INTERNATIONAL TELECOMMUNICATION UNION

RADIO REGULATIONS

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Update Pages to the Radio Regulations

This PDF includes only the update pages. It does not represent a complete edition of the *Radio Regulations*.

COVERING NOTE

GENERAL SECRETARIAT INTERNATIONAL TELECOMMUNICATION UNION

Subject: 1985 Updating of the Radio Regulations, edition of 1982

GENÈVE, 4 January 1985
PLACE DES NATIONS

REPLACEMENT PAGES

for the updating of the Radio Regulations, edition of 1982, as a consequence of the entry into force of the Final Acts of the WARC for the Mobile Services (Geneva, 1983) on 15 January 1985.

RADIO REGULATIONS

Table for updating the 1982 edition

As a consequence of the entry into force of the Final Acts of the WARC for the Mobile Services (Geneva, 1983) on 15 January 1985

Part of the RR	Pages to be removed	Pages to be inserted
Outer cover (Vol. 1)	Cover label	Cover label
Inside cover (Vol. 1)	Inside cover	Inside cover
Table of Contents	I to XLIV	I to LV
Foreword	1 and 2	1 and 2
Analytical Table	TA-1/36	TA-1/36
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Articles	RR1-11/12 RR8-19/22 27/28 33/34 37/42 45/46 63/66 69/72 79/80 RR12-7/8 15/20 RR25-1/12 RR35-3/5 RR37-1/2 RR38-1/11	RR1-11/12 RR8-19/22 27/28 33/34 37/42 45/46 63/66 69/70, 71/71A and blank page/72 79/80 RR12-7/8 15/20 RR25-1/13 RR35-3/5 RR37-1/5 RR38-1/19

TABLE (continued)

Part of the RR	Pages to be removed	Pages to be inserted
Articles (continued)	RR40-1/4	RR40-1/5
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	RR42-3	RR42-3/4
		RR42A-1
	RR43-1	RR43-1
	RR44-1/9	RR44-1/10
	RR46-1/2	RR46-1/2
	RR47-1	RR47-1
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	RR49-1	RR49-1
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	RR51-1/2	RR51-1/2
	RR52-1/2	RR52-1/2
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	RR60-1/32	RR60-1/35
	RR62-1/3	RR62-1/5
	RR65-11/12 17/18	RR65-11/12 17/18
Outer cover (Vol. 2)	Cover label	Cover label
Inside cover (Vol. 2)	Inside cover	Inside cover
Appendices	AP1-17/18	AP1-17/18
	AP13-1/2	AP13-1/2
	AP14-1/4	AP14-1/4

TABLE (continued)

Part of the RR	Pages to be removed	Pages to be inserted
Appendices (continued)	AP14-17/18	AP14-17/18
	AP16-1/5 (AP16-3, fold-out)	AP16-1/9 (AP16-5, fold-out)
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	AP18-1/6	AP18-1/5
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	AP26-1	AP26-1
	AP27 Aer2-1	AP27 Aer2-1
	AP30-99/100	AP30-99/100
	AP31-1/7 (AP31-3 and 5, fold-outs)	AP31-1/7 (AP31-3 and 5, fold-outs)
	AP33-1/2	AP33-1/2
	AP37-1	AP37-1
		AP37A-1
	AP42-7/8	AP42-7/8
	AP43-1/3	AP43-1/10
	AP44-5/7	AP44-5/9

TABLE (continued)

Part of the RR	Pages to be removed	Pages to be inserted
Separation cardboard: Resolutions	Separation cardboard with Note by the General Secretariat: Resolutions	Separation cardboard: Resolutions
Note by the General Secretariat: Resolutions		Note by the General Secretariat: Resolutions
Resolutions	RES11-1/4	RES11-*
		RES18-1/3
		RES39-1/4
		RES90-1/3
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		RES204-1/3
		RES205-1/3
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	RES305-1/3	RES305-*
	RES310-1/2	RES310-*
		RES310-1/2
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		RES321-1/3
		RES322-1/2
		RES704-1/9

TABLE (concluded)

Part of the RR	Pages to be removed	Pages to be inserted
Separation cardboard: Recommendations	Separation cardboard with Note by the General Secretariat: Recommendations	Separation cardboard: Recommendations
Note by the General Secretariat: Recommendations		Note by the General Secretariat: Recommendations
Recommendations	REC200-1	REC200-*
	REC201-1/2	REC201-*
		REC201-1/2
	REC202-1	REC202-*
	REC204-1/2	REC204-*
		REC204-1/2
	REC300-1/2	REC300-1/2
	REC309-1/2	REC309-*
	REC313-1	REC313-*
		REC313-1/2
		REC314-1
		REC315-1/2
		REC316-1/2
		REC317-1/2
	REC602-1/2	REC602-*
		REC602-1/2
	REC604-1/2	REC604-*
		REC604-1/2
		REC713-1/2

COVERING NOTE

GENERAL SECRETARIAT INTERNATIONAL TELECOMMUNICATION UNION

Subject: Corrigendum No. 1 to the 1985 Updating of the Radio Regulations (edition of 1982)

GENÈVE, 15 July 1985
PLACE DES NATIONS

REPLACEMENT PAGES

of Corrigendum No. 1 to the 1985 Updating of the Radio Regulations (edition of 1982)

Part of the RR	Pages to be removed	Pages to be inserted
Articles	ART38-7/8	ART38-7/8
	ART38-9/10	ART38-9/10
	ART38-15/16	ART38-15/16
	ART60-31/32	ART60-31/32

2988I **Mob-83**

V. 16 522 kHz

2988J **Mob-83** § 7E. The carrier frequency 16 522 kHz is used for distress and safety traffic by radiotelephony (see No. **2944**).

2988K **Mob-83**

W. 16 695 kHz

2988L **Mob-83** § 7F. The frequency 16 695 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2988M **Mob-83**

X. 16 750 kHz

2988N **Mob-83** § 7G. The frequency 16 750 kHz is used exclusively for distress and safety calls using digital selective calling techniques (see No. **2944**).

2989 **Mob-83**

Y. 121.5 MHz and 123.1 MHz

2990 **Mob-83**

SUP

2990A **Mob-83** § 8. (1A)The aeronautical emergency frequency 121.5 MHz [1] is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the band between 117.975 MHz and 136 MHz (137 MHz after 1 January 1990). This frequency may also be used for these purposes in survival craft stations and emergency position-indicating radiobeacons.

2990A.1 **Mob-83** [1] Normally aircraft stations transmit distress and urgency messages on the working frequency in use at the time of the distress or urgency incident.

2990B **Mob-83** (1B) The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. 593).

2991 **Mob-83** (2) Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. 501 and 593). They shall then comply with any special arrangements between the governments concerned by which the aeronautical mobile service is regulated.

2992 **Mob-83**

Z. 156.3 MHz

2993 **Mob-83** § 9. The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations, using G3E emission, engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also note *g)* of Appendix **18**).

2993A **Mob-83**

AA. 156.525 MHz

2993B **Mob-83** § 9A. The frequency 156.525 MHz is used exclusively in the maritime mobile service for distress and safety calls by digital selective calling techniques (see Nos. 613A and **2944** and Resolution 317 (Mob-83)).

2993C **Mob-83**

AB. 156.650 MHz

2993D **Mob-83** § 9B. The frequency 156.650 MHz is used for ship-to-ship communications related to the safety of navigation in accordance with note *n)* of Appendix **18** (see No. **2944**).

2993E **Mob-83**

AC. 156.8 MHz

2994 **Mob-83** § 10. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency for radiotelephony for stations of the maritime mobile service when they use frequencies in the authorized bands between 156 MHz and 174 MHz (see also Nos. 501 and 613). It is used for the distress signal, the distress call and distress traffic, as well as for the urgency signal, urgency traffic and the safety signal (see also No. **2995A**). Safety messages shall be transmitted where practicable on a working frequency after a preliminary announcement on 156.8 MHz. The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E (see No. **2944** and Appendix **19**).

2995 (2) However, ship stations which cannot transmit on 156.8 MHz should use any other available frequency on which attention might be attracted.

2995A **Mob-83** (3) The frequency 156.8 MHz may be used by aircraft stations for safety purposes only.

2995B **Mob-83**

AD. 156.825 MHz

2995C **Mob-83** § 10A. The frequency 156.825 MHz is used exclusively in the maritime mobile service for distress and safety traffic by direct-printing telegraphy (see Nos. **2944**, **3033** and **4393** and note *k)* of Appendix **18**).

2996
Mob-83

AE. 243 MHz

(See Nos. 501 and 642)

2997
Mob-83

AF. 406 - 406.1 MHz Band

2997A
Mob-83

§ 10B. The frequency band 406 - 406.1 MHz is used exclusively by satellite emergency position-indicating radiobeacons in the Earth-to-space direction (see No. 649).

2998
Mob-83

AG. 1 544 - 1 545 MHz Band

2998A
Mob-83

§ 10C. Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. 728) including:

2998B
Mob-83

a) feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;

2998C
Mob-83

b) narrow-band (space-to-Earth) links from space stations to mobile stations.

2998D
Mob-83

AH. 1 645.5 - 1 646.5 MHz Band

2998E
Mob-83

§ 10D. Use of the band 1 645.5 - 1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. 728).

2999
Mob-83

AI. Aircraft in Distress

3000

§ 11. Any aircraft in distress shall transmit the distress call on the frequency on which watch is kept by the land or mobile stations capable of helping it. When the call is intended for stations in the maritime mobile service, the provisions of Nos. **2970** and **2971** or **2973** and **2975** or **2994** and **2995** shall be complied with.

3032 *E. 156.8 MHz*

3033 Mob-83 § 18. (1) All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden. The frequency 156.825 MHz may, however, be used for the purposes described in No. **2995C** subject to not causing harmful interference to authorized transmissions on 156.8 MHz (see also note *k)* of Appendix **18**).

3034 and 3035 Mob-83 SUP

3036 (4) To facilitate the reception of distress calls all transmissions on 156.8 MHz shall be kept to a minimum and shall not exceed one minute.

Section III. Watch on Distress Frequencies

3037 *A. 500 kHz*

3038 Mob-83 § 19. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at *x* h 15 and *x* h 45, Coordinated Universal Time (UTC) by an operator using headphones or loudspeaker.

3039 Mob-83 (2) During the periods mentioned above, except for the emissions provided for in this Chapter on the frequency 500 kHz:

3040 Mob-83 *a)* transmissions shall cease in the bands between 485 kHz and 515 kHz (see also Resolution 206 (Mob-83));

3033.1 Mob-83 SUP

3041 *b)* outside these bands, transmissions of stations of the mobile service may continue; stations of the maritime mobile service may listen to these transmissions on the express condition that they first ensure watch on the distress frequency as required by No. **3038**.

3042 Mob-83 § 20. (1) Stations of the maritime mobile service open to public correspondence and using frequencies in the authorized bands between 415 kHz and 526.5 kHz shall, during their hours of service, remain on watch on 500 kHz. This watch is obligatory only for class A2A and H2A emissions.

3043 (2) These stations, while observing the requirements of No. **3038**, are authorized to relinquish this watch only when they are engaged in communications on other frequencies.

3044 (3) When they are engaged in such communications:

3045 *a)* ship stations may maintain this watch on 500 kHz by means of an operator using headphones or a loudspeaker or by some appropriate means such as an automatic alarm receiver;

3046 *b)* coast stations may maintain this watch on 500 kHz by means of an operator using headphones or a loudspeaker; in the latter case an indication may be inserted in the List of Coast Stations.

3046A Mob-83 (4) Ship stations, while observing the requirements of No. **3038**, are also authorized to relinquish this watch [1] when it is impractical to listen by split headphones or by loudspeaker, and by order of the master in order to repair or carry out maintenance required to prevent imminent malfunction of:

3046A.1 Mob-83 [1] For additional information see the relevant provisions of the International Convention for the Safety of Life at Sea.

stations shall be associated in pairs, as indicated in Appendix **16**, except temporarily in cases where working conditions prohibit the use of paired frequencies in order to meet operational needs.

4382 (2) The frequencies to be used for the conduct of simplex radiotelephony are shown in Appendix **16**, Section B. In these cases, the peak envelope power of the coast station transmitter shall not exceed 1 kW.

4383 (3) The frequencies indicated in Appendix **16** for ship station transmissions may be used by ships of any category according to traffic requirements.

4384 (4) The technical characteristics of transmitters used for radiotelephony in the bands between 4 000 kHz and 23 000 kHz are specified in Appendix **17**.

4385 *D. Bands Between 156 MHz and 174 MHz*

D1. Call and Reply

4386 § 86. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency for radiotelephony when using frequencies in the authorized bands between 156 MHz and 174 MHz (see No. **2994** for details of use). The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E (see Appendix **19**).

4387 (2) The frequency 156.8 MHz may also be used:

4388 *a)* by coast and ship stations for call and reply in accordance with the provisions of Articles **62** and **65**;

4389 *b)* by coast stations to announce the transmission on another frequency of traffic lists and important maritime information (see Nos. **4925** to **4929**).

4390 (3) The frequency 156.8 MHz may be used by ship stations and coast stations for selective calling.

4391 (4) Any one of the channels designated in Appendix **18** for public correspondence may be used as a calling channel if an administration so desires. Such use shall be indicated in the List of Coast Stations.

4392 (5) Ship and coast stations in the public correspondence service may use a working frequency, for calling purposes, as provided in Articles **62** and **65**.

4393
Mob-83 (6) All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden. The frequency 156.825 MHz may, however, be used for the purposes described in No. **2995C** subject to not causing harmful interference to authorized transmissions on 156.8 MHz (see also note *k)* of Appendix **18**).

4394 (7) To facilitate the reception of distress calls all transmissions on 156.8 MHz shall be kept to a minimum and shall not exceed one minute.

4395 (8) Before transmitting on the frequency 156.8 MHz, a station should listen on this frequency for a reasonable period to make sure that no distress traffic is being sent (see No. **4915**).

4396 (9) The provisions of No. **4395** do not apply to stations in distress.

D2. Watch

4397 § 87. (1) In addition to the watch referred to in No. **3057**, a coast station open to the international public correspondence service should, during its hours of service, maintain watch on its receiving frequency or frequencies indicated in the List of Coast Stations.

4393.1 SUP
Mob-83

INTERNATIONAL TELECOMMUNICATION UNION

General Secretariat

Radio Regulations

Edition of 1982

Revised in 1985

1

Radio Regulations

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VOLUME 1

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Radio Regulations

PREAMBLE

PART A

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VOLUME 2

Appendices to the Radio Regulations

* Published separately.

*

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Page

Resolutions

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* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

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Page

Recommendations

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* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

* Abrogated by Resolution **90 (Mob-83)**.

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FOREWORD

1. This edition of the Radio Regulations is published under the authority of the Secretary-General of the International Telecommunication Union. It is a consolidated document, which incorporates, in Volume 1, the provisions of the Radio Regulations (Geneva, 1979) and, in Volume 2, the Appendices thereto, as well as the Resolutions and Recommendations, as adopted by the World Administrative Radio Conference, Geneva, 1979.

1.1 This edition also includes the partial revision adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1983.

1.2 The Final Protocol (reservations and counter-reservations of signatory delegations) to the Final Acts of the World Administrative Radio Conference, Geneva, 1979 and that to the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, have not been reproduced in this edition.

2. Pages are separately numbered for each Article, Appendix, Resolution, Recommendation, etc. The following symbols have been used for this numbering, which appears at the top of each page:

TA	=	Analytical Table
IA	=	Analytical Index of Resolutions and Recommendations
N	=	Notes
RR	=	Radio Regulations
AP	=	Appendix
RES	=	Resolution
REC	=	Recommendation.

Examples:

TA-6	=	Analytical Table, page 6
IA-3	=	Analytical Index of Resolutions and Recommendations, page 3
N-2	=	Notes, page 2
RR8-14	=	Article **8** of the Radio Regulations, page 14
AP16-5	=	Appendix **16**, page 5
RES500-2	=	Resolution No. **500**, page 2
REC604-1	=	Recommendation No. **604**, page 1.

2.1 The Foreword bears arabic page numbers and the Table of Contents bears roman page numbers.

2.2 In the Table of Contents the total number of pages for each category of information is indicated.

For example:

RR1-1/23	shows that Article **1** has 23 pages;
RR3-1	shows that Article **3** has only one page.

2.3 The symbol **Mob-83** indicates an addition, modification or deletion of a Provision, Appendix, Resolution or Recommendation by the World Administrative Radio Conference for the Mobile Services, Geneva, 1983. In the case of a deletion the symbol SUP is also used. The pages which have been modified in the updating of January 1985 bear the abbreviation (Rev. 1985) at the bottom of the page.

3. The General Secretariat has furnished, in addition to several short notes in the body of the text, the following notes:

- in Appendix **42** to the Radio Regulations, a note listing the international call sign series allocated by the Secretary-General on a provisional basis between the end of the World Administrative Radio Conference, Geneva, 1979, and 16 July 1984;
- in Appendix **44** to the Radio Regulations, two notes listing blocks of selective call numbers for ship stations, and blocks of coast station identification numbers supplied to administrations by the Secretary-General between the end of the World Administrative Radio Conference, Geneva, 1979 and, respectively, 17 July 1984 and 11 September 1984;
- preceding the Resolutions, a note indicating the manner in which the Resolutions have been grouped;
- preceding the Recommendations, a note indicating the manner in which the Recommendations have been grouped;
- in the section "Notes":
  - a note referring to the formation and use of call signs;
  - a note listing the provisions of the Radio Regulations that contain references to CCIR Recommendations, together with the reference numbers and titles of the CCIR Recommendations.

ANALYTICAL TABLE

RADIO REGULATIONS

APPENDICES TO THE RADIO REGULATIONS

RESOLUTIONS

RECOMMENDATIONS

Edition of 1982, Revised in 1985

SYMBOLS :

Anx	-	Annex
AP	-	Appendix
Art	-	Article
RES	-	Resolution
REC	-	Recommendation
Sec	-	Section
=	-	used in order to avoid repeating a heading or subheading

A

B

C

DEFINITIONS AND TERMS (continued)

DEFINITIONS AND TERMS (continued)

DEFINITIONS AND TERMS (continued)

DEFINITIONS AND TERMS (continued)

FREQUENCY(IES) (continued)

FREQUENCY(IES) (continued)

POWER (= LIMITATIONS)

PRIORITY, see Order of priority of communications (TA-24)

PUBLICATION(S)

PUBLIC CORRESPONDENCE

Q

Q CODE, see Code (TA-6)

R

RADIO ASTRONOMY, see Service (TA-31)

U

W

X

Z

ANALYTICAL INDEX
OF RESOLUTIONS AND RECOMMENDATIONS

The Analytical Index of Resolutions and Recommendations is presented as a set of six tables. Each table groups Resolutions and Recommendations bearing the same numbers. As far as possible, the grouping of the Resolutions and Recommendations respects the grouping system agreed upon for the 1982 edition of the Radio Regulations; revisions by the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, have been taken into account.

The table on page **IA-2** covers the numbers **1 - 18**,
that on page **IA-3**, the numbers **30 - 69**,
that on page **IA-4**, the numbers **70 - 206**,
that on page **IA-5**, the numbers **300 - 322**,
that on page **IA-6**, the numbers **400 - 602**
and that on page **IA-7**, the numbers **603 - 713**.

The Resolution numbers are entered along the top of the table and the Recommendation numbers along the bottom. The absence of a number in the series indicates that the corresponding Resolution and/or Recommendation does not exist.

The key words or subjects relating specifically to the group of Resolutions and Recommendations in each separate table are listed in alphabetical order on the right-hand side of each page. These key words or subjects may be of a primary (main) or secondary nature for a particular Resolution or Recommendation.

For Resolutions, the symbol "O" denotes a primary key word or subject and the symbol "@" denotes a secondary one. For Recommendations, the symbol "=" denotes a primary key word or subject and the symbol "#" denotes a secondary one.

To determine the main subject of a Resolution or Recommendation, simply trace down the column bearing the relevant Resolution and/or Recommendation number until the symbol "O" or "=" is encountered. From that position trace towards the right of the table to find the subject concerned. The same procedure applies for determining a secondary subject where the relevant symbols are "@" for Resolutions and "#" for Recommendations.
Example:
On the page grouping numbers 1 to 18, the symbols "O" and "@" are entered under number 5. By tracing along the horizontal lines on which these symbols appear the subjects "Technical Cooperation and Assistance" and "UNDP", for example, are found on the right-hand side of the table. Since "O" refers to a primary key word or subject for Resolutions, the subject in question is one of the primary subjects in Resolution No. 5. The symbol "@" indicates that the subject "UNDP" is a secondary subject in that Resolution.

To determine the Resolutions or Recommendations to which a particular subject refers, begin on the right-hand side of the table at the appropriate subject and trace across towards the left until one (or more) of the relevant symbols is encountered. Then trace up or down the columns for Resolutions or Recommendations, as the case may be. The same procedure may have to be repeated for the other pages.
Example:
"Technical Cooperation" is listed on the right-hand side of the table on page IA-2. By tracing towards the left it becomes evident that "Technical Cooperation" is a primary subject for Resolutions Nos. 5, 7, 14, 15 and 16 and Recommendation No. 6, and a secondary one for Recommendation No. 5.

