here in fact to apportion and regulate authority in the field of communications, an endeavour which affects the sovereignty of every nation. The world of communications is at present characterized by inequity and injustice. In the name of the efficient utilization of a limited natural resource, the radio spectrum, a minority of countries controls and operates the majority of frequencies and slots on the geostationary orbit. The present system of domination, based on a few principles which are the expression of an old order embodied in conventions and regulations, condemns the developing nations to perpetual underdevelopment in telecommunications. What is more, this unjust order has paradoxically been imposed by an apparent consensus.

The questions we shall have to resolve at this 1979 Conference are very different from those considered in 1947 and 1959. At these earlier conferences it was possible to satisfy by consensus all needs and requirements for the use of the electromagnetic spectrum on the basis of planning, regulatory and coordination procedures based essentially if not always exclusively on technical criteria. In 1979 social, economic and political factors have to be considered together with technical factors in fixing priorities. We must not lose sight of the need for equity between developed and developing countries as also between services, users and individuals. In one of his numerous statements about the present world conference, the President of the Republic of Costa Rica, don Rodrigo Carazo, said: "It is no longer possible to confine ourselves to technical aspects. If the object of technology is man, then all our decisions must be imbued with a sense of justice".

The developing nations must not be over-hasty in taking decisions which could undermine the interests of our peoples, international cooperation and justice and which could even jeopardize peace. The delegation of Costa Rica considers that if no definitive results are arrived at in the next ten weeks we should not hesitate to convene further sessions of the Conference in line with what was done at other conferences such as the Conference on the Law of the Sea. In view of the rapid evolution of telecommunications and the animated discussions going on in various forums on a new world communications order, it would be unwise for us to take decisions which would apply over-rigidly for the rest of this century.

The delegation of Costa Rica hopes that we will have the will and the time to formulate, analyze, debate and define new principles which will guarantee all nations equitable and just access to the radio spectrum and the geostationary orbit. The following three factors at least must be borne in mind:

- 1. The membership of the International Telecommunication Union has increased over 60 % since the 1959 Conference;
- 2. Extraordinary progress has been made in the science and technology of communications in the past two decades; and
- 3. The vital function of communications in contemporary society has acquired crucial importance for the destinies of our peoples. Mankind demands that new principles of civilised co-existence replace the principle of domination implicit in the present unjust state of affairs.

The new principles governing the just and equitable distribution of the radio spectrum and the geostationary orbit must faithfully reflect the bright and promising political reality of the accession of the new nations to independence. The delegation of Costa Rica believes that in this process the century-old International Telecommunication Union must be radically transformed to be able to continue serving all nations on an equal basis.

The delegation of Costa Rica supports the demands of other developing countries for the International Frequency Registration Board to promote the progress of communications in our countries; for a reform of Article 9 and 9A of the Radio Regulations with a view to establishing a just order among countries; for the convening of an Administrative Conference to distribute HF frequencies equitably among all countries; for limiting the power of HF transmissions; and for setting up research and training centres in telecommunications in the developing countries.

The major political challenge facing us all in the field of communications is to discover a common focus to give coherence and meaning to the scattered discussions now being held concurrently at a variety of forums. Such a common political focus would be particularly beneficial to the developing countries. With this in mind, the President of Costa Rica has decided to submit to the 34th United Nations General Assembly a proposal to convene a World Communications Conference around 1985.

This Conference should aim at being much more than a display of technology or a mere competition for power. Communications only have sense if they are used for the liberation, dignity and salvation of mankind. The technology which forms the groundwork of this Conference must therefore be at the service of humanity as a whole. The just apportionment of the radio spectrum and the geostationary orbit is only a means for the attainment of this human objective.

#### STATEMENT BY THE DELEGATION OF AFGHANISTAN

Allow me, Mr. Chairman, to extend to you my delegation's heartfelt congratulations on your unanimous and deserved election as the Chairman of this important Conference. My delegation is confident that under your wise guidance and with the cooperation of the member delegates, the Conference will be successfully concluded in an atmosphere of goodwill and understanding. My delegation also extends its heartfelt congratulations to the Vice-Chairman of the Conference.