The Table of Contents contains a complete list of the Resolutions and Recommendations together with their full titles, as well as references to any revisions made by the World Administrative Radio Conference for the Mobile Services, Geneva, 1983.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	RESOLUTIONS (0, @)
											0	0						Call Signs
			#	=														Congestion
		=																Electric Power (Transmission)
							0											Frequency - Allocation
0			0		#		0	0	@									- Assignment
@		@	#	#	@	0												- Management
	0 =																	- Use
											#							Feeder Links
	0	0	0								#							Geostationary-Satellite Orbit
							=				0	0					0	Identification of Stations
									@									Interference
																	@	International Organizations - ICAO
																	@	- IMO
				@														- UAPT/UPAT/URTNA
		#											@	@	@			- UN
				@														- UNDP
						@					#		@					ITU - Plenipotentiary Conference
	=	0	@						=	#	=	= @				0		- Administrative Conferences
	#	@		@		@					#	#	@	@	@	@		- Administrative Council
#	@	@ #		@		@	#						@	@	@	@	@	- CCIR
	@												@	@	@			- CCITT
	@	@	@		@ #	@	@	@								@		- IFRB
	@	#		@	@	@		#	#		@	@	@		@	@	@	- Secretary-General
						=												Licences
	@ #		@				@	0										Master International Frequency Register MIFR
				0														Propagation
			=						0									Radiocommunication Circuits and Links
#			@		0 #		@		=	=	@	=					@	Radio Regulations
=									0									Relief Operations and Organizations
						=											@	Services - Aeronautical Mobile
								=			#							- Broadcasting
											#							- Broadcasting-Satellite
							0	0	@		#							- Fixed
						=					#						@	- Maritime Mobile
							0				#							- Mobile
=	0 =	0	@								#			0				- Space
																	0	Ships and Aircraft of States not Parties to an Armed Conflict
				0 #	=	0							0	0	0			Technical Cooperation and Assistance
1	2	3	4	5	6	7	8	9	10	11	12	13						RECOMMENDATIONS (=, #)

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													=							Bandwidth
	#						O													Computers
										O										Coordination Area
											O									Division of the World - Climatic Zones
																O				- Regions
						O						=	=			=				Emissions
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															=					- Use
									@					#	=	@	@			Frequency Spectrum
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													@							International Organizations - CISPR
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												O								Radio Waves (emissions)
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		O																		Services - Broadcasting
	O	O	O	O																- Broadcasting-Satellite
		O		O				@												- Fixed
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		O		O				@	@											- Mobile
								@												- Radiodetermination
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							O													Technical Cooperation and Assistance
					O					=	=			#				#		Technical Standards of the IFRB
																	=	O		Terminology
30	31									60	61	62	63	64	65	66	67	68	69	RECOMMENDATIONS (=, #)

70	71	72	73	74	90	100	101	102	103	200	201	202	203	204	205	206	RESOLUTIONS (O, @)
					O												Abrogation of Resolutions and Recommendations of the WARC-79
														O			Channels - Use
											@						Charges
										O	=		= @	@	O	O	Distress and Safety
#										@							Emissions
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							O =	O									Feeder links
						@											Frequency - Assignment
						O	O	O									- Management
						=							=	O			- Use
										O	=		O	@		@	Future Global Maritime Distress and Safety System FGMDSS
																O	Guardband
								#	@ #				@		@	O	Interference
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								=									Radio-relay Systems
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#																	Technical Standards of the IFRB
		=	=														Terminology
						=											Troposheric Scatter
70	71	72	73	74		100	101	102	103		201		203	204			RECOMMENDATIONS (=, #)

300	301	302	303	304		306	307	308	309	310	311	312		314	315	316	317	318	319	320	321	322	RESOLUTIONS (O, @)
																	= @						Alerting
			=	@			#					@											Call and Reply
				O				O											O				Channels - Arrangements and Spacing
					=																		- Use
															O								Charges
O	O																						Data Transmission
			=			=	=		@		=			=	=	#	O						Distress and Safety
						O	@		@														Emissions (Classes of)
				@				O #															Equipment
O		O								#				@									Frequency - Assignment
			O																				- Inter-Ship
		=								@													- Management
	O																						- Non-paired
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#		#	@							#								@	O				- Sharing
= @	=		= @	=			=	=	O	@													- Use
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						O	O																Single-Sideband Technique
																O							Technical Cooperation and Assistance
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O	O																	O	@				- Narrow-Band Direct-Printing
										O													Telemetry, Telecommand and Data Exchange Systems
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300	301	302	303	304	305	306	307	308		310	311	312	313	314	315	316	317						RECOMMENDATIONS (=, #)

400	401	402	403	404	405	406	407	500	501	502	503	504	505	506	507	508	509	510	600	601		RESOLUTIONS (O, @)
			#	@	@						#											Congestion
			@				@	@											#	@ #		Distress and Safety
																				O		Emergency Position-Indicating Radiobeacons EPIRBs
		@													=							Emissions (Classes of)
								#		=	=	#				=						Equipment
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			O			=																Services - Aeronautical Mobile (OR)
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					=	O																- Aeronautical Mobile-Satellite
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					#						@			@								- Space
		@							#							@						Single-Sideband Technique
400	401	402	403	404	405	406	407	500	501	502	503	504	505	506	507	508			600	601	602	RECOMMENDATIONS (=, #)

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RESOLUTIONS (0, @)
Airborne Radars
Distress and Safety
Emissions (Extraterrestrial)
EPIRBs
Frequency - Management
- Sharing
- Use
Future Global Maritime Distress and Safety System FGMDSS
Interference
International Organizations - IALA
- ICAO
- IMO
- WMO
ITU - Administrative Conferences
- Administrative Council
- CCIR
- IFRB
- Secretary-General
Maritime Radiobeacons
Meteorology
Natural Disasters
Radio Regulations
Services - Aeronautical Mobile (R)
- Aeronautical Radionavigation
- Amateur
- Amateur-Satellite
- Broadcasting
- Broadcasting-Satellite
- Fixed
- Fixed-Satellite
- Inter-Satellite
- Maritime Mobile
- Mobile
- Radioastronomy
- Radiodetermination
- Space
- Terrestrial
Shipborne Transponders
RECOMMENDATIONS (=, #)

86 4.29 *Radio Direction-Finding Station:* A *radiodetermination station* using *radio direction-finding.*

87 4.30 *Radiobeacon Station:* A *station* in the *radionavigation service* the *emissions* of which are intended to enable a *mobile station* to determine its bearing or direction in relation to the radiobeacon station.

88 4.31 *Emergency Position-Indicating Radiobeacon Station:* A *station* in the *mobile service* the *emissions* of which are intended to facilitate search and rescue operations.

88A Mob-83 4.31A *Satellite emergency position-indicating radiobeacon:* An *earth station* in the *mobile-satellite service* the *emissions* of which are intended to facilitate search and rescue operations.

89 4.32 *Standard Frequency and Time Signal Station:* A *station* in the *standard frequency and time signal service.*

90 4.33 *Amateur Station:* A *station* in the *amateur service.*

91 4.34 *Radio Astronomy Station:* A *station* in the *radio astronomy service.*

92 4.35 *Experimental Station:* A *station* utilizing *radio waves* in experiments with a view to the development of science or technique.

This definition does not include *amateur stations.*

93 4.36 *Ship's Emergency Transmitter:* A ship's transmitter to be used exclusively on a distress frequency for distress, urgency or safety purposes.

94 4.37 *Radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

95 4.38 *Primary Radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals reflected from the position to be determined.

96 4.39 *Secondary Radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals retransmitted from the position to be determined.

97 4.40 *Radar Beacon (racon):* A transmitter-receiver associated with a fixed navigational mark which, when triggered by a *radar,* automatically returns a distinctive signal which can appear on the display of the triggering *radar,* providing range, bearing and identification information.

98 4.41 *Instrument Landing System (ILS):* A *radionavigation* system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

99 4.42 *Instrument Landing System Localizer:* A system of horizontal guidance embodied in the *instrument landing system* which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.

100 4.43 *Instrument Landing System Glide Path:* A system of vertical guidance embodied in the *instrument landing system* which indicates the vertical deviation of the aircraft from its optimum path of descent.

101 4.44 *Marker Beacon:* A transmitter in the *aeronautical radionavigation service* which radiates vertically a distinctive pattern for providing position information to aircraft.

102 4.45 *Radio Altimeter: Radionavigation* equipment, on board an aircraft or *spacecraft,* used to determine the height of the aircraft or the *spacecraft* above the Earth's surface or another surface.

103 4.46 *Radiosonde:* An automatic radio transmitter in the *meteorological aids service* usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.

104 4.47 *Space System:* Any group of cooperating *earth stations* and/or *space stations* employing *space radiocommunication* for specific purposes.

105 4.48 *Satellite System:* A *space system* using one or more artificial earth *satellites.*

106 4.49 *Satellite Network:* A *satellite system* or a part of a *satellite system,* consisting of only one *satellite* and the cooperating *earth stations.*

kHz
405 — 415

Allocation to Services		
Region 1	Region 2	Region 3
405 — 415 RADIO-NAVIGATION 468 465	**405 — 415** RADIONAVIGATION 468 Aeronautical Mobile	

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

kHz
415 — 1 606.5

Allocation to Services		
Region 1	Region 2	Region 3
415 — 435 AERONAUTICAL RADIONAVIGATION / MARITIME MOBILE / 470 465	**415 — 495** MARITIME MOBILE 470	
435 — 495 MARITIME MOBILE 470 Aeronautical Radionavigation 465 471 472A	469 471 472A	
495 — 505	MOBILE (distress and calling) 472	
505 — 526.5 MARITIME MOBILE 470 / AERONAUTICAL RADIONAVIGATION / 473 465 471 474 475 476	**505 — 510** MARITIME MOBILE 470 471	**505 — 526.5** MARITIME MOBILE 470 474 / AERONAUTICAL RADIONAVIGATION / Aeronautical Mobile Land Mobile 471
	510 — 525 MOBILE 474 AERONAUTICAL RADIONAVIGATION	
526.5 — 1 606.5 BROADCASTING 478	**525 — 535** BROADCASTING 477 AERONAUTICAL RADIONAVIGATION	**526.5 — 535** BROADCASTING Mobile 479
	535 — 1 605 BROADCASTING	**535 — 1 606.5** BROADCASTING

469 *Additional allocation:* in Afghanistan, Australia, China, the Overseas French Territories of Region 3, India, Japan and Papua New Guinea, the band 415 – 495 kHz is also allocated to the aeronautical radionavigation service on a permitted basis.

470 The use of the bands 415 – 495 kHz and 505 – 526.5 kHz (505 – 510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.

471 Mob-83 The bands 490 – 495 kHz and 505 – 510 kHz shall be subject to the provisions of No. **3018** until the entry into force of the reduced guardband in accordance with Resolution **206 (Mob-83)**.

472 Mob-83 The frequency 500 kHz is an international distress and calling frequency for radiotelegraphy. The conditions for its use are prescribed in Articles **38** and **60**.

472A Mob-83 The frequency 490 kHz is used exclusively for distress and safety calls in the shore-to-ship direction employing digital selective calling techniques. The conditions for the use of this frequency are prescribed in Article **38**. Additional conditions concerning the use of this frequency are given in Resolution **206 (Mob-83)**.

473 In Region 1, in the band 505 – 526.5 kHz, the administrations which operate stations of the aeronautical radionavigation service shall take the technical steps necessary to avoid harmful interference to the maritime mobile service.

474 Mob-83 The conditions for the use of frequency 518 kHz by the maritime mobile service are prescribed in Article **38** (see Resolution **318 (Mob-83)**).

475 In the band 515.5 – 526.5 kHz, Austria may continue to operate only those broadcasting stations listed in Additional Protocol III to the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975. This operation is allowed until the entry into force of a revision of the Geneva Plan, 1975, and subject to not causing harmful interference to the maritime mobile and aeronautical radionavigation services.

476 *Additional allocatio·* · in the United Kingdom, the band 519.5 – 526.5 kHz is also allocated to the broadcasting service on a secondary basis for the transmission of public utility information.

477 In Region 2, in the band 525 – 535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

478 *Additional allocation:* in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 526.5 – 535 kHz is also allocated to the mobile service on a secondary basis.

479 *Additional allocation:* in China, the band 526.5 – 535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.

kHz
1 605 — 1 800

Allocation to Services		
Region 1	Region 2	Region 3
1 606.5 — 1 625 MARITIME MOBILE / FIXED / / LAND MOBILE / 483 484	**1 605 — 1 625** BROADCASTING 480 481	**1 606.5 — 1 800** FIXED MOBILE RADIOLOCATION RADIONAVIGATION
1 625 — 1 635 RADIOLOCATION 487 485 486	**1 625 — 1 705** BROADCASTING 480 / FIXED / / MOBILE / Radiolocation 481	
1 635 — 1 800 MARITIME MOBILE / FIXED / / LAND MOBILE / 483 484 488	**1 705 — 1 800** FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	482

480 In Region 2, the use of the band 1 605 — 1 705 kHz by stations of the broadcasting service shall be subject to a plan to be established by a regional administrative radio conference (see Recommendation **504**).

496 In Region 1, the use of the band 2 025 — 2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

497 In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2 065 — 2 107 kHz shall be limited to class R3E or J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2 065.0 kHz, 2 079.0 kHz, 2 082.5 kHz, 2 086.0 kHz, 2 093.0 kHz, 2 096.5 kHz, 2 100.0 kHz and 2 103.5 kHz. In Argentina, Brazil and Uruguay, the carrier frequencies 2 068.5 kHz and 2 075.5 kHz are also used for this purpose, while the frequencies within the band 2 072 — 2 075.5 kHz are used as provided in No. **4245**.

498 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the International Frequency Registration Board should be drawn to these provisions.

499 *Additional allocation:* in Saudi Arabia, Botswana, Ethiopia, Iraq, Lesotho, Libya, Malawi, Somalia, Swaziland and Zambia, the band 2 160 — 2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W.

kHz
2 170 — 2 194

Allocation to Services		
Region 1	Region 2	Region 3
2 170 — 2 173.5	MARITIME MOBILE	
2 173.5 — 2 190.5	MOBILE (distress and calling) 500 500A 500B 501	
2 190.5 — 2 194	MARITIME MOBILE	

500 The carrier frequency 2 182 kHz is an international distress and calling
Mob-83 frequency for radiotelephony. The conditions for the use of the band 2 173.5 – 2 190.5 kHz are prescribed in Articles **38** and **60**.

500A The frequencies 2 187.5 kHz, 4 188 kHz, 6 282 kHz, 8 375 kHz, 12 563 kHz
Mob-83 and 16 750 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article **38**.

500B The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 357.5 kHz,
Mob-83 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article **38**.

501 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and
Mob-83 the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

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

508 *Additional allocation:* in Australia, Brazil, Canada, the United States, Japan, Mexico, New Zealand, Peru and Uruguay, the band 3 230 — 3 400 kHz is also allocated to the radiolocation service on a secondary basis.

509 *Additional allocation:* in Honduras, Mexico, Peru and Venezuela, the band 3 500 — 3 750 kHz is also allocated to the fixed and mobile services on a primary basis.

510 For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz, 24.89 MHz and 144 MHz in the event of natural disasters, see Resolution **640**.

511 *Additional allocation:* in Brazil, the band 3 700 — 4 000 kHz is also allocated to the radiolocation service on a primary basis.

512 *Alternative allocation:* in Argentina, Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750 — 4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

513 *Alternative allocation:* in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900 — 3 950 kHz is allocated to the broadcasting service on a primary basis. The use of this band by the broadcasting service is subject to agreement obtained under the procedure set forth in Article **14** with neighbouring countries having services operating in accordance with the Table.

514 *Additional allocation:* in Canada, the band 3 950 — 4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of broadcasting stations operating in this band shall not exceed that necessary for a national service within the frontier of this country and shall not cause harmful interference to other services operating in accordance with the Table.

515 *Additional allocation:* in Greenland, the band 3 950 — 4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

516 In Region 3, the stations of those services to which the band 3 995 — 4 005 kHz is allocated may transmit standard frequency and time signals.

kHz
4 000 — 4 650

Allocation to Services		
Region 1	Region 2	Region 3
4 000 — 4 063	FIXED MARITIME MOBILE 517 516	
4 063 — 4 438	MARITIME MOBILE 500A 500B 520 518 519	
4 438 — 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 — 4 650** FIXED MOBILE except aeronautical mobile

517 Mob-83 The use of the band 4 000 – 4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. **4374**).

518 In Afghanistan, Argentina, Australia, Botswana, China, India, Swaziland, Chad and the U.S.S.R., in the bands 4 063 – 4 123 kHz, 4 130 – 4 133 kHz and 4 408 – 4 438 kHz, stations of limited power in the fixed service which are situated at least 600 km from the coast may operate on condition that harmful interference is not caused to the maritime mobile service.

519 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063 – 4 123 kHz and 4 130 – 4 438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

520 Mob-83 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215.5 kHz are prescribed in Articles **38** and **60**.

kHz
5 480 — 6 765

Allocation to Services		
Region 1	Region 2	Region 3
5 480 — 5 680	AERONAUTICAL MOBILE (R) 501 505	
5 680 — 5 730	AERONAUTICAL MOBILE (OR) 501 505	
5 730 — 5 950 FIXED LAND MOBILE	**5 730 — 5 950** FIXED MOBILE except aeronautical mobile (R)	**5 730 — 5 950** FIXED Mobile except aeronautical mobile (R)
5 950 — 6 200	BROADCASTING	
6 200 — 6 525	MARITIME MOBILE 500A 500B 520 522	
6 525 — 6 685	AERONAUTICAL MOBILE (R)	
6 685 — 6 765	AERONAUTICAL MOBILE (OR)	

522 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200 – 6 213.5 kHz and 6 220.5 – 6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the International Frequency Registration Board will be drawn to the above conditions.

523 SUP
Mob-83

kHz
6 765 — 7 300

Allocation to Services		
Region 1	Region 2	Region 3
6 765 — 7 000	FIXED Land Mobile 525 524	
7 000 — 7 100	AMATEUR 510 AMATEUR-SATELLITE 526 527	
7 100 — 7 300 BROADCASTING	**7 100 — 7 300** AMATEUR 510 528	**7 100 — 7 300** BROADCASTING

524 The band 6 765 — 6 795 kHz (centre frequency 6 780 kHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant CCIR Recommendations.

525 *Different category of service:* in Mongolia and the U.S.S.R., the allocation of the band 6 765 — 7 000 kHz to the land mobile service is on a primary basis (see No. **425**).

526 *Additional allocation:* in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7 000 — 7 050 kHz is also allocated to the fixed service on a primary basis.

527 *Alternative allocation:* in Egypt, Ethiopia, Guinea, Libya, Madagascar, Malawi and Tanzania, the band 7 000 — 7 050 kHz is allocated to the fixed service on a primary basis.

528 The use of the band 7 100 — 7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

kHz
7 300 — 9 995

Allocation to Services		
Region 1	Region 2	Region 3
7 300 — 8 100	FIXED Land Mobile 529	
8 100 — 8 195	FIXED MARITIME MOBILE	
8 195 — 8 815	MARITIME MOBILE 500A 500B 529A 501	
8 815 — 8 965	AERONAUTICAL MOBILE (R)	
8 965 — 9 040	AERONAUTICAL MOBILE (OR)	
9 040 — 9 500	FIXED	
9 500 — 9 900	BROADCASTING 530 531	
9 900 — 9 995	FIXED	

529 In Region 3, the stations of those services to which the band 7 995 – 8 005 kHz is allocated may transmit standard frequency and time signals.

529A The conditions for the use of the carrier frequencies 8 257 kHz, **Mob-83** 12 392 kHz and 16 522 kHz are prescribed in Articles **38** and **60**.

530 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775 – 9 900 kHz, 11 650 – 11 700 kHz and 11 975 – 12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

531 The bands 9 775 – 9 900 kHz, 11 650 – 11 700 kHz, 11 975 – 12 050 kHz, 13 600 – 13 800 kHz, 15 450 – 15 600 kHz, 17 550 – 17 700 kHz and 21 750 – 21 850 kHz are allocated to the fixed service on a primary basis subject to the procedure described in Resolution **8**. The use of these bands by the broadcasting service shall be subject to provisions to be established by the world administrative radio conference for the planning of HF bands allocated to the broadcasting service (see Resolution **508**). Within these bands, the date of commencement of operations in the broadcasting service on a planned channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution **8**, of all assignments to stations in the fixed service operating in accordance with the Table and other provisions of the Radio Regulations, which are recorded in the Master Register and which may be affected by broadcasting operations on that channel.

kHz
9 995 — 13 200

Allocation to Services		
Region 1	Region 2	Region 3
9 995 — 10 003	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 501	
10 003 — 10 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research 501	
10 005 — 10 100	AERONAUTICAL MOBILE (R) 501	
10 100 — 10 150	FIXED Amateur 510	
10 150 — 11 175	FIXED Mobile except aeronautical mobile (R)	
11 175 — 11 275	AERONAUTICAL MOBILE (OR)	
11 275 — 11 400	AERONAUTICAL MOBILE (R)	
11 400 — 11 650	FIXED	
11 650 — 12 050	BROADCASTING 530 531	
12 050 — 12 230	FIXED	
12 230 — 13 200	MARITIME MOBILE 500A 500B 529A 532	

532 The bands 12 230 — 12 330 kHz, 16 360 — 16 460 kHz, 17 360 — 17 410 kHz, 18 780 — 18 900 kHz, 19 680 — 19 800 kHz and 22 720 — 22 855 kHz are allocated to the fixed service on a primary basis subject to the procedure described in Resolution **8**. The use of these bands by the maritime mobile service shall be subject to provisions to be decided by a competent world administrative radio conference. The date of commencement of operations in the maritime mobile service on a frequency in accordance with the above-mentioned provisions shall not be earlier than the date of completion of satisfactory transfer, in accordance with the procedure described in Resolution **8**, of all assignments to stations in the fixed service operating in accordance with the Table and other provisions of the Radio Regulations which are recorded in the Master Register and which may be affected by maritime mobile operations on that frequency.

kHz
14 990 — 18 030

Allocation to Services		
Region 1	Region 2	Region 3
14 990 — 15 005	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 501	
15 005 — 15 010	STANDARD FREQUENCY AND TIME SIGNAL Space Research	
15 010 — 15 100	AERONAUTICAL MOBILE (OR)	
15 100 — 15 600	BROADCASTING 531	
15 600 — 16 360	FIXED 536	
16 360 — 17 410	MARITIME MOBILE 500A 500B 529A 532	
17 410 — 17 550	FIXED	
17 550 — 17 900	BROADCASTING 531	
17 900 — 17 970	AERONAUTICAL MOBILE (R)	
17 970 — 18 030	AERONAUTICAL MOBILE (OR)	

536 In Region 3, the stations of those services to which the band 15 995 – 16 005 kHz is allocated may transmit standard frequency and time signals.