On this very auspicious occasion, Mr. Chairman, allow me to give the session a brief account of Our Great April Revolution, when members of the People's Democratic Party of Afghanistan, including our valiant patriotic officers and soldiers of the armed forces under the direct leadership of the Party and with the staunch and unreserved support of our noble people, triumphantly toppled the towers of tyranny and despotism and crushed the last remnants of a decayed monarchy which vainly endeavoured to perpetuate its own selfish interests under the guise of a republican order. Before the day had ended, the banner of the new democratic order appeared on the horizon of Afghanistan, triumphantly proclaiming an end to an anachronistic system of feudalism and aristocracy and heralding a new era dedicated to the principles of social and economic progress and to building a society free of poverty, corruption and exploitation of man by man.

Barely eighteen months have elapsed since our victorious Revolution and during this short span of time the DRA - the only true representative of our working and industrious people - has striven unrelentingly to create conditions favourable to the attainment of their social, economic and political aspirations and to consolidate the gains of the Revolution by eliminating all reactionary and imperialistic plots and elements that vainly endeavour to thwart or impede this historic trend. We shoulder a heavy responsibility but derive sustenance and courage from the knowledge that forces of history which have undeniably proved that the oppressed will triumph over the oppressor and the exploited over the exploiter are with us and that the will of the Afghan people is not to be taken for granted.

We are confident that our efforts will not be in vain, and that in fulfilling our historic mission and overcoming the underdevelopment bequeathed to us by former regimes, we shall receive the unconditional assistance and support of all peace-loving nations free of any political or exploitation purposes.

I would now like very briefly to express the view of the Afghan delegation regarding the subject matter of this Conference. This delegation believes that some concessions in the MF and HF bands must be given to less developed countries such as Afghanistan. Broadcasting is one of the most popular means of mass communication and education but at present, due to economic reasons, we in Afghanistan unfortunately have very limited equipment and facilities. The Government of the DRA has ambitious programmes within its first Five-Year Development Plan to extend its broadcasting services in the HF, MF and VHF bands so that all the peoples of Afghanistan can benefit from them. In this context, we would propose that some frequencies be reserved for Afghanistan. Of course this delegation is ready to discuss the matter with the IFRB.

It is an undeniable fact that telecommunications have a significant impact on the education, economy and social life of the people in developing countries. Therefore, we again ask that concessions be given to developing countries, especially Afghanistan.

### INTERNATIONAL TELECOMMUNICATION UNION

## WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 197-E 5 October 1979 Original : English

COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5
(FREQUENCY ALLOCATIONS)

Friday, 28 September 1979, at 1400 hrs

Chairman: Mr. M. HARBI (Algeria)

Subj	Document No.	
1.	Opening of the meeting	-
2.	Terms of reference of the Committee	159
3.	Organization of the work	DL/3



### 1. Opening of the meeting

1.1 The Chairman welcomed the participants in Committee 5 and introduced the Committee's officers: Mr. Hernandez-G. (Mexico), Vice-Chairman, an eminent personality in the field of radiocommunications with an extensive experience of international and ITU conferences, and Mr. Sant (IFRB) who was specialized in the Table of Frequency Allocations, and who would be assisted by other IFRB engineers. He also welcomed the Chairman of the IFRB and other Members present at the meeting.

The Chairman expressed appreciation for the honour done to him personally and to his country and the Arab/African group by his election as Chairman of the Committee, especially considering the presence of so many experts who would have been fully competent to direct its work. He assured the meeting that he would do his utmost to carry out successfully the task assigned to him, counting on the collaboration of all delegations which was vital if the objectives of the Committee were to be met.

- 2. Terms of reference of the Committee (Document No. 159)
- 2.1 The Chairman referred to the terms of reference in Document No. 159 which had been adopted in Plenary meeting.
- 2.2 The Chairman of Committee 4 said that Section I of Article N28 (Broadcasting Service) might present technical aspects which ought to be considered by Committee 4; his Committee had expressed its willingness to study such questions if so requested by Committee 5.

Committee 5 took note of that point.

### 3. Organization of the work

- 3.1 The Chairman informed the Committee of the results of the analysis of documents received by the ITU (up to Document No. 156), from which it could be seen that more than 80 % of the proposals were within the competence of Committee 5. Of the total of over 13,000 proposals, more than 10,000 were for Committee 5. Nearly 600 proposals concerned Sections II, III, IV of Article 1, Articles N6, N7, N8, N28, N29, N47 and Appendix 24; about 4,500 concerned the bands below 27.5 MHz; 2,300 the bands between 27.5 MHz and 1 350 MHz; 2,600 the bands 1 350 MHz to 40 GHz; and 630 the bands above 40 GHz.
- 3.2 The <u>Chairman</u> thought it useful, in view of the importance of Article N7/5, to give a brief review of the history of the Frequency Allocation Table. The Table had first been drawn up at Washington in 1927; it was revised by the Madrid Conference of 1932 and revised again and expanded by the Cairo Conference of 1938. It became known as the Table of Frequency Allocations at the Atlantic City Conference in 1947, at which time the use of frequencies in conformity with the Table was made compulsory.
- 3.3 With regard to the limits of the bands dealt with at various times, he explained that the Washington Conference covered the bands between 10 kHz and 60 MHz, the Cairo Conference raised the limit to 200 MHz, the Atlantic City Conference to 10.5 GHz and the 1959 Geneva Conference to 40 GHz. The World Administrative Radio Conference for Space Telecommunications of 1971 increased the upper limit to 275 GHz and allocated certain bands above 40 GHz to the space services only. The present Conference would thus have the possibility for the first time of making allocations to the terrestrial services in the 40 GHz 275 GHz band.
- 3.4 The Table had originally been drawn up on a regional basis, defined in Nos. 126, 127 and 128 of the Radio Regulations. Study of the archives showed that the regions had been defined after the requirements of various groups of countries had been identified, in other words

the basis for establishing the definitions would appear not to have been technical but rather in the nature of an arrangement; the arrangement adopted at Atlantic City had not been modified in substance by the 1959 Conference in Geneva. The current situation was that 99 members of the Union belonged to Region 1, 28 to Region 2 and 27 to Region 3.

- 3.5 The <u>Chairman</u> suggested that the Committee work by frequency band and not by service, a procedure which appeared to have received almost unanimous support among the delegations he had consulted. Document No. DL/3 proposed a breakdown of the Committee's work among five Working Groups, a general debate on questions of principle and discussions on the Frequency Allocation Table itself, and he asked whether such a method of working was acceptable to the Committee.
- 3.6 The <u>delegate of the Ivory Coast</u> asked for explanations on why certain band limits had been chosen in preference to others.

The <u>Chairman</u> said that the separation had been made by frequency band to avoid proliferation of Working Groups, and to take account of requests from the Preparatory Seminars held prior to the Conference. The bands below 27.5 MHz covered services using frequencies with similar propagation characteristics and the same applied to the second group; the upper bands had been divided more arbitrarily.