(Rev. 1985)

kHz
18 030 — 19 990

Allocation to Services		
Region 1	Region 2	Region 3
18 030 — 18 052	FIXED	
18 052 — 18 068	FIXED Space Research	
18 068 — 18 168	AMATEUR 510 AMATEUR-SATELLITE 537 538	
18 168 — 18 780	FIXED	
18 780 — 18 900	MARITIME MOBILE 532	
18 900 — 19 680	FIXED	
19 680 — 19 800	MARITIME MOBILE 532	
19 800 — 19 990	FIXED	

537 The band 18 068 — 18 168 kHz is allocated to the fixed service on a primary basis subject to the procedure described in Resolution **8**. The use of this band by the amateur and amateur-satellite services shall be subject to the completion of satisfactory transfer of all assignments to stations in the fixed service operating in this band and recorded in the Master Register, in accordance with the procedure described in Resolution **8**.

538 *Additional allocation:* in the U.S.S.R., the band 18 068 — 18 168 kHz is also allocated to the fixed service on a primary basis for use within the boundary of the U.S.S.R., with a peak envelope power not exceeding 1 kW.

584 Broadcasting stations in the band 100 — 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 — 108 MHz to be drawn up by a regional broadcasting conference (see Resolution **510**). Prior to the date of entry into force of this agreement, broadcasting stations may be introduced subject to agreement between administrations concerned, on the understanding that such an operation shall in no case prejudice the establishment of the plan.

585 *Additional allocation:* in China, the Republic of Korea, the Philippines and Singapore, the band 100 — 108 MHz is also allocated to the fixed and mobile services on a permitted basis.

586 *Alternative allocation:* in New Zealand, the band 100 — 108 MHz is allocated to the land mobile service on a primary basis and to the broadcasting service on a secondary basis.

587 *Additional allocation:* in Austria, Bulgaria, Hungary, Israel, Kenya, Mongolia, Poland, Syria, the German Democratic Republic, the United Kingdom, Somalia, Czechoslovakia and the U.S.S.R., the band 104 — 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995 and, thereafter, on a secondary basis.

588 *Additional allocation:* in Finland and Yugoslavia, the band 104 — 108 MHz is also allocated to the fixed service on a permitted basis, until 31 December 1995. The effective radiated power of any station shall not exceed 25 W.

589 *Additional allocation:* in France, Roumania, Sweden, Turkey and Yugoslavia, the band 104 — 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995.

590 *Additional allocation:* in Italy, the band 104 — 108 MHz is also allocated to the land mobile service on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution **510** or 1 January 1985, whichever is the earlier date.

MHz
108 — 138

Allocation to Services		
Region 1	Region 2	Region 3
108 — 117.975	AERONAUTICAL RADIONAVIGATION	
117.975 — 136	AERONAUTICAL MOBILE (R) 501 591 592 593 594	
136 — 137	AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R) 591 595	
137 — 138	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 596 597 598 599	

591 Subject to agreement obtained under the procedure set forth in Article **14**, the band 117.975 – 137 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis and on the condition that harmful interference is not caused to the aeronautical mobile (R) service.

592 **Mob-83** The bands 121.45 – 121.55 MHz and 242.95 – 243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Nos. **3259** and **3267**).

593 Mob-83 In the band 117.975 – 136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article **38** for distress and safety purposes with stations of the aeronautical mobile service.

594 *Additional allocation:* in Angola, Bulgaria, Hungary, Iran, Iraq, Japan, Mongolia, Mozambique, Papua New Guinea, Poland, the German Democratic Republic, Roumania, Czechoslovakia and the U.S.S.R., the band 132 – 136 MHz is also allocated to the aeronautical mobile (OR) service on a permitted basis.

595 Until 1 January 1990, the band 136 – 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis. The introduction of stations of the aeronautical mobile (R) service shall only occur after that date and shall be effected in accordance with internationally agreed plans for that service. After 1 January 1990, the band 136 – 137 MHz will also be allocated to the above-mentioned space radiocommunication services on a secondary basis (see Recommendation **404**).

596 *Different category of service:* in Afghanistan, Saudi Arabia, Bahrain, Brunei, China, the United Arab Emirates, India, Indonesia, Iran, Iraq, Kuwait, Malaysia, Oman, Pakistan, Qatar, Singapore, Thailand, Yemen A.R. and Yemen (P.D.R. of), the allocation of the band 137 – 138 MHz to the fixed and mobile, except aeronautical mobile (R), services is on a primary basis (see No. **425**).

597 *Different category of service:* in Israel, Jordan and Syria, the allocation of the band 137 – 138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **425**).

598 *Different category of service:* in Austria, Bulgaria, Egypt, Finland, Greece, Hungary, the Lebanon, Mongolia, Poland, the German Democratic Republic, Roumania, Czechoslovakia, the U.S.S.R. and Yugoslovia, the allocation of the band 137 – 138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. **425**).

599 *Additional allocation:* in Australia, the band 137 – 144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within regional broadcasting allocations.

MHz
138 — 144

Allocation to Services		
Region 1	Region 2	Region 3
138 — 143.6 AERONAUTICAL MOBILE (OR) 600 601 602 604	**138 — 143.6** FIXED MOBILE / RADIOLOCATION / Space Research (space-to-Earth)	**138 — 143.6** FIXED MOBILE Space Research (space-to-Earth) 599 603
143.6 — 143.65 AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 601 602 604	**143.6 — 143.65** FIXED MOBILE SPACE RESEARCH (space-to-Earth) / RADIOLOCATION /	**143.6 — 143.65** FIXED MOBILE SPACE RESEARCH (space-to-Earth) 599 603
143.65 — 144 AERONAUTICAL MOBILE (OR) 600 601 602 604	**143.65 — 144** FIXED MOBILE / RADIOLOCATION / Space Research (space-to-Earth)	**143.65 — 144** FIXED MOBILE Space Research (space-to-Earth) 599 603

600 *Additional allocation:* in the Federal Republic of Germany, Austria, Belgium, France, Israel, Italy, Liechtenstein, Luxembourg, the United Kingdom, Sweden, Switzerland and Czechoslovakia, the bands 138 — 143.6 MHz and 143.65 — 144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis.

607 *Alternative allocation:* in Afghanistan, Bangladesh, Cuba, Guyana and India, the band 146 – 148 MHz is allocated to the fixed and mobile services on a primary basis.

608 Subject to agreement obtained under the procedure set forth in Article **14**, the band 148 – 149.9 MHz may be used by the space operation service (Earth-to-space). The bandwidth of an individual transmission shall not exceed ± 25 kHz.

609 Emissions of the radionavigation-satellite service in the bands 149.9 – 150.05 MHz and 399.9 – 400.05 MHz may also be used by receiving earth stations of the space research service.

MHz
150.05 — 174

Allocation to Services		
Region 1	Region 2	Region 3
150.05 — 153 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 610 612	**150.05 — 156.7625** FIXED MOBILE	
153 — 154 FIXED MOBILE except aeronautical mobile (R) Meteorological Aids		
154 — 156.7625 FIXED MOBILE except aeronautical mobile (R) 613 613A	611 613 613A	
156.7625 — 156.8375	MARITIME MOBILE (distress and calling) 501 613 613A	
156.8375 — 174 FIXED MOBILE except aeronautical mobile 613 614 615	**156.8375 — 174** FIXED MOBILE 613 616 617 618	

610 In making assignments to stations of other services to which the band 150.05 – 153 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **343** and **344** and Article **36**).

611 *Additional allocation:* in Australia and India, the band 150.05 – 153 MHz is also allocated to the radio astronomy service on a primary basis.

612 *Additional allocation:* in Sweden and Switzerland the band 150.05 – 153 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.

613 The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article **38**.

In the bands 156 – 156.7625 MHz, 156.8375 – 157.45 MHz, 160.6 – 160.975 MHz and 161.475 – 162.05 MHz, each administrations shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by that administration (see Article **60**).

Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.

However, the frequency 156.8 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements.

613A **Mob-83** In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively as from 1 January 1986 for digital selective calling for distress and safety communications. The frequency 156.825 MHz is used exclusively for direct-printing telegraphy in the maritime mobile VHF service for distress and safety purposes. The conditions for the use of these frequencies are prescribed in Article **38** and in Appendix **18**.

614 *Alternative allocation:* in France and Monaco, the band 162 – 174 MHz is allocated to the broadcasting service on a primary basis until 1 January 1985.

615 *Alternative allocation:* in Morocco, the band 162 – 174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

616 *Additional allocation:* in China, the band 163 – 167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis subject to agreement obtained under the procedure set forth in Article **14**.

617 *Additional allocation:* in Afghanistan, China and Pakistan, the band 167 – 174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected.

618 *Additional allocation:* in Japan, the band 170 – 174 MHz is also allocated to the broadcasting service on a primary basis.

MHz
174 — 235

Allocation to Services		
Region 1	Region 2	Region 3
174 — 223 BROADCASTING 621 623 628 629	**174 — 216** BROADCASTING Fixed Mobile 620	**174 — 223** FIXED MOBILE BROADCASTING 619 624 625 626 630
	216 — 220 FIXED MARITIME MOBILE Radiolocation 627	
	220 — 225 AMATEUR FIXED MOBILE Radiolocation 627	
223 — 230 BROADCASTING Fixed Mobile 622 628 629 631 632 633 634 635		**223 — 230** FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation 636 637
	225 — 235 FIXED MOBILE	
230 — 235 FIXED MOBILE 629 632 633 634 635 638 639		**230 — 235** FIXED MOBILE AERONAUTICAL RADIONAVIGATION 637

648 *Additional allocation:* in Canada, the bands 405.5 – 406 MHz and 406.1 – 410 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite service (Earth-to-space), on a primary basis, subject to agreement obtained under the procedure set forth in Article **14**.

649 The use of the band 406 – 406.1 MHz by the mobile-satellite service is
Mob-83 limited to low-power satellite emergency position-indicating radiobeacons (see also Article **38**).

650 In making assignments to stations of other services to which the band 406.1 – 410 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **343** and **344** and Article **36**).

MHz
420 — 470

Allocation to Services		
Region 1	Region 2	Region 3
420 — 430	FIXED MOBILE except aeronautical mobile Radiolocation 651 652 653	
430 — 440 AMATEUR RADIOLOCATION 653 654 655 656 657 658 659 661 662 663 664 665	**430 — 440** RADIOLOCATION Amateur 653 658 659 660 663 664	
440 — 450	FIXED MOBILE except aeronautical mobile Radiolocation 651 652 653 666 667 668	
450 — 460	FIXED MOBILE 653 668 669 670	
460 — 470	FIXED MOBILE Meteorological-Satellite (space-to-Earth) 669 670 671 672	

1244 (3) When the notice relates to a frequency above 28 000 kHz, the Board shall only make the examination specified in No. **1242** at the request of an administration directly concerned or affected when coordination has not been possible between the administrations involved.

1245 (4) Where appropriate, the Board shall also examine the notice with respect to its conformity with a regional or service agreement. The procedure to be followed in connection with frequency assignments made pursuant to such an agreement shall be as specified in Nos. **1240** and **1241** or **1242** except that the Board shall not consider the question of the probability of harmful interference among the parties to such agreement. Similarly, the Board shall not consider the probability of harmful interference to the assignments of any administration with which coordination has been effected.

1246 § 12. Depending upon the findings of the Board subsequent to the examination prescribed in Nos. **1240** and **1241** or **1242**, and the result of the action undertaken by the Board pursuant to Nos. **1275** to **1278** and **1279**, further action shall be as follows:

1247 § 13. (1) *Finding Favourable with Respect to No.* **1240** *in Cases Where the Provisions of No.* **1241** *or* **1242** *Are Not Applicable (see No.* **1244***).*

1248 (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.

1249 § 14. (1) *Finding Favourable with Respect to Nos.* **1240** *and* **1241** *or* **1242**.

1250 (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.

1251 (3) However, should the examination show that the probability of harmful interference for certain hours, seasons, or periods of solar activity is slightly greater than is considered desirable, a remark shall be included in the Master Register to show that there exists a slight probability of harmful interference and hence precautions must be taken in the use of the assignment to avoid harmful interference to assignments already recorded in the Master Register.

1252 § 15. (1) *Finding Favourable with Respect to No.* **1240** *but Unfavourable with Respect to No.* **1241** *or* **1242**.

1253 (2) 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 is able to offer with a view to a satisfactory solution of the problem in respect of those administrations it has identified.

1254 (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. **1241** or **1242**, 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. The date of receipt by the Board of the resubmitted notice shall be indicated in the Remarks Column.

1255 (4) The notifying administration may resubmit the notice either unchanged, or with modifications which decrease the probability of harmful interference. In cases where there are no modifications or the modifications do not permit the application of No. **1254** and the Board's finding remains unchanged, should the notifying administration insist on reconsideration of its notice and state that it has brought its assignment into use, the Board shall:

1256 *a)* publish the information contained in the notice received under No. **1255** in the weekly circular indicating all the administrations which are likely to be affected;

1257 *b)* simultaneously send a telegram to each of the administrations referred to in No. **1256** advising them of the notice and requesting them to inform the Board:

1258 1) if the recorded assignment is still in use and, if so, whether it is being used with the notified basic characteristics;

1259 2) of any harmful interference that occurs within a period of two months from the date of publication of the weekly circular referred to in No. **1256**;

applied. Where the change should be recorded, the assignment shall be amended according to the notice.

1307 (3) However, in the case of a change in the basic characteristics of an assignment (except a change of the assigned frequency which exceeds half of the frequency band originally assigned, as defined in No. **141**) which is in conformity with No. **1240**, should the Board reach a favourable finding with respect to No. **1241** or **1242**, or find that the change does not increase the probability of harmful interference to assignments already recorded, the amended assignment shall retain the original date in the appropriate part of Column 2. In addition, the date of receipt by the Board of the notice relating to the change shall be entered in the Remarks Column.

1308 (4) The projected date of bringing into use of a frequency assignment may be extended on request of the notifying administration by three months. In the case where the administration states that, due to exceptional circumstances, it needs a further extension of this period, such extension may be provided but it shall in no case exceed six months from the original projected date of bringing into use.

1309 § 22. *In applying the provisions of the whole of Sub-Sections IIA to IIC*, any resubmitted notice which is received by the Board more than six months after the date of its return by the Board shall be considered as a new notice.

1310 § 23. (1) *Recording of Frequency Assignments Notified Before Being Brought into Use.*

1311 (2) If a frequency assignment notified in advance of bringing into use has received favourable findings by the Board with respect to Nos. **1240** and **1241** or **1242**, it shall be entered provisionally in the Master Register with a special symbol in the Remarks Column indicating the provisional nature of that entry.

1312 (3) Within thirty days (see No. **1228**) after the date of bringing into use, either as originally notified or as modified in application of No. **1308**, the notifying administration shall confirm that the frequency assignment has been brought into use. When the Board is informed that the assignment has been brought into use, the special symbol shall be deleted from the Remarks Column.

1313 (4) If the Board does not receive this confirmation within the period referred to in No. **1312**, the entry concerned shall be cancelled. The Board shall consult the administration concerned before taking such action.

1314 (5) The provisions of Nos. **1311** to **1313** do not apply to frequency assignments which are in conformity with the Allotment Plans appearing in Appendices **25**, **26**, 27 * and **27 Aer2** * to these Regulations; such frequency assignments shall be entered in the Master Register on receipt of the notice by the Board.

Sub-Section IIB. Procedure to Be Followed for Coast Radiotelephone Stations Operating in the Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 23 000 kHz

1315 § 24. (1) *Examination of Notices Concerning Frequency Assignments to Coast Radiotelephone Stations in the Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 23 000 kHz for Coast Radiotelephone Stations (see No.* **1239***).*

1316 (2) The Board shall examine each notice covered by No. **1315**:

1317 Mob-83 *a)* with respect to the provisions of No. **1240** and in particular those of Appendix **16** and Nos. **4371** and **4373**;

1318 *b)* in order to determine whether the notified assignment is in conformity with an allotment in the Allotment Plan contained in Appendix **25** to these Regulations.

1319 (3) Any frequency assignment for which the finding is favourable with respect to Nos. **1317** and **1318** shall be recorded in the Master Register (see also No. **1314**). The date to be entered in Column 2a shall be that determined according to the relevant provisions of Section III of this Article.

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* *Note by the General Secretariat:* Appendix 27 has been replaced by Appendix **27 Aer2** which entered into force on 1 February 1983.

1320 (4) Any frequency assignment for which the finding is unfavourable with respect to No. **1317** shall be examined with respect to Nos. **1267** and **1268**. The date to be entered in Column 2b shall be determined according to the relevant provisions of Section III of this Article.

1320A **Mob-83** (4A) Any notice which has received a favourable finding with respect to No. **1317** but an unfavourable finding with respect to No. **1318** shall be returned to the notifying administration unless the administration has initiated the procedure of Article **16** in accordance with No. **1719**.

1321 **Mob-83** (5) Any notice which makes reference to No. **1719** shall be recorded provisionally in the Master Register, if the finding with respect to No. **1317** is favourable. In this case the Board shall review the recording after the notifying administration has applied the procedure of Article **16**.

1322 to **1325** **Mob-83** SUP

1326 § 25. (1) *Examination of Notices Concerning Frequencies Used for Reception by Coast Radiotelephone Stations in the Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 23 000 kHz for Ship Radiotelephone Stations (see Nos.* **1219** *and* **1239***).*

1327 (2) The Board shall examine each notice covered by No. **1326**:

1328 **Mob-83** *a)* with respect to the provisions of No. **1240** and in particular those of Appendix **16** and Nos. **4371** and **4374**;

1329 *b)* in order to determine whether the notified assignment corresponds to a frequency associated, according to Appendix **16**, with a frequency allotted to the notifying administration in the Allotment Plan contained in Appendix **25** to these Regulations.

1330 (3) Any frequency assignment for reception by a coast radiotelephone station for which the finding is favourable with respect to Nos. **1328** and **1329** shall be recorded in the Master Register. The date to be entered in Column 2a shall be that determined according to the relevant provisions of Section III of this Article.

1331 (4) Any frequency assignment for reception by a coast radiotelephone station for which the finding is unfavourable with respect to No. **1328** shall be examined with respect to Nos. **1267** and **1268**. The date to be entered in Column 2b shall be that determined according to the relevant provisions of Section III of this Article.

1332 (5) Any assignment of a frequency for reception by a coast radiotelephone station which has received a favourable finding with respect to No. **1328** but unfavourable with respect to No. **1329** shall be recorded in the Master Register. The date to be entered in Column 2b shall be that determined according to the relevant provisions of Section III of this Article.

Sub-Section IIC. Procedure to Be Followed for Aeronautical Stations Operating in the Bands Allocated Exclusively to the Aeronautical Mobile Services Between 2 850 kHz and 22 000 kHz

1333 § 26. (1) *Examination of Notices Concerning Frequency Assignments to Aeronautical Stations in the Aeronautical Mobile (R) Service in the Bands Allocated Exclusively to that Service Between 2 850 kHz and 22 000 kHz (see No.* **1239***).*

1334 (2) The Board shall examine each notice covered by No. **1333** to determine whether:

1335 *a)* the notice is in conformity with the provisions of No. **1240**;

1336 *b)* the frequency corresponds to one of the frequencies specified in Column 1 of the Allotment Plan for the aeronautical mobile (R) service contained in Appendix **27 Aer2** * (Part II, Section II, Article 2), or the assignment is the result of a permissive change from one class of emission to another and the necessary bandwidth is within the channelling arrangement provided for in Appendix **27 Aer2** *;

1337 *c)* the limitations of use set forth in Column 3 of the Plan have been appropriately observed;

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* *Note by the General Secretariat:* Appendix 27 has been replaced by Appendix **27 Aer2** which entered into force on 1 February 1983.

1338 *d)* the notice is in conformity with the technical principles of the Plan set forth in Appendix **27 Aer2** *;

1339 *e)* the area of use is within the boundaries of the Areas as set forth in Column 2 of the Plan.