- 3.7 The <u>delegate of the United States</u> proposed that the upper limit for Working Group 5C be 960 MHz rather than 1 350 MHz, so that many related proposals could be considered by a single group.
- 3.8 That suggestion was supported by the <u>delegates of Italy</u> and <u>India</u> as it appeared to be a more logical sub-division considering the existing services.
- 3.9 The <u>delegate of France</u> wondered whether a change of the proposed sub-division might be adversely affected by the arrangement of Document No. DT/1, which presumably had been drawn up on the basis of the earlier proposal. The <u>delegate of the United Kingdom</u> thought it would be relatively simple to transfer a few pages of the working document from one section to another, and in any case the documentation aspect should not dictate the working method.
- 3.10 In reply to a question from the <u>delegate of India</u>, the <u>representative of the IFRB</u> said there had been several reasons for suggesting 1 350 MHz as the cut-off between Working Groups C and D, including the workload and the fact that aeronautical radionavigation services would fall into a single group if the separation had been 1 350 MHz, but he did not consider the point very important and was sure that the Working Groups would ensure the appropriate coordination.
- 3.11 The Chairman said that as he saw no objection to the USA proposal, the frequency bands to be covered by Working Groups 5C and 5D would be modified accordingly.
- 3.12 The <u>delegate of India</u> asked if the terms of reference of Working Group 5A could be amplified to include specific references to the Articles and Sections to be dealt with, as well as the Resolutions and Recommendations. An indication of the members of the Technical Secretariat would also be very useful.
- 3.13 The <u>delegate of Papua New Guinea</u> remarked that the definition of services was particularly necessary in view of the tremendous changes which had taken place since 1959. He felt it would be advantageous if those definitions were considered in the initial stages and asked whether they would be dealt with in Working Group 5A or in the full Committee.
- 3.14 The Chairman said that he thought Working Group 5A would deal with that aspect and would no doubt give it due priority.

3.15 The Working Group structure having been adopted, the Chairman read out the following list of proposed Chairmen, reached by consensus after consultation with a maximum of delegations, and based on several criteria, first among which was that of competence:

Working Group 5A - Mr. V. Quintas Castans (Spain)

Working Group 5B - Mr. L. Cook (Venezuela)

Working Group 5C - Mr. K. Olms (Federal Republic of Germany)

Working Group 5D - Dr. B.S. Rao (India)

Working Group 5E - Dr. A.W. Adey (Canada)

The above nominations were adopted by acclamation.

3.16 The delegate of the Congo requested that Working Groups 5C and 5D not work in parallel.

That was supported by the <u>delegates of the Ivory Coast</u> and <u>Iran</u>. The <u>delegate of Tanzania</u> added that parallel meetings of all Working Groups should be avoided as far as possible, with a maximum of two simultaneous meetings.

3.17 The <u>Chairman</u> said that that request would be borne in mind when the timetable of the Committee's work was drawn up. He reassured delegations that a revised and amplified document taking account of the decisions taken at the current meeting would be issued before the following meeting of Committee 5, at which time the general debate would be opened on questions of principle.

The meeting rose at 1615 hours.

The Secretary:

The Chairman:

M. SANT

M. HARBI

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 198-E 5 October 1979 Original : English

COMMITTEE 5

### Note by the International Electrotechnical Commission (IEC)

### FREQUENCIES FOR BIOTELEMETRY AND THERAPY

In order to assist its National Committees in co-operating at national level with their relevant Administrations responsible for the preparation of the World Administrative Radio Conference (WARC-79) and to facilitate subsequent preparation of IEC standards for the operational safety of biotelemetry and therapy equipment, the IEC conducted an international inquiry amongst its member countries.

This inquiry resulted in a report prepared by biotelemetry experts in IEC Technical Committee No. 62: Electrical Equipment in Medical Practice, in co-operation with experts active in the International Society on Biotelemetry.

The essential conclusions of the report are reproduced below for information purposes:

- 1. Frequencies for biotelemetry (diagnostic)
- 1.1 A frequency band, ranging from 36.6 to 37.9 MHz, power 10 mW ERP, should be allocated for biotelemetry.\*)
- 1.2 Two frequency bands, between 70 MHz and 200 MHz, each of 1 MHz width, power 50 mW ERP, should be allocated for biotelemetry.\*)
- 2. Frequencies for therapy
- 2.1 The frequency  $433.92 \text{ MHz} \pm 0.2 \%$  should be allocated worldwide for use in physical medicine (ISM frequency for all three regions).
- 2.2 No modification should be made to the already allocated ISM frequencies.

Annex: 1

<sup>\*)</sup> Documentation in support of these conclusions is available on request from IEC Observers, Box 1869 (order form overleaf).





# COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE INTERNATIONAL ELECTROTECHNICAL COMMISSION МЕЖДУНАРОДНАЯ ЭЛЕКТРОТЕХНИЧЕСКАЯ КОМИССИЯ

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### TO THE DELEGATES TO THE WARC 79

for biotelemetry and therapy, or in problems of radio-interference may obtain on request the following documents:

IEC report regarding frequencies for biotelemetry and therapy.

"Body-Mounted Antennas" - Summary of a dissertation by Dr. P.A. Neukomm.

Biotelemetry antennas - A note by Dr. P.A. Neukomm.

List of Publications of the International Special Committee on Radio Interference (C.I.S.P.R.).

List of IEC standards for the telecommunication field.

Please mark the appropriate box above and return this form to either:

or

Delegates to the WARC interested either in the allocation of frequencies

Name :
Delegation :

Box No. 1869

(IEC observers to WARC)

or complete address:

IEC Central Office

rue de Varembé
 1211 GENEVA 20
 Tel.: 34 01 50

Box No. :

ULLI SENOVE

### INTERNATIONAL TELECOMMUNICATION UNION

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 199-E 5 October 1979 Original: English

COMMITTEE 4

#### Denmark

INFORMATION NOTE IN RELATION TO APPENDIX 28

### COMPARISON BETWEEN MEASURED PROPAGATION DATA AND DATA PREDICTED BY PROPAGATION MODELS

### 1. Introduction

The Special Preparatory Meeting in paragraph 5.4.3 concluded that the procedure for determination of the coordination area of an earth station in the fixed-satellite service using frequency bands shared with equal rights with the fixed services be based on propagation models given in CCIR Reports 724 and 569-1.

During the CCIR Special Preparatory Meeting some concern with respect to the use of the propagation models contained in the above-mentioned Reports was indicated.

In order to evaluate the applicability of the models for the southern Scandinavian area results of predictions are compared with data from five years' measurements on a 222 km mixed land-sea path in Denmark.

### 2. Propagation path and equipment

The measurements were performed from 1973 to 1977 over a path from Copenhagen to Alborg crossing the Kattegat Sea. According to the definitions in CCIR Report 724 this is a mixed land-sea path. The overland distances are 52 km and 36 km, interrupted by a 134 km sea path. The heights of the antennae were 83 m o.s.l. and 108 m o.s.l. respectively. The difference  $\Delta H$  between the heights exceeded by 10 % and 90 % of the land path has been estimated to 40 m.

The measuring equipment had the following characteristics:

Transmit frequency: 6.12 GHz.

Transmit e.i.r.p.: 42.0 dBW.

Antenna gain, transmit/receive: 37.2 dB.

Antenna polarization: Horizontal.

Receiver threshold (antenna output port): -105 dBm.

### 3. Results of measurements

The measured distribution of path loss is shown in Figure 1. The cumulative distributions of hourly median values of path loss are presented as average year and average worst month distributions.



The distribution for the average year is the average of five yearly distributions.

The distribution for the average worst month is the average of five worst month distributions, one from each year. The worst month in a year was selected as the month with the highest signal level in 0.1 % of the time.

The ratio of the time percentage for the worst-month distribution to that of the yearly distribution at the same attenuation level varies between 3 and 4, as seen in Figure 1.

The year-to-year variation in the measured distributions is illustrated by Table 1 which shows the variation in time percentage at the average 0.1% level and the yearly variation in level at 0.1% of the time.

<u>TABLE 1</u>

<u>Year to year variation</u>

	Time percentage for 161.5 dB path loss	Path loss at o.1% of the year
1973	0.20 %	159 dB
1974	0.057 %	168 dB
1975	0.15 %	<b>16</b> 0 dB
1976	0.09 %	162 dB
1977	0.02 %	169 dB

### 4. Predicted path loss

Figure 1 also shows the predicted distributions of path loss based on the methods described in CCIR Reports 569-1 and 724 for a great circle path. The two predicted distributions differ slightly due to the fact that the method in CCIR Report 724 is based on a simplification and condensation of the information in Report 569-1.