1340 (3) A notice which is not in conformity with the provisions of No. **1335** shall be examined with respect to Nos. **1267** and **1268**. The date to be entered in Column 2b shall be determined in accordance with the relevant provisions of Section III of this Article.

1341 Mob-83 (4) In the case of a notice in conformity with the provisions of Nos. **1335, 1336** and **1338**, but not with those of Nos. **1337** or **1339**, the Board shall examine whether the protection specified in Appendix **27 Aer2** * (Part I, Section IIA, paragraph 5) is afforded to the allotments in the Plan and to assignments already recorded in the Master Register with a favourable finding with respect to this provision. In doing so, the Board shall assume that the frequency will be used in accordance with the "Sharing conditions between areas" specified in Appendix **27 Aer2** * (Part I, Section IIB, paragraph 4).

1342 Mob-83 (5) Except for cases where No. **1268** applies, all frequency assignments referred to in No. **1333** shall be recorded in the Master Register according to the findings reached by the Board. The date to be entered in Column 2a or 2b shall be that determined according to the relevant provisions of Section III of this Article.

1343 § 27. (1) *Examination of Notices Concerning Frequency Assignments to Aeronautical Stations in the Aeronautical Mobile (OR) Service in the Bands Allocated Exclusively to that Service Between 3 025 kHz and 18 030 kHz (see No.* **1239***).*

1344 (2) The Board shall examine each notice covered by No. **1343** to determine whether:

1345 *a)* the assignment is in conformity with the primary allotments in the Allotment Plan for the aeronautical mobile (OR) service and the conditions specified in Appendix **26** (Parts III and IV);

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* *Note by the General Secretariat:* Appendix 27 has been replaced by Appendix **27 Aer2** which entered into force on 1 February 1983.

1346 *b)* the assignment is in conformity with or satisfies the requirements for secondary allotments in the Allotment Plan for the aeronautical mobile (OR) service and the conditions specified in Appendix **26** (Part III, Section II, paragraph 4, sub-paragraph *d)*, and Part IV). In applying these provisions, the Board shall assume that the frequency will be used on a day-time basis;

1347 *c)* the assignment is the result of a permitted change from one class of emission to another, its occupied bandwidth is within the channelling arrangement provided for in Appendix **26** (Part III, Section II, paragraphs 1 and 2), and it meets all the conditions for a primary or secondary allotment in the Plan, except that the assigned frequency does not correspond numerically with one of the frequencies specified therein.

1348 (3) The technical criteria to be employed by the Board in its examination of these notices shall be those in Appendix **26** (Part III).

1349 (4) All frequency assignments referred to in No. **1343** shall be recorded in the Master Register according to the findings reached by the Board. The date to be entered in Column 2a or 2b shall be that determined according to the relevant provisions of Section III of this Article.

Sub-Section IID. Procedure to Be Followed for Broadcasting Stations Operating in the Bands Allocated Exclusively to the Broadcasting Service Between 5 950 kHz and 26 100 kHz

1350 § 28. Frequency assignments to broadcasting stations in the bands allocated exclusively to the broadcasting service between 5 950 kHz and 26 100 kHz shall be dealt with in accordance with the provisions of Article **17** and shall be included only in the annual list referred to in No. **1769**, which shall be considered as a supplement to the International Frequency List.

ARTICLE 25

Identification of Stations

Section I. General Provisions

2055 § 1. All transmissions shall be capable of being identified either by identification signals or by other means[1].

2056 § 2. (1) All transmissions with false or misleading identification are prohibited.

2057 (2) Where practicable and in appropriate services, identification signals should be automatically transmitted in accordance with relevant CCIR Recommendations.

2058 (3) All transmissions in the following services should, except as provided in Nos. **2066** to **2068**, carry identification signals:

2059 *a)* amateur service;

2060 *b)* broadcasting service;

2061 *c)* fixed service in the bands below 28 000 kHz;

2062 *d)* mobile service;

2063 *e)* standard frequency and time signal service.

2064 (4) All operational transmissions by radiobeacons shall carry identification signals. However, it is recognized that, for radiobeacons and for certain other radionavigation services that normally carry identification signals, during periods of malfunction or other non-operational service the deliberate removal of identification signals is an agreed means of warning users that the transmissions cannot safely be used for navigational purposes.

2065 (5) When identification signals are transmitted they shall comply with the provisions of this Article.

2055.1 [1] 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.

2066 (6) However, the requirements for certain transmissions to carry identification signals need not apply to:

2067 *a)* survival craft stations when transmitting distress signals automatically;

2068 *b)* emergency position-indicating radiobeacons.

2069 § 3. In transmissions carrying identification signals a station shall be identified by a call sign, by a maritime mobile service identity in accordance with Appendix **43** [1] or by other recognized means of identification which may be one or more of the following: 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.

2070 § 4. For transmissions carrying identification signals, in order that stations may be readily identified, each station shall transmit its identification as frequently as practicable during the course of transmissions, including those made for tests, adjustments or experiments. During such transmissions, however, identification signals shall be transmitted at least hourly, preferably within the period from five minutes before to five minutes after the hour (UTC) unless to do so would cause unreasonable interruption of traffic, in which case identification shall be given at the beginning and end of transmissions.

2071 § 5. Identification signals shall wherever practicable be in one of the following forms:

2072 *a)* speech, using simple amplitude or frequency modulation;

2069.1 Mob-83 [1] For the application of Appendix **43**, see Resolution **320 (Mob-83)**.

2073 *b)* international Morse code transmitted at manual speed;

2074 *c)* a telegraph code compatible with conventional printing equipment;

2075 *d)* any other form recommended by the CCIR.

2076 § 6. To the extent possible the identification signal should be transmitted in accordance with relevant CCIR Recommendations.

2077 § 7. Administrations should ensure that wherever practicable superimposed identification methods be employed in accordance with CCIR Recommendations.

2078 § 8. When a number of stations work simultaneously in a common circuit, either as relay stations, or in parallel on different frequencies, each station shall, as far as practicable, transmit its own identification or those of all the stations concerned.

2079 § 9. Administrations shall ensure, except in the cases mentioned in Nos. **2066** to **2068**, that all transmissions not carrying identification signals can be identified by other means when they are capable of causing harmful interference to the services of another administration operating in accordance with these Regulations.

2080 § 10. Administrations shall, having regard to the provisions of these Regulations relating to the notification of assignments for recording in the Master Register, adopt their own measures to ensure compliance with the provisions of No. **2079**.

2081 § 11. Each Member reserves the right to establish its own measures for identifying its stations used for national defence. However, it shall use, as far as possible, call signs recognizable as such, and containing the distinctive characters of its nationality.

Section II. Allocation of International Series and Assignment of Call Signs

2082 § 12. (1) 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 International Call Sign Series in Appendix **42**.

2083 **Mob-83** (2) As the need arises, ship stations and ship earth stations to which the provisions of Chapter **XI** apply, and coast stations or coast earth stations capable of communicating with such ships, shall have assigned to them maritime mobile service identities in accordance with Appendix **43** [1].

2084 (3) It is not compulsory to assign call signs from the international series to stations identified by maritime mobile service identities or which are easily identified by other means (see No. **2069**) and whose signals of identification or characteristics of emission are published in international documents.

2085 § 13. Should the available call sign series in Appendix **42** be exhausted, new call sign series may be allocated according to the principles set out in Resolution **13** relating to the formation of call signs and the allocation of new international series.

2086 § 14. 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. **2085**).

2083.1 **Mob-83** [1] For the application of Appendix **43**, see Resolution **320 (Mob-83)**.

2087 **Mob-83** § 15. The Secretary-General shall be responsible for allocating maritime identification digits to countries [1] not included in the Table of Maritime Identification Digits (see Appendix **43** [2]).

2087A **Mob-83** §15A. The Secretary-General shall be responsible for allocating additional maritime identification digits to countries [1] in accordance with Resolution **320 (Mob-83)**.

2088 § 16. The Secretary-General shall be responsible for supplying series of selective call numbers or signals (see Nos. **2143** to **2146**) at the request of the administrations concerned.

2089 § 17. (1) Each country shall choose the call signs and, if the selective calling system used is in accordance with Appendix **39**, the ship station selective call number and the coast station identification numbers of its stations from the international series allocated or supplied to it; and shall, in accordance with Article **26**, notify this information to the Secretary-General together with the information which is to appear in Lists I, II, IV, V, VI and VIII A. These notifications do not include call signs assigned to amateur and experimental stations.

2090 (2) Each country shall choose the maritime mobile service identities of its stations from the maritime identification digits allocated to it and notify this information to the Secretary-General for inclusion in the relevant lists, as provided for in Article **26**.

2091 (3) The Secretary-General shall ensure that the same call sign, the same maritime mobile service identity, 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.

2087.1 **Mob-83** [2] For the application of Appendix **43**, see Resolution **320 (Mob-83)**.

2087.2 **2087A.1** **Mob-83** [1] The word "country" is used with the meaning attributed to it in No. **2246**.

2092 § 18. (1) When a fixed station uses more than one frequency in the international service, each frequency may be identified by a separate call sign used solely for this frequency.

2093 (2) When a broadcasting station uses more than one frequency in the international service, each frequency may be identified by a separate call sign used solely for this frequency or by some other appropriate means, such as announcing the name of the place and frequency used.

2094 (3) When a land station uses more than one frequency, each frequency may, if desired, be identified by a separate call sign.

2095 (4) Where practicable, coast stations should use a common call sign for each frequency series [1].

Section III. Formation of Call Signs

2096 § 19. (1) The twenty-six letters of the alphabet, as well as digits in the cases specified below, may be used to form call signs. Accented letters are excluded.

2097 (2) However, the following combinations shall not be used as call signs:

2098 *a)* combinations which might be confused with distress signals or with other signals of a similar nature;

2099 *b)* combinations reserved for the abbreviations to be used in the radiocommunication services (see Appendices **13** and **14**);

2100 *c)* for amateur stations, combinations commencing with a digit when the second character is the letter O or the letter I.

2095.1 [1] By "frequency series" is meant a group of frequencies each of which belongs to one of the different bands between 4 000 kHz and 27 500 kHz that are allocated exclusively to the maritime mobile service.

2101 § 20. Call signs in the international series are formed as indicated in Nos. **2102** to **2122**. The first two characters shall be two letters or a letter followed by a digit or a digit followed by a letter. The first two characters or in certain cases the first character of a call sign constitute the nationality identification [1].

2102 *Land and fixed stations*

2103 § 21. (1)
- two characters and one letter, *or*
- two characters and one letter followed by not more than three digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

2104 (2) However, it is recommended that, as far as possible, the call signs of fixed stations consist of:
- two characters and one letter followed by two digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

2105 *Ship stations*

2106 § 22. (1)
- two characters and two letters, *or*
- two characters, two letters and one digit (other than the digits 0 or 1).

2107 (2) However, ship stations employing only 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 or 1 in cases where they immediately follow a letter), *or*
- two characters and one letter followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

2101.1 [1] For call sign series beginning with B, F, G, I, K, M, N, R and W, only the first character is required for nationality identification. In the cases of half series, the first three characters are required for nationality identification.

2108 *Aircraft stations*

2109 § 23. – two characters and three letters.

2110 *Ship's survival craft stations*

2111 § 24. – the call sign of the parent ship followed by two digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

2112 *Emergency position-indicating radiobeacon stations*

2113 § 25. – the Morse letter B and/or the call sign of the parent ship to which the radiobeacon belongs.

2114 *Aircraft survival craft stations*

2115 § 26. – the complete call sign of the parent aircraft (see No. **2109**), followed by a single digit other than 0 or 1.

2116 *Land mobile stations*

2117 § 27. – two characters (provided that the second is a letter) followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter), *or*

– two characters and one or two letters followed by four digits (other than the digits 0 or 1 in cases where they immediately follow a letter).

2118 *Amateur and experimental stations*

2119 § 28. (1) – one character (see No. **2101.1**) and a single digit (other than 0 or 1), followed by a group of not more than three letters, *or*

– two characters and a single digit (other than 0 or 1), followed by a group of not more than three letters.

2120 (2) However, the prohibition of the use of the digits 0 and 1 does not apply to amateur stations.

2121 *Stations in the space service*

2122 § 29. When call signs for stations in the space service are employed, it is recommended that they consist of:

- two characters followed by two or three digits (other than the digits 0 and 1 in cases where they immediately follow a letter).

Section IV. Identification of Stations Using Radiotelephony

2123 § 30. Stations using radiotelephony shall be identified as indicated in Nos. **2124** to **2133**.

2124 § 31. (1) *Coast stations*

- a call sign (see No. **2103**); *or*
- the geographical name of the place as it appears in the List of Coast Stations, followed preferably by the word RADIO or by any other appropriate indication.

2125 (2) *Ship stations*

- a call sign (see Nos. **2106** and **2107**); *or*
- the official name of the ship preceded, if necessary, by the name of the owner on condition that there is no possible confusion with distress, urgency and safety signals; *or*
- its selective call number or signal.

2126 (3) *Ship's survival craft stations*

- a call sign (see No. **2111**); *or*
- a signal of identification consisting of the name of the parent ship followed by two digits.

2127 (4) *Emergency position-indicating radiobeacon stations*

When speech transmission is used (see No. **3265**):

– the name and/or the call sign of the parent ship to which the radiobeacon belongs.

2128 § 32. (1) *Aeronautical stations*

– the name of the airport or geographical name of the place followed, if necessary, by a suitable word indicating the function of the station.

2129 (2) *Aircraft stations*

– a call sign (see No. **2109**), which may be preceded by a word designating the owner or the type of aircraft; *or*

– a combination of characters corresponding to the official registration mark assigned to the aircraft; *or*

– a word designating the airline, followed by the flight identification number.

2130 (3) In the exclusive aeronautical mobile frequency bands, aircraft stations using radiotelephony may use other methods of identification, after special agreement between governments, and on condition that they are internationally known.

2131 (4) *Aircraft survival craft stations*

– a call sign (see No. **2115**).

2132 § 33. (1) *Base stations*

– a call sign (see No. **2103**); *or*

– the geographical name of the place followed, if necessary, by any other appropriate indication.

2133 (2) *Land mobile stations*

- a call sign (see No. **2117**); *or*
- the identity of the vehicle or any other appropriate indication.

Section V. Selective Call Numbers in the Maritime Mobile Service

2134 § 34. When stations of the maritime mobile service use selective calling devices in accordance with Appendices **38** and **39**, their call numbers shall be assigned by the responsible administrations in accordance with the provisions below.

2135 *Formation of ship station selective call numbers and coast station identification numbers*

2136 § 35. (1) The ten digits from 0 to 9 inclusive shall be used to form selective call numbers.

2137 (2) However, combinations of numbers commencing with the digits 00 (zero, zero) shall not be used when forming the identification numbers for coast stations.

2138 (3) Ship station selective call numbers and coast station identification numbers in the series are formed as indicated in Nos. **2139**, **2140** and **2141**.

2139 (4) *Coast station identification numbers*

- four digits (see No. **2137**).

2140 (5) *Ship station selective call numbers*

- five digits.

2141 (6) *Predetermined groups of ship stations*

- five digits consisting of:
  - the same digit repeated five times; *or*
  - two different digits repeated alternately.

2142 *Assignment of ship station selective call numbers and coast station identification numbers*

2143 § 36. (1) In cases where selective call numbers for ship stations and identification numbers for coast stations are required for use in the maritime mobile service and the selective calling system is in accordance with Appendix **39**, the selective call numbers and identification numbers shall be supplied by the Secretary-General on request. Upon notification by an administration of the introduction of selective calling for use in the maritime mobile service:

2144 *a)* selective call numbers for ships will be supplied as required in blocks of 100 (one hundred);

2145 *b)* coast station identification numbers will be supplied in blocks of 10 (ten) to meet actual requirements;

2146 *c)* selective call numbers for selective calling of predetermined groups of ship stations in accordance with No. **2141** will be supplied as required as single numbers.

2147 (2) Each administration shall choose the selective call numbers to be assigned to its ship stations from the blocks of the series supplied to it.

2148 (3) Each administration shall choose the coast station identification numbers to be assigned to its coast stations from the blocks of the series supplied to it.

Section VI. Maritime Mobile Service Identities in the Maritime Mobile Service and the Maritime Mobile-Satellite Service

2149 **Mob-83** § 37. When a station in the maritime mobile service or the maritime mobile-satellite service is required to use maritime mobile service identities, the responsible administration shall assign the identity to the station in accordance with the provisions described in Appendix **43** and Resolution **320 (Mob-83)**, taking into consideration relevant CCIR and CCITT Recommendations.

Section VII. Special Provisions

2150 § 38. (1) In the aeronautical mobile service, after communication has been established by means of the complete call sign, the aircraft station may use, if confusion is unlikely to arise, an abbreviated call sign or identification consisting of:

2151 *a)* in radiotelegraphy, the first character and last two letters of the complete call sign (see No. **2109**);

2152 *b)* in radiotelephony:

- the first character of the complete 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 call sign (see No. **2109**) or by the last two characters of the registration mark.

2153 (2) The provisions of Nos. **2150**, **2151** and **2152** may be amplified or modified by agreement between administrations concerned.

2154 § 39. The distinguishing signals allotted to ships for visual and aural signalling shall, in general, agree with the call signs of ship stations.

2155 to **2179** NOT allocated.

2845 § 11. In the aeronautical radionavigation service, the procedure contemplated for radio direction-finding in this Section is applicable, except where special procedures are in force as a result of arrangements concluded between the administrations concerned.

Section IV. Radiobeacon Stations

2846 *A. General*

2847 § 12. When an administration thinks it desirable in the interests of navigation to organize a service of radiobeacon stations, it may use for this purpose:

2848 *a)* radiobeacons properly so-called, established on land or on ships permanently moored or, exceptionally, on ships navigating in a restricted area, the limits of which are known and published. The emissions of these radiobeacons may have either directional or non-directional patterns;

2849 *b)* fixed stations, coast stations or aeronautical stations designated to function as radiobeacons, at the request of mobile stations.

2850 § 13. (1) Radiobeacons properly so-called shall use the frequency bands which are available to them under Chapter **III**.

2851 (2) Other stations notified as radiobeacons shall use for this purpose their normal working frequency and their normal class of emission.

2852 (3) The power radiated by each radiobeacon properly so-called shall be adjusted to the value necessary to produce the stipulated field strength at the limit of the range required (see Nos. **2855** and **2860**).

2853 *B. Aeronautical Radiobeacons*

2854 § 14. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 kHz and 435 kHz shall be based on a protection ratio against interference of at least 15 dB for each beacon throughout its service area.

2855 (2) The radiated power should be kept to the minimum value necessary to give the desired field strength at the service range.

2856 (3) The daylight service range of radiobeacons referred to in No. **2854** shall be based on the following field strengths:

2857 (4) *Regions 1 and 2*

- 70 microvolts per metre for radiobeacons north of 30° N;
- 120 microvolts per metre for radiobeacons between 30° N and 30° S;
- 70 microvolts per metre for radiobeacons south of 30° S.

2858 (5) *Region 3*

- 70 microvolts per metre for radiobeacons north of 40° N;
- 120 microvolts per metre for radiobeacons between 40° N and 50° S;
- 70 microvolts per metre for radiobeacons south of 50° S.

2859 *C. Maritime Radiobeacons*

2860 **Mob-83** § 15. (1) The protection ratio required for assignment of frequencies to maritime radiobeacons operating in the bands between 283.5 kHz and 335 kHz shall be based on the effective radiated power being kept to the minimum value necessary to give the desired field strength at the service range and the need to provide adequate geographical separation between radiobeacons operating on the same frequency and at the same time, to avoid harmful interference.

2861 (2) The daylight service range of the radiobeacons referred to in No. **2860** shall be based on the following field strengths:

2862 (3) *Region 1*

- 50 microvolts per metre for radiobeacons north of 43° N;
- 75 microvolts per metre for radiobeacons between 43° N and 30° N;

– 100 microvolts per metre for radiobeacons between 30° N and 30° S;

– 75 microvolts per metre for radiobeacons between 30° S and 43° S;

– 50 microvolts per metre for radiobeacons south of 43° S.

2863 (4) *Region 2*

– 50 microvolts per metre for radiobeacons north of 40° N;

– 75 microvolts per metre for radiobeacons between 40° N and 31° N;

– 100 microvolts per metre for radiobeacons between 31° N and 30° S;

– 75 microvolts per metre for radiobeacons between 30° S and 43° S;

– 50 microvolts per metre for radiobeacons south of 43° S.

2864 (5) *Region 3*

– 75 microvolts per metre for radiobeacons north of 40° N;

– 100 microvolts per metre for radiobeacons between 40° N and 50° S;

– 75 microvolts per metre for radiobeacons south of 50° S.

2865 **Mob-83** (6) The carrier frequencies of maritime radiobeacons and the separation between channels shall be based on the use of integer multiples of 100 Hz. The separation between adjacent carrier frequencies should be based on relevant CCIR Recommendations.

2866 **Mob-83** SUP

2867 to **2891** NOT allocated.

CHAPTER IX

Mob-83

Distress and Safety Communications [1]

ARTICLE 37

General Provisions

2930 § 1. The procedure specified in this Chapter is obligatory in the maritime mobile service and for communications between aircraft stations and stations of the maritime mobile service. The provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

2931 § 2. The procedure specified in this Chapter is obligatory in the maritime mobile-satellite service and for communications between stations on board aircraft and stations of the maritime mobile-satellite service, where this service or stations of this service are specifically mentioned. Nos. **3086**, **3090**, **3095**, **3096**, **3097**, **3098**, **3200**, **3203** and **3223** are also applicable.

2932 Mob-83 § 3. (1) No provision of these Regulations prevents the use by a mobile station or mobile earth station in distress of any means at its disposal to attract attention, make known its position, and obtain help.

2933 Mob-83 (2) No provision of these Regulations prevents the use by stations on board aircraft or ships engaged in search and rescue operations, in exceptional circumstances, of any means at their disposal to assist a mobile station or mobile earth station in distress.

C.IX Mob-83 [1] For the purposes of this Chapter, distress and safety communications include distress, urgency and safety calls and messages.

2934 **Mob-83** (3) No provision of these Regulations prevents the use by a land station or coast earth station, in exceptional circumstances, of any means at its disposal to assist a mobile station or mobile earth station in distress (see also No. **959**).

2934A **Mob-83** § 3A. When special circumstances make it indispensable to do so, an administration may, as an exception to the methods of working provided for by these Regulations, authorize ship earth stations located at Rescue Coordination Centres [1] to communicate with other stations of the same category using bands allocated to the maritime mobile-satellite service, for distress and safety purposes only.

2935 § 4. In cases of distress, urgency or safety, transmissions:

2936 **Mob-83** *a)* by telegraphy, when using Morse, shall not in general exceed a speed of sixteen words a minute;

2937 *b)* by radiotelephony, shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

2937A **Mob-83** § 4A. Distress, urgency and safety transmissions may also be made, taking into account Nos. **2944** to **2949**, using digital selective calling and satellite techniques in accordance with relevant CCIR Recommendations, and/or direct-printing telegraphy.

2938 § 5. The abbreviations and signals of Appendix **14** and the Phonetic Alphabet and Figure Code in Appendix **24** should be used where applicable and, where language difficulties exist, the use of the International Code of Signals also is recommended.

2934A.1 **Mob-83** [1] The term "Rescue Coordination Centre" refers to a facility designated by a competent national authority to perform rescue coordination functions consistent with the International Convention on Maritime Search and Rescue (1979).

2939 § 6. (1) The International Convention for the Safety of Life at Sea prescribes which ships and which of their survival craft shall be fitted with radio equipment and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be complied with by such installations.

2940 Mob-83 (2) The Annexes to the Convention on International Civil Aviation state which aircraft should be fitted with radio equipment and which aircraft should carry portable survival radio equipment. They state also the requirements which should be complied with by such installations.

2941 § 7. The applicable provisions of the present Regulations shall, however, be observed in the use of all such installations.

2942 Mob-83 § 8. Mobile stations [1] of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall be made on the frequencies authorized, and under the conditions specified, in Section I of Article **38** (see also No. **2932**).

2942A Mob-83 § 8A. Mobile stations of the aeronautical mobile service may communicate, for safety purposes, with stations of the maritime mobile service.

2943 Mob-83 § 9. Any aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of the maritime mobile service shall be capable of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency

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2942.1 Mob-83 [1] Mobile stations communicating with the stations of the aeronautical mobile (R) service in bands allocated to the aeronautical mobile (R) service shall conform to the provisions of the Regulations which relate to that service and, as appropriate, any special arrangements between the governments concerned by which the aeronautical mobile (R) service is regulated.

500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions [1], or on the carrier frequency 4 125 kHz, transmitting class J3E and receiving class J3E emissions, or on the frequency 156.8 MHz transmitting and receiving class G3E emissions.

2944 **Mob-83** § 10. The frequency provisions made in Section I of Article **38** for the future global maritime distress and safety system (FGMDSS) shall be used in connection with the testing and introduction of this system (see Resolution **321 (Mob-83)** and Recommendation **201 (Rev.Mob-83)**), and be subject to the provisions of Nos. **2945** to **2949**.

2945 **Mob-83** § 11. Until a future world administrative radio conference has made full provision for the normal operational use of the future global maritime distress and safety system (FGMDSS):

2946 **Mob-83** *a)* all provisions of the Radio Regulations pertaining to the present distress, urgency and safety communications shall be maintained in force;

2947 **Mob-83** *b)* particular care shall be taken to ensure that harmful interference is not caused to distress, urgency and safety communications on the established international distress frequencies 500 kHz, 2 182 kHz and 156.8 MHz and on the supplementary distress frequencies 4 125 kHz and 6 215.5 kHz;

2948 **Mob-83** *c)* operators of stations participating in the future global maritime distress and safety system (FGMDSS) for distress, urgency or safety purposes, should recognize that it may be necessary to

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2943.1 **Mob-83** [1] As an exception, the requirement to receive class A3E emissions on the carrier frequency 2 182 kHz may be made optional when permitted by national regulations.

revert to the other distress, urgency and safety arrangements provided for in these Regulations (see Recommendation **201 (Rev.Mob-83)**);

2949
Mob-83

d) the frequencies identified in Section I of Article **38** for exclusive use for distress and safety calls by digital selective calling may additionally be used for test transmissions only to the extent necessary to facilitate the testing and progressive introduction of that system.

2950
to
2966

NOT allocated.

ARTICLE 38

Frequencies for Distress and Safety

Section I. Availability of Frequencies

2967
Mob-83

A. 490 kHz

2968
Mob-83

§ 0. The frequency 490 kHz is used exclusively for distress and safety calls in the shore-to-ship direction by digital selective calling techniques (see No. **2944**). Additional conditions concerning the use of this frequency are given in Resolution **206 (Mob-83)**.

2969
Mob-83

B. 500 kHz

2970
Mob-83

§ 1. (1) The frequency 500 kHz is the international distress frequency for Morse telegraphy (see also No. **472**); it shall be used for this purpose by ship, aircraft and survival craft stations employing frequencies in the bands between 415 kHz and 535 kHz when requesting assistance from the maritime services. It shall be used for the distress call and distress traffic, for the urgency signal and urgency messages, for the safety signal and, outside regions of heavy traffic, for short safety messages. When practicable, safety messages shall be transmitted on the working frequency after a preliminary announcement on 500 kHz (see also No. **4236**). For distress and safety purposes, the classes of emission to be used on 500 kHz shall be A2A, A2B, H2A or H2B (see also No. **3042**).

2971

(2) However, ship and aircraft stations which cannot transmit on 500 kHz should use any other available frequency on which attention might be attracted.

2971A
Mob-83

C. 518 kHz

2971B
Mob-83

§ 1A. In the maritime mobile service, the frequency 518 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy (see No. **2944** and Resolution **318 (Mob-83)**).

2971C
Mob-83

D. 2 174.5 kHz

2971D
Mob-83

§ 1B. The frequency 2 174.5 kHz is used exclusively for distress and safety traffic by narrow-band direct-printing telegraphy (see No. **2944**).

2972
Mob-83

E. 2 182 kHz

2973
Mob-83

§ 2. (1) The carrier frequency 2 182 kHz [1] is an international distress frequency for radiotelephony (see also Nos. **500** and **501**); 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 kHz and 4 000 kHz when requesting assistance from the maritime services. It is used for the distress call and distress traffic, for signals of emergency position-indicating radiobeacons, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2 182 kHz (see No. **2944**). The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be H3E. Class A3E emission may continue to be used by apparatus provided solely for distress,

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2973.1
Mob-83

[1] Where administrations provide at their coast stations a watch on 2 182 kHz for receiving class J3E emissions as well as class A3E and H3E emissions, ship stations may communicate with them using class J3E emissions.

urgency and safety purposes (see No. **4127**). The class of emission to be used by emergency position-indicating radiobeacons shall be as specified in Appendix **37** (see also No. **3265**). The class of emission J3E may be used for the exchange of distress traffic on 2 182 kHz following the acknowledged reception of a distress call using digital selective calling techniques on 2 187.5 kHz taking into account that other shipping in the vicinity may not be able to receive this traffic.

2974
Mob-83

(2) 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 4 125 kHz or 6 215.5 kHz, as appropriate (see Nos. **2982**, **2986** and **3054**).

2975

(3) However, ship and aircraft stations which cannot transmit on the carrier frequency 2 182 kHz or, in accordance with No. **2974**, on the carrier frequencies 4 125 kHz or 6 215.5 kHz, should use any other available frequency on which attention might be attracted.

2976
Mob-83

SUP

2977

(5) Any coast station using the carrier frequency 2 182 kHz for distress purposes shall be able to transmit the radiotelephone alarm signal described in No. **3270** (see also Nos. **3277**, **3278** and **3279**).

2978

(6) Any coast station authorized to send navigational warnings should be able to transmit the navigational warning signal described in Nos. **3284**, **3285** and **3286**.

2978A
Mob-83

F. 2 187.5 kHz

2978B
Mob-83

§ 2A. The frequency 2 187.5 kHz is used exclusively for distress and safety calls by digital selective calling techniques (see No. **2944**). It may also be used for emergency position-indicating radiobeacons using digital selective calling.

2979
Mob-83

G. 3 023 kHz

2980
Mob-83

§ 3. The aeronautical carrier (reference) frequency 3 023 kHz may be used for intercommunication between mobile stations when they are engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix **27 Aer2** (see Nos. **501** and **505**).

2981
Mob-83

H. 4 125 kHz

2982
Mob-83

§ 4. (1) The carrier frequency 4 125 kHz is used to supplement the carrier frequency 2 182 kHz for distress and safety purposes and for call and reply (see also No. **520**). This frequency is also used for distress and safety traffic by radiotelephony (see No. **2944**).

2982A
Mob-83

(2) The carrier frequency 4 125 kHz may be used by aircraft stations to communicate with stations of the maritime mobile service for distress and safety purposes (see No. **2943**).

2982B
Mob-83

I. 4 177.5 kHz

2982C
Mob-83

§ 4A. The frequency 4 177.5 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2982D
Mob-83

J. 4 188 kHz

2982E
Mob-83

§ 4B. The frequency 4 188 kHz is used exclusively for distress and safety calls using digital selective calling techniques (see No. **2944**).

2983
Mob-83

K. 5 680 kHz

2984
Mob-83

§ 5. The aeronautical carrier (reference) frequency 5 680 kHz may be used for intercommunication between mobile stations when they are engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix **27 Aer2** (see also Nos. **501** and **505**).

2985
Mob-83

L. 6 215.5 kHz

2986
Mob-83

§ 6. The carrier frequency 6 215.5 kHz is used to supplement the carrier frequency 2 182 kHz for distress and safety purposes and for call and reply (see also No. **520**). This frequency is also used for distress and safety traffic by radiotelephony (see No. **2944**).

2986A
Mob-83

M. 6 268 kHz

2986B
Mob-83

§ 6A. The frequency 6 268 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2986C
Mob-83

N. 6 282 kHz

2986D
Mob-83

§ 6B. The frequency 6 282 kHz is used exclusively for distress and safety calls by digital selective calling techniques (see No. **2944**).

2986E
Mob-83

O. 8 257 kHz

2986F
Mob-83

§ 6C. The carrier frequency 8 257 kHz is used for distress and safety traffic by radiotelephony (see No. **2944**).

2986G
Mob-83

P. 8 357.5 kHz

2986H
Mob-83

§ 6D. The frequency 8 357 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2987
Mob-83

Q. 8 364 kHz

2988

§ 7. The frequency 8 364 kHz is designated for use by survival craft stations if they are equipped to transmit on frequencies in the bands between 4 000 kHz and 27 500 kHz and if they desire to establish communications relating to search and rescue operations with stations of the maritime and aeronautical mobile services (see also No. **501**).

2988A
Mob-83

R. 8 375 kHz

2988B
Mob-83

§ 7A. The frequency 8 375 kHz is used exclusively for distress and safety calls using digital selective calling techniques (see No. **2944**).

2988C
Mob-83

S. 12 392 kHz

2988D
Mob-83

§ 7B. The carrier frequency 12 392 kHz is used for distress and safety traffic by radiotelephony (see No. **2944**).

2988E
Mob-83

T. 12 520 kHz

2988F
Mob-83

§ 7C. The frequency 12 520 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2988G
Mob-83

U. 12 563 kHz

2988H
Mob-83

§ 7D. The frequency 12 563 kHz is used exclusively for distress and safety calls using digital selective calling techniques (see No. **2944**).

2988I **Mob-83**

V. 16 522 kHz

2988J **Mob-83**

§ 7E. The carrier frequency 16 522 kHz is used for distress and safety traffic by radiotelephony (see No. **2944**).

2988K **Mob-83**

W. 16 695 kHz

2988L **Mob-83**

§ 7F. The frequency 16 695 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy (see No. **2944**).

2988M **Mob-83**

X. 16 750 kHz

2988N **Mob-83**

§ 7G. The frequency 16 750 kHz is used exclusively for distress and safety calls using digital selective calling techniques (see No. **2944**).

2989 **Mob-83**

Y. 121.5 MHz and 123.1 MHz

2990 **Mob-83**

SUP

2990A **Mob-83**

§ 8. (1A)The aeronautical emergency frequency 121.5 MHz [1] is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the band between 117.975 MHz and 136 MHz (137 MHz after 1 January 1990). This frequency may also be used for these purposes in survival craft stations and emergency position-indicating radiobeacons.

2990A.1 **Mob-83**

[1] Normally aircraft stations transmit distress and urgency messages on the working frequency in use at the time of the distress or urgency incident.

2990B **Mob-83** (1B) The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. **593**).

2991 **Mob-83** (2) Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. **501** and **593**). They shall then comply with any special arrangements between the governments concerned by which the aeronautical mobile service is regulated.

2992 **Mob-83**

Z. 156.3 MHz

2993 **Mob-83** § 9. The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations, using G3E emission, engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also note *h)* of Appendix **18**).

2993A **Mob-83**

AA. 156.525 MHz

2993B **Mob-83** § 9A. The frequency 156.525 MHz is used exclusively in the maritime mobile service for distress and safety calls by digital selective calling techniques (see Nos. **613A** and **2944** and Resolution **317 (Mob-83)**).

2993C **Mob-83**

AB. 156.650 MHz

2993D **Mob-83** § 9B. The frequency 156.650 MHz is used for ship-to-ship communications related to the safety of navigation in accordance with note *p)* of Appendix **18** (see No. **2944**).

2993E **Mob-83**

AC. 156.8 MHz

2994 **Mob-83** § 10. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency for radiotelephony for stations of the maritime mobile service when they use frequencies in the authorized bands between 156 MHz and 174 MHz (see also Nos. **501** and **613**). It is used for the distress signal, the distress call and distress traffic, as well as for the urgency signal, urgency traffic and the safety signal (see also No. **2995A**). Safety messages shall be transmitted where practicable on a working frequency after a preliminary announcement on 156.8 MHz. The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E (see No. **2944** and Appendix **19**).

2995 (2) However, ship stations which cannot transmit on 156.8 MHz should use any other available frequency on which attention might be attracted.

2995A **Mob-83** (3) The frequency 156.8 MHz may be used by aircraft stations for safety purposes only.

2995B **Mob-83**

AD. 156.825 MHz

2995C **Mob-83** § 10A. The frequency 156.825 MHz is used exclusively in the maritime mobile service for distress and safety traffic by direct-printing telegraphy (see Nos. **2944**, **3033** and **4393** and note *m)* of Appendix **18**).

2996
Mob-83

AE. 243 MHz

(See Nos. **501** and **642**)

2997
Mob-83

AF. 406 - 406.1 MHz Band

2997A
Mob-83

§ 10B. The frequency band 406 - 406.1 MHz is used exclusively by satellite emergency position-indicating radiobeacons in the Earth-to-space direction (see No. **649**).

2998
Mob-83

AG. 1 544 - 1 545 MHz Band

2998A
Mob-83

§ 10C. Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. **728**) including:

2998B
Mob-83

a) feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;

2998C
Mob-83

b) narrow-band (space-to-Earth) links from space stations to mobile stations.

2998D
Mob-83

AH. 1 645.5 - 1 646.5 MHz Band

2998E
Mob-83

§ 10D. Use of the band 1 645.5 - 1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. **728**).

2999
Mob-83

AI. Aircraft in Distress

3000

§ 11. Any aircraft in distress shall transmit the distress call on the frequency on which watch is kept by the land or mobile stations capable of helping it. When the call is intended for stations in the maritime mobile service, the provisions of Nos. **2970** and **2971** or **2973** and **2975** or **2994** and **2995** shall be complied with.

3001
Mob-83

AJ. Survival Craft Stations

3002 § 12. Equipment provided for use in survival craft stations shall, if capable of operating on any frequency:

3003
Mob-83

a) *in the authorized bands between 415 kHz and 526.5 kHz*, be able to transmit with a carrier frequency of 500 kHz using either class A2A and A2B * or H2A and H2B * emissions. If a receiver is provided for any of these bands, it shall be able to receive class A2A and H2A emissions on a carrier frequency of 500 kHz;

3004

b) *in the bands between 1 605 kHz and 2 850 kHz*, be able to transmit with a carrier frequency of 2 182 kHz using class A3E or H3E emissions. If a receiver is provided for any of these bands, it shall be able to receive class A3E and H3E emissions on a carrier frequency of 2 182 kHz;

3005

c) *in the bands between 4 000 kHz and 27 500 kHz*, be able to transmit with a carrier frequency of 8 364 kHz using class A2A or H2A emissions. If a receiver is provided for any of these bands, it shall be able to receive class A1A, A2A and H2A emissions throughout the band 8 341.75 - 8 728.5 kHz;

3006
Mob-83

d) *in the bands between 117.975 MHz and 136 MHz* (137 MHz after 1 January 1990), be able to transmit on 121.5 MHz, using amplitude modulated emissions. If a receiver is provided for any of these bands, it shall be able to receive class A3E emissions on 121.5 MHz;

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* This is to cater for the automatic reception of the radiotelegraph alarm signal.

3007 *e)* *in the bands between 156 MHz and 174 MHz*, be able to transmit on 156.8 MHz using class G3E emissions. If a receiver is provided for any of these bands it shall be able to receive class G3E emissions on 156.8 MHz;

3008 *f)* *in the bands between 235 MHz and 328.6 MHz*, be able to transmit on the frequency 243 MHz.

3008A **Mob-83** § 12A. Equipment with digital selective calling facilities provided for use in survival craft shall, if capable of operating:

3008B **Mob-83** *a)* *in the bands between 1 605 kHz and 2 850 kHz*, be able to transmit on 2 187.5 kHz;

3008C **Mob-83** *b)* *in the bands between 4 000 kHz and 27 500 kHz*, be able to transmit on 8 375 kHz;

3008D **Mob-83** *c)* *in the bands between 156 MHz and 174 MHz*, be able to transmit on 156.525 MHz.

Mob-83 **Section II. Protection of Distress and Safety Frequencies**

3009 *A. General*

3010 **Mob-83** § 13. Except as provided for in Nos. **2944**, **2949** and **3011**, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the international distress frequencies 500 kHz, 2 182 kHz or 156.8 MHz, or on the distress and safety calling frequencies 490 kHz, 2 187.5 kHz, 4 125 kHz, 4 188 kHz, 6 215.5 kHz, 6 282 kHz, 8 375 kHz, 12 563 kHz, 16 750 kHz or 156.525 MHz is prohibited. Any emission causing harmful interference to distress and safety communications on any of the other frequencies identified in Section I of this Article is prohibited.

3011 **Mob-83** § 14. (1) Test transmissions shall be kept to a minimum on the frequencies identified in Section I of this Article and should, wherever practicable, be carried out on artificial antennas or with reduced power.

3012 to **3015** **Mob-83** SUP

3016 **Mob-83** (2) It is not permitted to transmit complete alarm signals for testing purposes on any frequency except for essential tests coordinated with component authorities. As an exception such tests are permitted for radiotelephone equipment which can operate only on the international distress frequency 2 182 kHz, in which case a suitable artificial antenna shall be employed.

3016A **Mob-83** § 14A.(1) Before transmitting on any of the frequencies identified in Section I for distress and safety, a station shall listen on the frequency concerned to make sure that no distress transmission is being sent (see No. **4915**).

3016B **Mob-83** (2) The provisions of No. **3016A** do not apply to stations in distress.

3017 *B. 500 kHz*

3018 **Mob-83** § 15. (1) Apart from the transmissions authorized on 490 kHz and 500 kHz, and taking account of No. **4226**, all transmissions on the frequencies included between 490 kHz and 510 kHz are forbidden (see No. **471** and Resolution **206 (Mob-83)**).

3019 (2) In order to facilitate the reception of distress calls, other transmissions on the frequency 500 kHz shall be reduced to a minimum, and in any case shall not exceed one minute.

3020 and **3021** **Mob-83** SUP

3022 *C. 2 182 kHz*

3023 **Mob-83** § 16. (1) Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz and 2 187.5 kHz, all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden.

3024 and **3025** SUP
Mob-83

3026 (4) To facilitate the reception of distress calls, all transmissions on 2 182 kHz shall be kept to a minimum.

3027 **Mob-83** (5) At sea it is not permitted to radiate test transmissions of the radiotelephone alarm signal on the carrier frequency 2 182 kHz. The function of the generator of the radiotelephone alarm signal shall be checked by aural monitoring without operating a transmitter. The transmitter shall be checked independently. During tests of the radio installation carried out by an administration or on behalf of an administration the radiotelephone alarm signal device should be checked with a suitable artificial antenna on frequencies other than 2 182 kHz. If the installation is capable of operating only on the frequency 2 182 kHz a suitable artificial antenna should be employed (see No. **3016**).