Although not explicitly stated in the CCIR text it is assumed that the time base for the predictions is one year.

### 5. Comparison between measured and predicted path loss

The calculated distributions of path loss are found to be in good agreement with the measured yearly distribution for time percentages less than about 0.2 %.

The predicted 1 % values differ 8 and 13 dB respectively from the measured path loss. The CCIR propagation models predict too small attenuation values at 1 % of the year.



attenuation is less than

ordinate

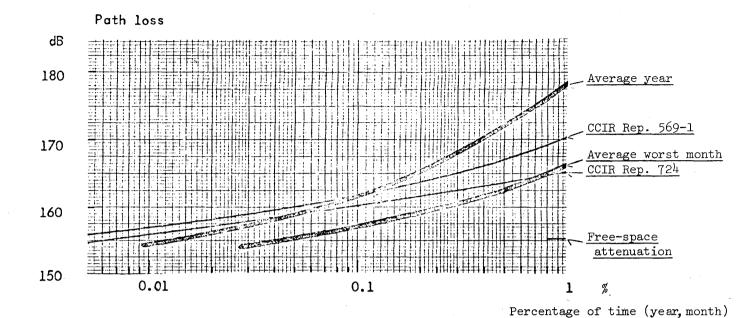


FIGURE 1

Comparison between path loss predicted by CCIR Reports 569-1 and 724 and five years measurements on a 222 km mixed land-sea path in Denmark

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

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COMMITTEE 5

### Democratic Republic of Afghanistan

PROPOSALS FOR THE WORK OF THE CONFERENCE

kHz 4 000-4 850 (Mar2)

		Allocation to Services		
		Region 1	Region 2	Region 3
AFG/200/5	NOC	4 000 4 063	FIXED	*
AFG/200/6	NOC	4 063 — 4 438	MARITIME MOBILE	
			208 209 209A	
AFG/200/7	NOC	4 438 — 4 650		4 438 — 4 650
		FIXED		FIXED
		Mobile excep	pt aeronautical mobile (R)	MOBILE except aeronautical mobile
AFG/200/8	NOC	4 650 — 4 700 AERONAUTICAL MOBILE (R)		
AFG/200/9	NOC	4 700 — 4 750		
		AERONAUTICAL MOBILE (OR)		
AFG/200/10	NOC	4 750 — 4 850  FIXED  AERONAUTICAL MUBILE (OR)  LAND MOBILE  BROADCASTING 202		CASTING 202

AFG/200/11 MOD

3503/208 In the USSR and Afghanistan, in the bands 4 063 - 4 133 kHz and 4 408 - 4 438 kHz, fixed stations of limited power may operate provided that, in order to minimize the possibility of causing harmful interference to the maritime mobile service, they are situated at least 600 km from the coast. A limited power station is one whose power and antenna characteristics are so adjusted that the field strength established at any point in any direction does not exceed that obtainable with a non-directive antenna and a peak envelope power of 1 kW.

Reasons: Afghanistan is a land-locked country and very far from the sea; therefore we would like the Democratic Republic of Afghanistan to be mentioned in 3503/208.

GENEVE

INTERNATIONAL TELECOMMUNICATION UNION

### WORLD ADMINISTRATIVE RADIO CONFERENCE

(Geneva, 1979)

Document No. 200-E 5 October 1979 Original : English

COMMITTEE 5

### Democratic Republic of Afghanistan

PROPOSALS FOR THE WORK OF THE CONFERENCE

MHz 4 063 - 4 650

		Allocation to Services		
		Region l	Region 2	Region 3
AFG/200/4	NOC	4 063 - 4 438	MARITIME MOBILE	
AFG/200/5	NOC			4 438 – 4 650
				FIXED
				MOBILE except aeronautical mobile

Afghanistan is a land-locked country and very far from the sea; therefore, we would like the Democratic Republic of Afghanistan to be mentioned in 3503/208.