3028 **Mob-83** (6) Before and after the tests performed using an artificial antenna in accordance with No. **3027**, a suitable announcement should be made on the test frequency that the signals are or were for testing purposes only. The identification of the station should be included in the announcement.

3029 to **3031** SUP
Mob-83

3031A **Mob-83** *DA. 121.5 MHz, 123.1 MHz and 243 MHz*

3031B **Mob-83** § 17A. On the frequencies 121.5 MHz, 123.1 MHz and 243 MHz transmissions other than those authorized are forbidden (see Nos. **501**, **593**, **642**, **2990A** and **2990B**).

3032 *E. 156.8 MHz*

3033 Mob-83 § 18. (1) All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden. The frequency 156.825 MHz may, however, be used for the purposes described in No. **2995C** subject to not causing harmful interference to authorized transmissions on 156.8 MHz (see also note *m)* of Appendix **18**).

3034 and **3035** Mob-83 SUP

3036 (4) To facilitate the reception of distress calls all transmissions on 156.8 MHz shall be kept to a minimum and shall not exceed one minute.

Section III. Watch on Distress Frequencies

3037 *A. 500 kHz*

3038 Mob-83 § 19. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at *x* h 15 and *x* h 45, Coordinated Universal Time (UTC) by an operator using headphones or loudspeaker.

3039 Mob-83 (2) During the periods mentioned above, except for the emissions provided for in this Chapter on the frequency 500 kHz:

3040 Mob-83 *a)* transmissions shall cease in the bands between 485 kHz and 515 kHz (see also Resolution **206 (Mob-83)**);

3033.1 Mob-83 SUP

3041 *b)* outside these bands, transmissions of stations of the mobile service may continue; stations of the maritime mobile service may listen to these transmissions on the express condition that they first ensure watch on the distress frequency as required by No. **3038**.

3042 Mob-83 § 20. (1) Stations of the maritime mobile service open to public correspondence and using frequencies in the authorized bands between 415 kHz and 526.5 kHz shall, during their hours of service, remain on watch on 500 kHz. This watch is obligatory only for class A2A and H2A emissions.

3043 (2) These stations, while observing the requirements of No. **3038**, are authorized to relinquish this watch only when they are engaged in communications on other frequencies.

3044 (3) When they are engaged in such communications:

3045 *a)* ship stations may maintain this watch on 500 kHz by means of an operator using headphones or a loudspeaker or by some appropriate means such as an automatic alarm receiver;

3046 *b)* coast stations may maintain this watch on 500 kHz by means of an operator using headphones or a loudspeaker; in the latter case an indication may be inserted in the List of Coast Stations.

3046A Mob-83 (4) Ship stations, while observing the requirements of No. **3038**, are also authorized to relinquish this watch [1] when it is impractical to listen by split headphones or by loudspeaker, and by order of the master in order to repair or carry out maintenance required to prevent imminent malfunction of:

3046A.1 Mob-83 [1] For additional information see the relevant provisions of the International Convention for the Safety of Life at Sea.

3046B **Mob-83** *a)* equipment for radiocommunication used for safety;

3046C **Mob-83** *b)* radionavigational equipment;

3046D **Mob-83** *c)* other electronic navigational equipment.

3046E **Mob-83** (5) Ship stations fitted with an automatic alarm receiver should ensure the equipment is in operation whenever watch is relinquished under the terms of No. **3046A**.

3047 *B. 2 182 kHz*

3048 **Mob-83** § 21. (1) Coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes shall, during their hours of service, maintain a watch on 2 182 kHz.

3049 (2) These stations shall maintain this watch by means of an operator using some aural method, such as headphones, split headphones or loudspeaker.

3050 (3) In addition, ship stations should keep the maximum watch practicable on the carrier frequency 2 182 kHz for receiving by any appropriate means the radiotelephone alarm signal described in No. **3270**, and the navigational warning signal described in Nos. **3284**, **3285** and **3286**, as well as distress, urgency and safety signals.

3051 § 22. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz.

3052 § 23. In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 1 605 kHz and 2 850 kHz shall, during their hours of service, and

as far as possible, take steps to keep watch on the international distress carrier frequency 2 182 kHz for three minutes twice each hour beginning at *x* h 00 and *x* h 30 Coordinated Universal Time (UTC).

3052A **Mob-83** § 23A. During the periods referred to in No. **3052** all transmissions, except those provided for in this Chapter, shall cease in the band 2 173.5 - 2 190.5 kHz.

3053 *C. 4 125 kHz and 6 215.5 kHz*

3054 **Mob-83** § 24. (1) In the zone of Region 1 south of latitude 15° N, in Region 2 (except Greenland) and in the zone of Region 3 south of latitude 25° N, all coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes may, during their hours of service, maintain a watch on the carrier frequencies 4 125 kHz and/or 6 215.5 kHz, as appropriate (see Nos. **2982** and **2986**). Such watch should be indicated in the List of Coast Stations.

3055 (2) These stations should maintain this watch by means of an operator using some aural method, such as headphones, split headphones or loudspeaker.

3056 *D. 156.8 MHz*

3057 § 25. (1) A coast station providing an international maritime mobile radiotelephone service in the band 156 - 174 MHz and which forms an essential part of the coverage of the area for distress purposes should, during its working hours in that band, maintain an efficient aural watch on 156.8 MHz (see Recommendation **306**).

3058 (2) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz. Ship stations fitted only with VHF radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea.

3059 (3) Ship stations, when in communication with a port station, may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch, on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station.

3060 (4) Ship stations, when in communication with a coast station in the ship movement service and subject to the agreement of the administrations concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided the watch on 156.8 MHz is being maintained by that coast station.

3061 to **3085** NOT allocated.

ARTICLE 40

Urgency and Safety Transmissions, and Medical Transports

Section I. Urgency Signal and Messages

3196 § 1. (1) In radiotelegraphy, the urgency signal consists of three repetitions of the group XXX, sent with the letters of each group and the successive groups clearly separated from each other. It shall be transmitted before the call.

3197 (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.

3198 § 2. (1) The urgency signal shall be sent only on the authority of the master or the person responsible for the ship, aircraft or other vehicle carrying the mobile station or mobile earth station in the maritime mobile-satellite service.

3199 (2) The urgency signal may be transmitted by a land station or an earth station in the maritime mobile-satellite service at specified fixed points only with the approval of the responsible authority.

3200 § 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.

3201 Mob-83 (2) The urgency signal and message following it shall be sent on one or more of the international distress frequencies 500 kHz, 2 182 kHz, 156.8 MHz, the supplementary distress frequencies 4 125 kHz and 6 215.5 kHz, the aeronautical emergency frequency 121.5 MHz, the frequency 243 MHz, or on any other frequency which may be used in case of distress.

3202 (3) However, in the maritime mobile service, the message shall be transmitted on a working frequency:

a) in the case of a long message or a medical call; *or*

b) in areas of heavy traffic in the case of the repetition of a message transmitted in accordance with the provisions laid down in No. **3201**.

An indication to this effect shall be given at the end of the call.

3203 (4) The urgency signal shall have priority over all other communications, except distress. All stations which hear it shall take care not to interfere with the transmission of the message which follows the urgency signal.

3204 (5) In the maritime mobile service, urgency messages may be addressed either to all stations or to a particular station.

3205 § 4. Messages preceded by the urgency signal shall, as a general rule, be drawn up in plain language.

3206 § 5. (1) Mobile stations which hear the urgency signal shall continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, a land station should, if possible, be notified of the receipt of the urgency signal. Thereafter, normal working may be resumed.

3207 (2) However, land and mobile stations which are in communication on frequencies other than those used for the transmission of the urgency signal and of the call which follows it may continue their normal work without interruption provided the urgency message is not addressed "to all stations" (CQ).

3208 § 6. When the urgency signal has been sent before transmitting a message "to all stations" (CQ) which calls for action by the stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. This message of cancellation shall likewise be addressed "to all stations" (CQ).

Section II. Medical Transports

3209 **Mob-83** § 7. The term "medical transports", as defined in the 1949 Geneva Conventions and Additional Protocols, refers to any means of transportation by land, water or air, whether military or civilian, permanent or temporary, assigned exclusively to medical transportation and under the control of a competent authority of

a party to a conflict or of neutral States and of other States not parties to an armed conflict, when these ships, craft and aircraft assist the wounded, the sick and the shipwrecked.

3210 § 8. For the purpose of announcing and identifying medical transports which are protected under the above-mentioned Conventions, a complete transmission of the urgency signals described in Nos. **3196** and **3197** shall be followed by the addition of the single group YYY in radiotelegraphy and by the addition of the single word MAY-DEE-CAL, pronounced as in French "médical", in radiotelephony.

3211 § 9. The frequencies specified in No. **3201** may be used by medical transports for the purpose of self-identification and to establish communications. As soon as practicable, communications shall be transferred to an appropriate working frequency.

3212 § 10. The use of the signals described in No. **3210** indicates that the message which follows concerns a protected medical transport. The message shall convey the following data:

3213 *a)* the call sign or other recognized means of identification of the medical transport;

3214 *b)* position of the medical transport;

3215 *c)* number and type of medical transports;

3216 *d)* intended route;

3217 *e)* estimated time en route and of departure and arrival, as appropriate;

3218 *f)* any other information, such as flight altitude, radio frequencies guarded, languages used and secondary surveillance radar modes and codes.

3219 § 11. The provisions of Section I of this Article shall apply as appropriate to the use of the urgency signal by medical transports.

3219A Mob-83 § 11A. The identification and location of medical transports at sea may be effected by means of appropriate standard maritime radar transponders.

3219B **Mob-83** § 11B. The identification and location of aircraft medical transports may be effected by the use of the secondary surveillance radar (SSR) system specified in Annex 10 to the Convention on International Civil Aviation.

3220 § 12. The use of radiocommunications for announcing and identifying medical transports is optional; however, if they are used, the provisions of these Regulations and particularly of this Section and of Articles **37** and **38** shall apply.

Section III. Safety Signal and Messages

3221 § 13. (1) In radiotelegraphy, the safety signal consists of three repetitions of the group TTT, the individual letters of each group and the successive groups being clearly separated from each other. It shall be sent before the call.

3222 (2) In radiotelephony, the safety signal consists of the word SÉCURITÉ pronounced clearly as in French, spoken three times and transmitted before the call.

3223 § 14. (1) The safety signal indicates that the station is about to transmit a message containing an important navigational or an important meteorological warning.

3224 (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.

3225 (3) The safety message which follows the call should be sent on a working frequency. A suitable announcement to this effect shall be made at the end of the call.

3226 (4) In the maritime mobile service, safety messages shall generally be addressed to all stations. In some cases, however, they may be addressed to a particular station.

3227 § 15. (1) With the exception of messages transmitted at fixed times, the safety signal, when used in the maritime mobile service, shall be transmitted towards the end of the first available period of silence (see No. **3038** for radiotelegraphy and No. **3052** for radiotelephony); the message shall be transmitted immediately after the period of silence.

3228 (2) In the cases prescribed in Nos. **3328**, **3331** and **3335**, the safety signal and the message which follows it shall be transmitted as soon as possible, and shall be repeated at the end of the first period of silence which follows.

3229 § 16. All stations hearing the safety signal shall listen to the safety message until they are satisfied that the message is of no concern to them. They shall not make any transmission likely to interfere with the message.

3230 to **3254** NOT allocated.

ARTICLE 41

Alarm and Warning Signals

Section I. Emergency Position-Indicating Radiobeacon Signals

3255 § 1. The emergency position-indicating radiobeacon signal consists of:

3256 *a)* for medium frequencies, i.e. 2 182 kHz [1]:

3257 Mob-83 1) a keyed emission modulated by a tone of 1 300 Hz (± 20 Hz) having a period of emission of 1.0 to 1.2 s and a period of silence (carrier suppressed) of 1.0 to 1.2 s; *or*

3258 2) the radiotelephone alarm signal (see No. **3270**), followed by the Morse letter B and/or the call sign of the ship to which the radiobeacon belongs transmitted by keying a carrier modulated by a tone of either 1 300 Hz or 2 200 Hz;

3259 Mob-83 *b)* for very high frequencies, i.e. 121.5 MHz and 243 MHz, a signal whose characteristics shall be in accordance with those specified in Appendix **37A**.

3260 § 2. (1) The essential purpose of the emergency position-indicating radiobeacon signals is to facilitate determining the position of survivors in search and rescue operations.

3261 (2) These signals shall indicate that one or more persons are in distress, may no longer be on board a ship or an aircraft, and that receiving facilities may not be available.

3256.1 [1] In Japan, there are emergency position-indicating radiobeacons which transmit the distress signal and identification on frequencies between 2 089.5 kHz and 2 092.5 kHz using class A1A emissions.

3262 (3) Any mobile service station receiving one of these signals, while no distress or urgent traffic is being passed, shall consider that the provisions of Nos. **3157** and **3158** are applicable.

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3265 § 3. The keying cycles in Nos. **3257** and **3258** may be
Mob-83 interrupted for speech transmission if administrations so desire.

3266 § 4. (1) Equipment designed to transmit emergency position-indicating radiobeacon signals on the carrier frequency 2 182 kHz shall meet the requirements specified in Appendix **37**.

3267 (2) Equipment designed to transmit emergency position-
Mob-83 indicating radiobeacon signals on the frequencies 121.5 MHz and 243 MHz shall meet the requirements specified in Appendix **37A**.

Section II. Radiotelegraph and Radiotelephone Alarm Signals

3268 § 5. (1) The radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. It may be transmitted by hand but its transmission by means of an automatic instrument is recommended.

3269 (2) Any ship station working in the bands between
Mob-83 415 kHz and 526.5 kHz which is not provided with an automatic apparatus for the transmission of the radiotelegraph alarm signal shall be permanently equipped with a clock, clearly marking the seconds preferably by means of a concentric seconds hand. This clock shall be placed at a point sufficiently visible from the operator's table so that the operator may, by keeping it in view, easily and correctly time the different elements of the alarm signal.

3270 § 6. (1) The radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2 200 Hz and the other a frequency of 1 300 Hz, the duration of each tone being 250 milliseconds.

3271 (2) The radiotelephone alarm signal, when generated by automatic means, shall be sent continuously for a period of at least thirty seconds but not exceeding one minute; when generated by other means, the signal shall be sent as continuously as practicable over a period of approximately one minute.

3272 (3) The radiotelephone alarm signal transmitted by coast stations shall be that described in Nos. **3270** and **3271**, which may be followed by a single tone of 1 300 Hz for 10 seconds.

3273 § 7. The purpose of these special signals is:

3274 *a)* in radiotelegraphy, the actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency;

3275 *b)* in radiotelephony, to attract the attention of the person on watch or to actuate automatic devices giving the alarm, or activating a silenced loud-speaker for the message which is to follow.

3276 § 8. (1) These signals shall only be used to announce:

3277 *a)* that a distress call or message is about to follow; *or*

3278 *b)* the transmission of an urgent cyclone warning, which should be preceded by the safety signal (see Nos. **3221** and **3222**). In this case they may only be used by coast stations duly authorized by their government; *or*

3279 *c)* the loss of a person or persons overboard. In this case they may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal alone, but the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal (see Nos. **3196** and **3197**).

3280 (2) In the cases referred to in Nos. **3278** and **3279**, an interval of two minutes should, if possible, separate the end of the radiotelegraph alarm signal and the beginning of the warning or the message.

3281 § 9. Automatic devices intended for the reception of the radiotelegraph and radiotelephone alarm signals shall meet the requirements specified in Appendix **36**.

3282 § 10. Before any such automatic device is approved for use on ships, the administration having jurisdiction over those ships shall be satisfied by practical tests made under operating conditions equivalent to those obtaining in practice (including interference, vibration, etc.) that the apparatus complies with the provisions of these Regulations.

Section III. All Ships Selective Call

3283 § 11. The characteristics of the "all ships call" in the selective calling system, which is reserved for alarm purposes only, are given in Appendix **39**.

Section IV. Navigational Warning Signal

3284 § 12. (1) The navigational warning signal consists of one substantially sinusoidal tone of the frequency 2 200 Hz, interrupted so that the durations of tone and space are 250 milliseconds each.

3285 (2) The signal should be transmitted by coast stations continuously for a period of fifteen seconds before vital navigational warnings on radiotelephony in the medium frequency maritime bands.

3286 (3) The purpose of the signal is to attract the attention of the person on watch using a loudspeaker or a filtered loudspeaker, or to actuate an automatic device to activate a silenced loudspeaker for the message which is to follow.

3287 to **3311** NOT allocated.

Section II. Notices to Mariners

3334 § 6. The provisions of Nos. **3326** to **3330** shall apply to notices to mariners.

3335 § 7. Messages containing information concerning the presence of dangerous ice, dangerous wrecks, or any other imminent danger to marine navigation, shall be transmitted as soon as possible to other ship stations in the vicinity, and to the appropriate authorities at the first point of the coast with which contact can be established. These transmissions shall be preceded by the safety signal.

3336 § 8. When thought desirable, and provided the sender agrees, administrations may authorize their land stations to communicate information concerning maritime damage or casualties or information of general interest to navigation to the marine information agencies approved by them and subject to the conditions fixed by them.

Section III. Medical Advice

3337 § 9. Mobile stations requiring medical advice may obtain it through any of the land stations shown as providing this service in the List of Radiodetermination and Special Service Stations.

3338 § 10. Radiotelegrams and radiotelephone calls concerning medical advice may be preceded by the appropriate urgency signal (see Nos. **3198** to **3208**).

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Section IV. Narrow-band Direct-printing Telegraphy System for Transmission of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)

3339 Mob-83 § 11. In addition to existing methods, navigational and meteorological warnings and urgent information shall be transmitted by means of narrow-band direct-printing telegraphy, with forward error correction, by selected coast stations and their

operational details shall be indicated in the List of Radiodetermination and Special Service Stations (see Nos. **3323**, **3326** and **3334**). Information is also published in a separate list in accordance with Resolution **318 (Mob-83)**.

3340 **Mob-83** § 12. The mode and format of transmission should be in conformity with relevant CCIR Recommendations.

3341 **Mob-83** § 13. In the maritime mobile service the frequency 518 kHz shall be used for the automatic narrow-band direct-printing telegraphy system for transmission of navigational and meteorological warnings and urgent information to ship stations in the MF band (see No. **474**).

3342 to **3361** NOT allocated.

CHAPTER X

Mob-83

Aeronautical Mobile Service and Aeronautical Mobile-Satellite Service

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ARTICLE 42A

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Introduction

3362 Mob-83 § 1. With the exception of Articles **43**, **44**, **46**, **49**, **50** and No. **3652**, the other provisions of this Chapter may be governed by special arrangements concluded pursuant to Article 31 of the International Telecommunication Convention, Malaga-Torremolinos, 1973,* or by intergovernmental agreements [1] provided their implementation does not cause harmful interference to the radio services of other countries.

3363 Mob-83 § 2. Pending the detailed revision of this Chapter by a future world administrative radio conference (see Recommendation **204 (Rev.Mob-83)**), wherever the terms "aeronautical station" or "aircraft station" are employed they may be taken to refer, as appropriate, to the corresponding type of station in the aeronautical mobile-satellite service.

3362.1 Mob-83 [1] For example, the International Civil Aviation Organization (ICAO) has agreed upon standards and recommended practices adapted to the needs of aircraft operation which have been proven in practice and are well established in current use.

* *Note by the General Secretariat:* This Convention has been abrogated and replaced by the International Telecommunication Convention of Nairobi, 1982. Article 31 remains unchanged.

ARTICLE 43

Mob-83

Authority of the Person Responsible for the Mobile Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

3364 § 1. The service of a mobile station is placed under the supreme authority of the person responsible for the aircraft or other vehicle carrying the mobile station.

3365 § 2. The person holding this authority shall require that each operator comply with these Regulations and that the mobile station for which the operator is responsible is used, at all times, in accordance with these Regulations.

3366 § 3. The person responsible, as well as all the persons who may have knowledge of the text or even of the existence of a radiotelegram, or of any information whatever obtained by means of the radiocommunication service, are placed under the obligation of observing and ensuring the secrecy of correspondence.

3367 to **3391** NOT allocated.

ARTICLE 44

Mob-83

Operators' Certificates for Aircraft Stations and for Aircraft Earth Stations

Section I. General Provisions

3392 § 1. (1) The service of every aircraft radiotelegraph station shall be performed by an operator holding a certificate issued or recognized by the government to which the station is subject.

3393 (2) The service of every aircraft radiotelephone station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject. Provided the station is so controlled, other persons besides the holder of the certificate may use the radiotelephone equipment.

3393A Mob-83 (2A) In order to meet special needs, special agreements between administrations may fix the conditions to be fulfilled in order to obtain a radiotelephone operator's certificate intended to be used in radiotelephone stations complying with certain technical conditions and certain operating conditions. These agreements, if made, shall be on the condition that harmful interference to international services shall not result therefrom. These conditions and agreements shall be mentioned in the certificates issued to such operators.

3394 (3) The service of automatic communication devices [1] installed in an aircraft station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject. Provided the devices are so controlled, they may be used by other persons. If such devices require for their basic function the use of Morse code signals specified in

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3394.1 [1] The term "automatic communication devices" is intended to include such equipment as teleprinters, data transfer systems, etc.

the Instructions for the Operation of the International Public Telegram Service, the service shall be performed by an operator holding a radiotelegraph operator's certificate. However, this latter requirement does not apply to automatic devices which may use Morse code signals solely for identification purposes.

3395 (4) Nevertheless, in the service of radiotelephone stations operating solely on frequencies above 30 MHz, each government shall decide for itself whether a certificate is necessary and, if so, shall define the conditions for obtaining it.

3396 (5) The provisions of No. **3395** shall not, however, apply to any aircraft station working on frequencies assigned for international use.

3397 § 2. (1) In the case of complete unavailability of the operator in the course of a flight, and solely as a temporary measure, the person responsible for the station may authorize an operator holding a certificate issued by the government of another Member of the Union to perform the radiocommunication service.

3398 (2) When it is necessary to employ a person without a certificate or an operator not holding an adequate certificate as a temporary operator, his performance as such must be limited solely to signals of distress, urgency and safety, messages relating thereto, messages relating directly to the safety of life and essential messages relating to the navigation and safe movement of the aircraft. Persons employed in these cases are bound by the provisions of No. **3402** regarding the secrecy of correspondence.

3399 (3) In all cases, such temporary operators must be replaced as soon as possible by operators holding the certificate prescribed in paragraph 1 of this Article.

3400 § 3. (1) Each administration shall take the necessary steps to prevent, to the maximum extent possible, the fraudulent use of certificates. For this purpose, such certificates shall bear the holder's signature and shall be authenticated by the issuing administration. Administrations may employ, if they wish, other means of identification such as photographs, fingerprints, etc.

3401 (2) To facilitate verification of certificates, these may carry, if necessary, in addition to the text in the national language, a translation of this text in a working language of the Union.

3402 § 4. Each administration shall take the necessary steps to place operators under the obligation to preserve the secrecy of correspondence as provided for in No. **2023**.

Section II. Classes and Categories of Certificates

3403 § 5. (1) There are two classes of certificates, as well as a special certificate, for radiotelegraph operators [1].

3404 (2) There are two categories of radiotelephone operators' certificates, general and restricted [1].

3405 § 6. (1) The holder of a first- or second-class radiotelegraph operator's certificate may carry out the radiotelegraph or radiotelephone service of any aircraft station.

3406 (2) The holder of a radiotelephone operator's general certificate may carry out the radiotelephone service of any aircraft station.

3407 (3) The holder of a radiotelephone operator's restricted certificate may carry out the radiotelephone service of any aircraft station, when working on frequencies of the maritime mobile service, provided that:

3408 *a)* the peak envelope power of the transmitter does not exceed 200 W; *or*

3403.1 } 3404.1 } [1] As regards the employment of operators holding the different certificates, see Article **45**.

3409 *b)* the operation of the transmitter requires only the use of simple external switching devices, excluding all manual adjustment of frequency determining elements, with the stability of the frequencies maintained by the transmitter itself within the limits of tolerance specified by Appendix 7, and the peak envelope power of the transmitter does not exceed 1 kW.

3410 (4) The holder of a radiotelephone operator's restricted certificate may carry out the radiotelephone service of any aircraft station operating on frequencies allocated exclusively to the aeronautical mobile service, provided that the operation of the transmitter requires only the use of simple external switching devices, excluding all manual adjustment of frequency determining elements, and that the stability of the frequencies is maintained by the transmitter itself within the limits of tolerance specified by Appendix 7.

3411 (5) The radiotelephone service of aircraft stations for which only a restricted radiotelephone operator's certificate is required may be carried out by an operator holding a radiotelegraph operator's special certificate.

3412 § 7. Exceptionally, the second-class radiotelegraph operator's certificate as well as the radiotelegraph operator's special certificate may be limited exclusively to the radiotelegraph service. In such cases the certificate shall be suitably endorsed.

Section III. Conditions for the Issue of Operators' Certificates

3413 *A. General*

3414 § 8. (1) The conditions to be imposed for obtaining the various certificates are contained in the following paragraphs and represent the minimum requirements.

3415 (2) Each administration is free to fix the number of examinations necessary to obtain each certificate.

3416 § 9. (1) The administration which issues a certificate may, before authorizing an operator to carry out the service on board aircraft, require the fulfilment of other conditions (for example: experience with automatic communication devices; further technical and professional knowledge relating particularly to navigation; physical fitness; the completion as an operator of a certain number of flying hours; etc.).

3417 (2) Administrations should take whatever steps they consider necessary to ensure the continued proficiency of operators after prolonged absences from operational duties.

3418 *B. First-Class Radiotelegraph Operator's Certificate*

3419 § 10. The first-class certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

3420 *a)* knowledge both of the general principles of electricity and of the theory of radio, knowledge of the adjustment and practical working of various types of radiotelegraph and radiotelephone apparatus used in the mobile service, including apparatus used for radio direction-finding and the taking of direction-finding bearings, as well as a general knowledge of the principles of operation of other apparatus generally used for radionavigation;

3421 *b)* theoretical and practical knowledge of the operation and maintenance of apparatus, such as motor-generators, storage batteries, etc., used in the operation and adjustment of the radiotelegraph, radiotelephone and radio direction-finding apparatus mentioned in No. **3420**;

3422 *c)* practical knowledge necessary to repair, with the means available on board, damage which may occur to the radiotelegraph, radiotelephone and radio direction-finding apparatus during a flight;

3423 *d)* ability to send correctly by hand and to receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks) at a speed of twenty groups a minute, and a plain language text at a speed of twenty-five words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters. The duration of each test of sending and of receiving shall be, as a rule, five minutes;

3424 *e)* ability to send correctly and to receive correctly by radiotelephone;

3425 *f)* detailed knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications, knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio, and, in the case of air navigation, knowledge of the special provisions governing the aeronautical fixed, mobile, and radionavigation services. In the latter case, the certificate states that the holder has successfully passed the tests relating to these special provisions;

3426 *g)* a sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunication routes;

3427 *h)* sufficient knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required.

3428 *C. Second-Class Radiotelegraph Operator's Certificate*

3429 § 11. The second-class certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

3430 *a)* elementary theoretical and practical knowledge of electricity and of radio, knowledge of the adjustment and practical working of the various types of radiotelegraph and radiotelephone apparatus used in the mobile service, including apparatus used for radio direction-finding and the taking of direction-finding bearings, as well as elementary knowledge of the principles of operation of other apparatus in general use for radionavigation;

3431 *b)* elementary theoretical and practical knowledge of the operation and maintenance of apparatus, such as motor-generators, storage batteries, etc., used in the operation and adjustment of the radiotelegraph, radiotelephone and radio direction-finding apparatus mentioned in No. **3430**;

3432 *c)* practical knowledge sufficient for effecting repairs in the case of minor damage which may occur to the radiotelegraph, radiotelephone and radio direction-finding apparatus during a flight;

3433 *d)* ability to send correctly by hand and to receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks) at a speed of sixteen groups a minute, and a plain language text at a speed of twenty words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters. The duration of each test of sending and of receiving shall, as a rule, be five minutes;

3434 *e)* ability to send correctly and to receive correctly by radiotelephone, except in the case provided for in No. **3412**;

3435 *f)* knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications, knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio, and, in the case of air navigation, knowledge of the special provisions governing the aeronautical fixed, mobile, and radionavigation services. In the latter case, the certificate states that the holder has successfully passed the tests relating to these special provisions;

3436 *g)* a sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunication routes;

3437 *h)* if necessary, an elementary knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required.

3438 *D. Radiotelegraph Operator's Special Certificate*

3439 § 12. (1) The radiotelegraph operator's special certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below:

3440 *a)* ability to send correctly by hand and receive correctly by ear, in the Morse code, code groups (mixed letters, figures, and punctuation marks) at a speed of sixteen groups a minute, and a plain

language text at a speed of twenty words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters;

3441 *b)* knowledge of the practical operation and adjustment of radiotelegraph apparatus;

3442 *c)* knowledge of the Regulations applying to radiotelegraph communications and specifically of that part of those Regulations relating to safety of life at sea.

3443 (2) Each administration concerned shall fix the other conditions for obtaining this certificate. However, except as provided for in No. **3412**, the conditions specified in Nos. **3450**, **3451**, **3452** and **3453** or **3454**, as the case may be, shall be satisfied.

3444 *E. Radiotelephone Operators' Certificates*

3445 § 13. The radiotelephone operator's general certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below (see also Nos. **3405** and **3406**):

3446 *a)* a knowledge of the elementary principles of radiotelephony;

3447 *b)* detailed knowledge of the practical operation and adjustment of radiotelephone apparatus;

3448 *c)* ability to send correctly and to receive correctly by telephone;

3449 *d)* detailed knowledge of the Regulations applying to radiotelephone communications and specifically of that part of those Regulations relating to the safety of life.

3450 § 14. (1) The radiotelephone operator's restricted certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below:

3451 *a)* practical knowledge of radiotelephone operation and procedure;

3452 *b)* ability to send correctly and to receive correctly by telephone;

3453 *c)* general knowledge of the Regulations applying to radiotelephone communications and specifically of that part of those Regulations relating to the safety of life.

3454 **Mob-83** (2) For aircraft radiotelephone stations operating on frequencies allocated exclusively to the aeronautical mobile service, each administration may itself fix the conditions for obtaining a radiotelephone operator's restricted certificate, provided that the operation of the transmitter requires only the use of simple external switching devices, excluding all manual adjustment of frequency determining elements, and that the stability of the frequencies is maintained by the transmitter itself within the limits of tolerance specified in Appendix **7**. However, in fixing these conditions, administrations shall ensure that the operator has an adequate knowledge of radiotelephone operation and procedure particularly as far as distress, urgency and safety are concerned. This in no way contravenes the provisions of No. **3393A**.

3455 (3) Administrations in Region 1 do not issue certificates under No. **3454**.

3456 § 15. A radiotelephone operator's certificate shall show whether it is a general certificate or a restricted certificate and, in the latter case, if it has been issued in conformity with the provisions of No. **3454**.

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3458 to **3482** NOT allocated.

ARTICLE 46

Mob-83 Inspection of Aircraft Stations and Aircraft Earth Stations

3509 § 1. (1) The governments or appropriate administrations of countries which an aircraft station visits may require the production of the licence for examination. The operator of the station, or the person responsible for the station, shall facilitate this examination. The licence shall be kept in such a way that it can be produced upon request. As far as possible, the licence, or a copy certified by the authority which has issued it, should be permanently exhibited in the station.

3510 (2) The inspectors shall have in their possession an identity card or badge, issued by the competent authority, which they shall show on request of the person responsible for the aircraft.

3511 (3) When the licence cannot be produced or when manifest irregularities are observed, governments or administrations may inspect the radio installations in order to satisfy themselves that these conform to the conditions imposed by these Regulations.

3512 (4) In addition, inspectors have the right to require the production of the operators' certificates, but proof of professional knowledge may not be demanded.

3513 § 2. (1) When a government or an administration has found it necessary to adopt the course indicated in No. **3511**, or when the operators' certificates cannot be produced, the government or administration to which the aircraft station is subject shall be so informed without delay. In addition, the procedure specified in Article **21** is followed when necessary.

3514 (2) Before leaving, the inspector shall report the result of his inspection to the person responsible for the aircraft. If any breach of the conditions imposed by these Regulations is observed, the inspector shall make this report in writing.

3515 § 3. Members undertake not to impose upon foreign aircraft stations which are temporarily within their territorial limits, or which make a temporary stay in their territory, technical and operating conditions more severe than those contemplated in these Regulations. This undertaking in no way affects arrangements which are made under international agreements relating to air navigation, and which are therefore not covered by these Regulations.

3516 to **3540** NOT allocated.

ARTICLE 47

Working Hours of Stations in the Aeronautical Mobile Service

Section I. General

3541 § 1. In order to permit the application of the following rules on the subject of hours of watch, every station of the aeronautical mobile service shall have an accurate clock correctly regulated to Coordinated Universal Time (UTC).

Section II. Aeronautical Stations

3542 § 2. The service of an aeronautical station shall be continuous throughout the period during which it bears responsibility for the radiocommunication service to aircraft in flight.

Section III. Aircraft Stations

3542A Mob-83 § 2A. Aircraft stations in flight shall maintain service to meet the essential communications needs of the aircraft with respect to safety and regularity of flight and shall maintain watch as required by the competent authority and shall not cease watch, except for reasons of safety, without informing the aeronautical station concerned.

3543 § 3. For the international public correspondence service, aircraft stations constitute a single category. The duration of the service of such stations is not fixed by these Regulations.

3544 to 3568 NOT allocated.

ARTICLE 48

Mob-83

Aircraft Stations Communicating with Stations in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

3569 and **3570** SUP
Mob-83

3571 Stations on board aircraft may communicate, for pur-
Mob-83 poses of distress, and for public correspondence [1], with stations of the maritime mobile or maritime mobile-satellite service. For these purposes they shall conform to the relevant provisions of Chapter **XI**, Article **59**, Section III, Articles **61**, **62**, **63**, **65**, and **66** (see also Nos. **962**, **963**, and **3633**).

3572
to NOT allocated.
3596

3571.1 [1] An aircraft may communicate for public correspondence
Mob-83 purposes as long as it continues watch on the frequencies provided for safety and regularity of flight.

ARTICLE 49

Mob-83

Conditions to be Observed by Mobile Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

3597 § 1. Mobile stations shall be established in such a way as to conform to the provisions of Chapters **III** and **X** as regards frequencies and classes of emission.

3598 § 2. The frequencies of emission of mobile stations shall be checked as often as possible by the inspection service to which these stations are subject.

3599 § 3. The energy radiated by receiving apparatus shall be reduced to the lowest possible value and shall not cause harmful interference to other stations.

3600 § 4. Administrations shall take all practicable steps necessary to ensure that the operation of any electrical or electronic apparatus installed in mobile stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

3601 § 5. (1) Changes of frequency in the sending and receiving apparatus of any mobile station shall be capable of being made as rapidly as possible.

3602 (2) Installations of any mobile station shall be capable, once communication is established, of changing from transmission to reception and vice versa in as short a time as possible.

3603 § 6. The operation of a broadcasting service (see No. **36**) by an aircraft station at sea and over the sea is prohibited (see also No. **2665**).

3604 § 7. Mobile stations other than survival craft stations shall be provided with the documents enumerated in the appropriate section of Appendix **11** (Section VI, "Aircraft Stations").

3605 to **3629** NOT allocated.

ARTICLE 50

Special Rules Relating to the Use of Frequencies in the Aeronautical Mobile Service

3630 **Mob-83** § 1. Frequencies in any band allocated to the aeronautical mobile (R) service are reserved for communications related to safety and regularity of flight between any aircraft and those aeronautical stations primarily concerned with flight along national or international civil air routes.

3631 § 2. Frequencies in any band allocated to the aeronautical mobile (OR) service are reserved for communications between any aircraft and aeronautical stations other than those primarily concerned with flight along national or international civil air routes.

3632 § 3. Frequencies in the bands allocated to the aeronautical mobile service between 2 850 kHz and 22 000 kHz (see Article **8**) shall be assigned in conformity with the provisions of Appendices **26**, 27 * and **27 Aer2** * and the other relevant provisions of these Regulations.

3633 **Mob-83** § 4. Administrations shall not permit public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service.

3634 § 5. In order to reduce interference, aircraft stations shall, within the means at their disposal, endeavour to select for calling the band with the most favourable propagational characteristics for effecting reliable communication. In the absence of more precise data, an aircraft station shall, before making a call, listen for the signals of the station with which it desires to communicate. The strength and intelligibility of such signals are useful as a guide to propagational conditions and indicate which is the preferable band for calling.

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* *Note by the General Secretariat:* Appendix 27 has been replaced by Appendix **27 Aer2** which entered into force on 1 February 1983.

3635 § 6. Governments may, by agreement, decide the frequencies to be used for call and reply in the aeronautical mobile service.

3636
to NOT allocated.
3650

ARTICLE 51

Mob-83

Order of Priority of Communications in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

3651 Mob-83 § 1. The order of priority for communications[1] in the aeronautical mobile service shall be as follows, except where impracticable in a fully automated system in which, nevertheless, category 1 shall receive priority:

1. Distress calls, distress messages, and distress traffic.
2. Communications preceded by the urgency signal.
3. Communications preceded by the safety signal.
4. Communications relating to radio direction-finding.
5. Communications relating to the navigation and safe movement of aircraft engaged in search and rescue operations.
6. Communications relating to the navigation, movements, and needs of aircraft and ships, and weather observation messages destined for an official meteorological service.
7. ETATPRIORITENATIONS – Radiotelegrams relating to the application of the United Nations Charter.
8. ETATPRIORITE – Government radiotelegrams with priority and Government calls for which priority has been expressly requested.

3651.1 [1] The term *communications* as used in this Article includes radiotelegrams, radiotelephone calls and radiotelex calls.

9. Service communications relating to the working of the telecommunication service or to communications previously exchanged.

10. Government communications other than those shown in 8 above, ordinary private communications, RCT [1] radiotelegrams and press radiotelegrams.

3652 **Mob-83** § 2. Categories 1 and 2 shall receive priority over all other communications irrespective of any agreement under the provisions of No. **3362**.

3653 to **3676** NOT allocated.

3651.2 [1] RCT (Red Cross Telegrams): Telegrams concerning persons protected in time of war by the Geneva Conventions of 12 August 1949.

ARTICLE 52

General Radiotelegraph Procedure in the Aeronautical Mobile Service

Section I. General Provisions

3677 § 1. (1) The procedure detailed in this Article is obligatory, except in cases of distress, urgency or safety, to which the provisions of Chapter **IX** are applicable.

3678
Mob-83 SUP

3679 § 2. The use of the Morse code signals specified in the Instructions for the Operation of the International Public Telegram Service shall be obligatory in the aeronautical mobile service. However, for radiocommunications of a special character, the use of other signals is not precluded.

3680 § 3. In order to facilitate radiocommunications, stations shall use the service abbreviations given in Appendix **13**.

Section II. Calls

3681 *A. General*

3682
Mob-83 SUP

3683 § 5. (1) As a general rule, it rests with the aircraft station to establish communication with the aeronautical station. For this purpose, the aircraft station may call the aeronautical station only when it comes within the service area of the latter, that is to say, that area within which, by using an appropriate frequency, the aircraft station can be heard by the aeronautical station.

3684 (2) However, an aeronautical station having traffic for an aircraft station may call this station if it has reason to believe that the aircraft station is keeping watch and is within the service area of the aeronautical station.

3685 § 6. When an aeronautical station receives calls from several aircraft stations at practically the same time, it decides the order in which these stations may transmit their traffic. Its decision shall be based on the priority (see No. **3651**) of the radiotelegrams that aircraft stations have on hand and on the need for allowing each calling station to clear the greatest possible number of communications.

3686 § 7. (1) When a station called does not reply to a call sent three times at intervals of two minutes, the calling shall cease and shall not be renewed until after an interval of fifteen minutes.

3687 (2) Before renewing the call, the calling station shall ascertain that the station called is not in communication with another station.

3688 (3) If there is no reason to believe that harmful interference will be caused to other communications in progress, the provisions of No. **3686** are not applicable. In such cases the call, sent three times at intervals of two minutes, may be repeated after an interval of less than fifteen minutes but not less than three minutes.

3689 § 8. Aircraft stations shall not radiate a carrier wave between calls.

3690 § 9. When the name and address of the administration or private operating agency controlling an aircraft station are not given in the appropriate list of stations or are no longer in agreement with the particulars given therein, it is the duty of the aircraft station to furnish as a matter of regular procedure, to the aeronautical station to which it transmits traffic, all the necessary information in this respect.

3691 § 10. (1) The aeronautical station may, by means of the abbreviation TR, ask the aircraft station to furnish it with the following information:

3692 *a)* position and, whenever possible, heading and speed;

3693 *b)* next destination.

ARTICLE 55

Operators' Certificates for Ship Stations and Ship Earth Stations

Section I. General Provisions

3860 § 1. (1) The service of every ship radiotelegraph station shall be performed by an operator holding a certificate issued or recognized by the government to which the station is subject.

3861 (2) The service of every ship radiotelephone station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject. Provided the station is so controlled, other persons besides the holder of the certificate may use the radiotelephone equipment.

3862 (3) The service of every ship earth station shall be controlled by a person holding a certificate issued or recognized by the government to which the station is subject. Provided the station is so controlled, other persons besides the holder of the certificate may use the equipment.

3863 (4) The service of automatic communication devices [1] installed in a ship station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject. Provided the devices are so controlled, they may be used by other persons. If such devices require for their basic function the use of Morse code signals specified in the Instructions for the Operation of the International Public Telegram Service, the service shall be performed by an operator holding a radiotelegraph operator's certificate. However, this latter requirement does not apply to automatic devices which may use Morse code signals solely for identification purposes.

3863.1 [1] The term "automatic communication devices" is intended to include such equipment as teleprinters, data transfer systems, etc.

3864 (5) Nevertheless, in the service of radiotelephone stations operating solely on frequencies above 30 MHz, each government shall decide for itself whether a certificate is necessary and, if so, shall define the conditions for obtaining it.

3865 (6) The provisions of No. **3864** shall not, however, apply to any ship station working on frequencies assigned for international use.

3866 § 2. (1) In the case of complete unavailability of the operator in the course of a sea passage and solely as a temporary measure, the master or the person responsible for the station may authorize an operator holding a certificate issued by the government of another Member to perform the radiocommunication service.

3867 (2) When it is necessary to employ a person without a certificate or an operator not holding an adequate certificate as a temporary operator, his performance as such must be limited solely to signals of distress, urgency and safety, messages relating thereto, messages relating directly to the safety of life and urgent messages relating to the movement of the ship. Persons employed in these cases are bound by the provisions of No. **3877** regarding the secrecy of correspondence.

3868 (3) In all cases, such temporary operators must be replaced as soon as possible by operators holding the certificate prescribed in paragraph 1 of this Article.

3869 § 3. (1) Each administration shall take the necessary steps to prevent, to the maximum extent possible, the fraudulent use of certificates. For this purpose, such certificates shall bear the holder's signature and shall be authenticated by the issuing administration. Administrations may employ, if they wish, other means of identification such as photographs, fingerprints, etc.

3870 (2) In the maritime mobile service the certificates issued after 1 January 1978 shall bear the photograph of the holder and the holder's date of birth.

3871 (3) To facilitate verification of certificates, these may carry, if necessary, in addition to the text in the national language, a translation of this text in a working language of the Union.

3872 (4) In the maritime mobile service all certificates not in one of the working languages of the Union and issued after 1 January 1978 shall carry at least the following information in one of these working languages:

3873 *a)* the name and date of birth of the holder;

3874 *b)* the title of the certificate and its date of issue;

3875 *c)* if applicable, the number and period of validity of the certificate;

3876 *d)* the issuing administration.

3877 § 4. Each administration shall take the necessary steps to place operators under the obligation to preserve the secrecy of correspondence as provided for in No. **2023**.

Section II. Categories of Certificates for Ship Station Operators

3878 § 5. (1) There are four categories of certificates for radiotelegraph operators [1], namely:

3879 *a)* the radiocommunication operator's general certificate;

3880 *b)* the first-class radiotelegraph operator's certificate;

3881 *c)* the second-class radiotelegraph operator's certificate;

3882 *d)* the radiotelegraph operator's special certificate.

3883 (2) There are two categories of radiotelephone operators' [1] certificates, general and restricted.

3884 § 6. (1) The holder of a radiocommunication operator's general certificate, or of a first-class or second-class radiotelegraph operator's certificate, may carry out the radiotelegraph or radiotelephone service of any ship station.

3878.1 } [1] As regards the employment of operators holding the different certificates, see Article **56**.
3883.1 }

3885 (2) The holder of a radiotelephone operator's general certificate may carry out the radiotelephone service of any ship station.

3886 (3) The holder of a radiotelephone operator's restricted certificate may carry out the radiotelephone service of any ship station, provided that the operation of the transmitter requires only the use of simple external controls, and excludes all manual adjustment of frequency determining elements, with the stability of the frequencies maintained by the transmitter itself within the limits of tolerance specified by Appendix 7, and the peak envelope power of the transmitter does not exceed 1.5 kW.

3887 (4) The radiotelephone operator's restricted certificate may be limited exclusively to one or more of the maritime mobile frequency bands. In such cases the certificate shall be suitably endorsed.

3888 Mob-83 (5) The radiotelegraph service of ships for which a radiotelegraph installation is not made compulsory by international agreements, as well as the radiotelephone service of ship stations for which only a radiotelephone operator's restricted certificate is required, may be carried out by the holder of a radiotelegraph operator's special certificate [1].

3889 Mob-83 (6) However, where the conditions specified in No. **3934** are satisfied, the radiotelegraph service of ships for which a radiotelegraph installation is not made compulsory by international agreements, as well as the radiotelephone service of any ship station, may be carried out by the holder of a radiotelegraph operator's special certificate [1].

3890 § 7. Exceptionally, the second-class radiotelegraph operator's certificate as well as the radiotelegraph operator's special certificate may be limited exclusively to the radiotelegraph service. In such cases the certificate shall be suitably endorsed.

3888.1 3889.1 Mob-83 [1] The radiotelegraph service of ships equipped with a radiotelegraph installation in accordance with Regulation 131 (2) (a) of the Torremolinos International Convention for the Safety of Fishing Vessels, 1977, may be carried out by the holder of a radiotelegraph operator's special certificate.

Section III. Conditions for the Issue of Operators' Certificates

3891 *A. General*

3892 § 8. (1) The conditions to be imposed for obtaining the various certificates are contained in the following paragraphs and represent the minimum requirements.

3893 (2) Each administration is free to fix the number of examinations necessary to obtain each certificate.

3894 § 9. (1) The administration which issues a certificate may, before authorizing an operator to carry out the service on board a ship, require the fulfilment of other conditions (for example: experience with automatic communication devices; further technical and professional knowledge relating particularly to navigation; physical fitness; etc.).

3895 (2) Administrations should take whatever steps they consider necessary to ensure the continued proficiency of operators after prolonged absences from operational duties.

3896 (3) However, with respect to the maritime mobile service, administrations should also take whatever steps they consider necessary to ensure the continued proficiency of operators while in service.

3897 *B. Radiocommunication Operator's General Certificate for the Maritime Mobile Service*

3898 § 10. The radiocommunication operator's general certificate for the maritime mobile service is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

3899 *a)* knowledge of the principles of electricity and the theory of radio and of electronics sufficient to meet the requirements specified in Nos. **3900**, **3901** and **3902**;

3900 *b)* theoretical knowledge of modern radiocommunication equipment, including marine radiotelegraph and radiotelephone transmitters and receivers, marine antenna systems, automatic alarm devices, radio equipment for lifeboats and other survival craft, direction-finding equipment, together with all auxiliary items including power supply (such as motors, alternators, generators, inverters, rectifiers and accumulators), as well as a general knowledge of the principles of other apparatus generally used for radionavigation, with particular reference to maintaining the equipment in service;

3901 *c)* practical knowledge of the operation, adjustment and maintenance of the apparatus mentioned in No. **3900**, including the taking of direction-finding bearings and knowledge of the principles of the calibration of radio direction-finding apparatus;

3902 *d)* practical knowledge necessary for the location and remedying (using appropriate testing equipment and tools) of faults in the apparatus mentioned in No. **3900** which may occur during a voyage;

3903 *e)* ability to send correctly by hand and to receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks) at a speed of sixteen groups a minute, and a plain language text at a speed of twenty words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters. The duration of each test of sending and receiving shall be, as a rule, five minutes;

3904 *f)* ability to send correctly and to receive correctly by radiotelephone;

3905 *g)* knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio;

3906 *h)* a sufficient knowledge of world geography, especially the principal shipping routes and the most important telecommunication routes;

3907 *i)* knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required.

3908 *C. First-Class Radiotelegraph Operator's Certificate*

3909 § 11. The first-class certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

3910 *a)* knowledge both of the general principles of electricity and of the theory of radio, knowledge of the adjustment and practical working of various types of radiotelegraph and radiotelephone apparatus used in the mobile service, including apparatus used for radio direction-finding and the taking of direction-finding bearings, as well as a general knowledge of the principles of operation of other apparatus generally used for radionavigation;

3911 *b)* theoretical and practical knowledge of the operation and maintenance of apparatus, such as motor-generators, storage batteries, etc., used in the operation and adjustment of the radiotelegraph, radiotelephone and radio direction-finding apparatus mentioned in No. **3910**;

3912 *c)* practical knowledge necessary to repair, with the means available on board, damage which may occur to the radiotelegraph, radiotelephone and radio direction-finding apparatus during a voyage;

3913 *d)* ability to send correctly by hand and to receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks), at a speed of twenty groups a minute, and a plain language text at a speed of twenty-five words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters. The duration of each test of sending and of receiving shall be, as a rule, five minutes;

3914 *e)* ability to send correctly and to receive correctly by radiotelephone;

3915 *f)* detailed knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio;

3916 *g)* a sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunication routes;

3917 *h)* sufficient knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required.

3918 *D. Second-Class Radiotelegraph Operator's Certificate*

3919 § 12. The second-class certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

3920 *a)* elementary theoretical and practical knowledge of electricity and of radio, knowledge of the adjustment and practical working of the various types of radiotelegraph and radiotelephone apparatus used in the mobile service, including apparatus used for radio direction-finding and the taking of direction-finding bearings, as well as elementary knowledge of the principles of operation of other apparatus in general use for radionavigation;

3921 *b)* elementary theoretical and practical knowledge of the operation and maintenance of apparatus, such as motor-generators, storage batteries, etc., used in the operation and adjustment of the radiotelegraph, radiotelephone and radio direction-finding apparatus mentioned in No. **3920**;

3922 *c)* practical knowledge sufficient for effecting repairs in the case of minor damage which may occur to the radiotelegraph, radiotelephone and radio direction-finding apparatus during a voyage;

3923 *d)* ability to send correctly by hand and to receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks) at a speed of sixteen groups a minute, and a plain language text at a speed of twenty words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters. The duration of each test of sending and of receiving shall, as a rule, be five minutes;

3924 *e)* ability to send correctly and to receive correctly by radiotelephone, except in the case provided for in No. **3890**;

3925 *f)* knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio;

3926 *g)* a sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunication routes;

3927 *h)* if necessary, an elementary knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required.

3928 *E. Radiotelegraph Operator's Special Certificate*

3929 § 13. (1) The radiotelegraph operator's special certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below:

3930 *a)* ability to send correctly by hand and receive correctly by ear, in the Morse code, code groups (mixed letters, figures, and punctuation marks) at a speed of sixteen groups a minute, and a plain language text at a speed of twenty words a minute. Each code group shall comprise five characters, each figure or punctuation mark counting as two characters. The average word of the text in plain language shall contain five characters;

3931 *b)* knowledge of the practical operation and adjustment of radiotelegraph apparatus;

3932 *c)* knowledge of the Regulations applying to radiotelegraph communications and specifically of that part of those Regulations relating to safety of life at sea.

3933 (2) Each administration concerned shall fix the other conditions for obtaining this certificate. However, the conditions specified in Nos. **3941**, **3942**, **3943** and **3944** or **3945**, as the case may be, shall be satisfied.

3934 (3) In the maritime mobile service each administration concerned shall fix the other conditions for obtaining this certificate. However, except as provided for in No. **3890**, the conditions specified in Nos. **3936**, **3937**, **3938**, **3939** and **3940** shall be satisfied for such a certificate issued to ship station operators after 1 January 1976.

3935 *F. Radiotelephone Operators' Certificates*

3936 § 14. The radiotelephone operator's general certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below (see also Nos. **3884**, **3885**, **3888** and **3889**):

3937 *a)* a knowledge of the elementary principles of radiotelephony;

3938 *b)* detailed knowledge of the practical operation and adjustment of radiotelephone apparatus;

3939 *c)* ability to send correctly and to receive correctly by radiotelephone;

3940 *d)* detailed knowledge of the Regulations applying to radiotelephone communications and specifically of that part of those Regulations relating to the safety of life.

3941 § 15. (1) The restricted radiotelephone operator's certificate is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below:

3942 *a)* practical knowledge of radiotelephone operation and procedure;

3943 *b)* ability to send correctly and to receive correctly by telephone;

3944 *c)* general knowledge of the Regulations applying to radiotelephone communications and specifically of that part of those Regulations relating to the safety of life.

3945 (2) For ship radiotelephone stations where the peak envelope power of the transmitter does not exceed 400 watts, each administration may itself fix these conditions for obtaining a restricted radiotelephone operator's certificate, provided that the operation of the transmitter requires only the use of simple external switching devices, excluding all manual adjustment of frequency determining elements, and that the stability of the frequencies is maintained by the transmitter itself within the limits of tolerance specified in Appendix 7. However, in fixing the conditions, administrations shall ensure that the operator has an adequate knowledge of radiotelephone operation and procedure particularly as far as distress, urgency and safety are concerned. This in no way contravenes the provisions of No. **3949**.

3946 (3) Administrations in Region 1 do not issue certificates under No. **3945**.

3947 § 16. A radiotelephone operator's certificate shall show whether it is a general certificate or a restricted certificate and, in the latter case, if it has been issued in conformity with the provisions of No. **3945**.

3948 § 17. In the maritime mobile service a radiotelephone operator's restricted certificate shall show whether it is also limited as provided for in No. **3887**.

3949 § 18. In order to meet special needs, special agreements between administrations may fix the conditions to be fulfilled in order to obtain a radiotelephone operator's certificate, intended to be used in radiotelephone stations complying with certain technical conditions and certain operating conditions. These agreements, if made, shall be on the condition that harmful interference to international services shall not result therefrom. These conditions and agreements shall be mentioned in the certificates issued to such operators.

Section IV. Qualifying Service

3950 § 19. (1) The holder of a radiocommunication operator's general certificate or a first- or second-class radiotelegraph operator's certificate is authorized to embark as chief operator of a ship station of the fourth category (see No. **4056**).

3951 (2) However, before becoming chief or sole operator of a ship station of the fourth category (see No. **4056**) which is required by international agreements to carry a radiotelegraph operator, the holder of a radiocommunication operator's general certificate or a first- or second-class radiotelegraph operator's certificate shall have had adequate experience as operator on board ship at sea.

3952 (3) Before becoming chief operator of a ship station of the second or third category (see Nos. **4054** and **4055**), the holder of a radiocommunication operator's general certificate or a first- or second-class radiotelegraph operator's certificate shall have had, as operator on board ship or in a coast station, at least six months' experience of which at least three months shall have been on board ship.

3953 (4) Before becoming chief operator of a ship station of the first category (see No. **4053**), the holder of a radiocommunication operator's general certificate or a first-class radiotelegraph operator's certificate shall have had, as operator on board ship or in a coast station, at least one year's experience of which at least six months shall have been on board ship.

3954 to **3978** NOT allocated.

ARTICLE 59

Conditions to Be Observed in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

Section I. Maritime Mobile Service

4096 *A. General*

4097 § 1. Ship stations shall be established in such a way as to conform to the provisions of Chapters **III** and **XI** as regards frequencies and classes of emission.

4098 § 2. The frequencies of emission of ship stations shall be checked as often as possible by the inspection service to which these stations are subject.

4099 § 3. The energy radiated by receiving apparatus shall be reduced to the lowest possible value and shall not cause harmful interference to other stations.

4100 § 4. Administrations shall take all practicable steps necessary to ensure that the operation of any electrical or electronic apparatus installed in ship stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

4101 § 5. (1) Changes of frequency in the sending and receiving apparatus of any ship station shall be capable of being made as rapidly as possible.

4102 (2) Installations of any ship station shall be capable, once communication is established, of changing from transmission to reception and vice versa in as short a time as possible.

4103 § 6. The operation of a broadcasting service (see No. **36**) by a ship station at sea is prohibited. (See also No. **2665**.)

4104 § 7. Ship stations other than survival craft stations shall be provided with the documents enumerated in the appropriate section of Appendix **11**.

4105 § 8. When any ship station transmitter itself cannot be controlled in such a way that its frequency satisfies the tolerance specified in Appendix 7, the ship station shall be provided with a device, having a precision equal to at least one-half of this tolerance, for measuring the frequency of the emission.

4106 *B. Ship Stations Using Radiotelegraphy*

4107 § 9. Ship stations equipped with radiotelegraph apparatus intended to be used for normal traffic by Morse telegraphy shall be provided with devices permitting changeover from transmission to reception and vice versa without manual switching. In addition these stations should be able to listen on the reception frequency during the course of periods of transmission.

4108 Mob-83 B1. Bands Between 415 kHz and 535 kHz

4109 Mob-83 § 10. Transmitters used in ship stations working in the authorized bands between 415 kHz and 535 kHz shall be provided with devices readily permitting a material reduction of power.

4110 Mob-83 § 11. All ship stations equipped with radiotelegraph apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

4111 *a)* send either class A2A and A2B* or H2A and H2B* emissions and receive class A2A, A2B*, H2A and H2B* emissions with a carrier frequency of 500 kHz;

4112 Mob-83 *b)* send, in addition, class A1A emissions on at least two working frequencies;

4113 Mob-83 *c)* receive, in addition, class A1A emissions on all the other frequencies necessary for their service.

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* This is to cater for the automatic reception of the radiotelegraph alarm signal.

4114 § 12. The provisions of Nos. **4112** and **4113** do not apply to apparatus provided solely for distress, urgency and safety purposes.

4115 B2. Bands Between 1 605 kHz and 2 850 kHz

4116 § 13. In Region 2, any radiotelegraph station installed on board a ship which uses frequencies in the band 2 089.5 - 2 092.5 kHz for call and reply shall be provided with at least one other frequency in the authorized bands between 1 605 kHz and 2 850 kHz.

4117 B3. Bands Between 4 000 kHz and 27 500 kHz

4118 § 14. In ship stations, all apparatus using class A1A emissions on frequencies in the authorized bands between 4 000 kHz and 27 500 kHz shall satisfy the following conditions:

4119 *a)* in each of the bands necessary to carry on the station's service, it shall have at least two working frequencies in addition to one in the calling band (see No. **4306**);

4120 *b)* changes of frequency in transmitting apparatus shall be effected as quickly as practicable, but within fifteen seconds in any event;

4121 *c)* in the matter of frequency changing, receiving apparatus shall be capable of a performance equal to that of the transmitting apparatus.

4122 Mob-83 *C. Ship Stations Using Narrow-Band Direct-Printing Telegraphy and Digital Selective Calling*

4123 Mob-83 § 15. (1) The characteristics of the narrow-band direct-printing equipment shall be in accordance with Appendix **38**.

4123A Mob-83 (2) The characteristics of the digital selective calling equipment should be in accordance with the Recommendations of the CCIR.

4124 *D. Ship Stations Using Radiotelephony*

4125 D1. Bands Between 1 605 kHz and 4 000 kHz

4126 § 16. All ship stations equipped with radiotelephony apparatus to work in the authorized bands between 1 605 kHz and 2 850 kHz shall be able to:

4127 Mob-83 *a)* send class H3E emissions on a carrier frequency of 2 182 kHz and receive class H3E emissions on a carrier frequency of 2 182 kHz except for such apparatus as is referred to in No. **4130**;

4128 Mob-83 *b)* send, in addition, J3E emissions on at least two working frequencies [1];

4129 Mob-83 *c)* receive, in addition, J3E emissions on all other frequencies necessary for their service.

4130 § 17. The provisions of Nos. **4128** and **4129** do not apply to apparatus provided solely for distress, urgency and safety purposes.

4131 D2. Bands Between 4 000 kHz and 23 000 kHz

4132 Mob-83 § 18. In the zone of Region 1 south of latitude 15° N, in Region 2 (except Greenland) and in the zone of Region 3 south of latitude 25° N, all ship stations equipped with radiotelephony to work in the authorized bands between 4 000 kHz and 23 000 kHz should be able to send and receive on the carrier frequencies 4 125 kHz and 6 215.5 kHz (see Nos. **2982** and **2986**).

4133 D3. Bands Between 156 MHz and 174 MHz

4134 § 19. All ship stations equipped with radiotelephony to work in the authorized bands between 156 MHz and 174 MHz (see

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4128.1 Mob-83 SUP

4128.2 [1] In certain areas, administrations may reduce this requirement to one working frequency.

No. **613** and Appendix **18**) shall be able to send and receive class G3E emissions (see Resolution **308**) on:

4135 *a)* the distress, safety and calling frequency 156.8 MHz;

4136 *b)* the primary intership frequency 156.3 MHz;

4137 *c)* all the frequencies necessary for their service.

Section II. Conditions to Be Observed by Ship Earth Stations

4138 § 20. Ship earth stations shall be so established as to conform to the provisions of Chapter **III** as regards frequencies.

4139 § 21. The frequencies of emissions of ship earth stations shall be checked as often as practicable by the inspection service to which these stations are subject.

4140 § 22. The energy radiated by receiving apparatus shall be reduced to the lowest practicable value and shall not cause harmful interference to other stations.

4141 § 23. Administrations shall take all practicable steps necessary to ensure that the operation of any electrical or electronic apparatus installed in ship earth stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

Section III. Aircraft Communicating with Stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service

4142 *A. General Provisions*

4143 § 24. (1) Stations on board aircraft may communicate with stations of the maritime mobile or maritime mobile-satellite services. They shall conform to those provisions of these Regulations which relate to these services.

4144 (2) For this purpose stations on board aircraft should use the frequencies allocated to the maritime mobile or maritime mobile-satellite services.

4145 (3) Stations on board aircraft, when handling public correspondence with stations of the maritime mobile service or of the maritime mobile-satellite service, shall comply with all the provisions applicable to the handling of public correspondence in the maritime mobile or maritime mobile-satellite services (see particularly Articles **61**, **62**, **63**, **65** and **66**).

4146 § 25. In the case of a communication between a station of the maritime mobile service and an aircraft station, calling may be renewed after an interval of five minutes, notwithstanding No. **4735**.

4147 *B. Provisions Relating to the Use of Frequencies Between 156 MHz and 174 MHz*

4148 § 26. (1) Having regard to interference which may be caused by aircraft stations at high altitudes, frequencies in the maritime mobile bands above 30 MHz shall not be used by aircraft stations, with the exception of those frequencies between 156 MHz and 174 MHz specified in Appendix **18** which may be used provided that the following conditions are observed:

4149 *a)* the altitude of aircraft stations shall not exceed 300 metres (1 000 feet), except for reconnaissance aircraft participating in ice-breaking operations, where an altitude of 450 metres (1 500 feet) is allowed;

4150 *b)* the mean power of aircraft station transmitters shall not exceed 5 W; however, a power of 1 W or less shall be used to the maximum extent possible;

4151 *c)* aircraft stations shall use the channels designated for this purpose in Appendix **18**;

4152 *d)* except as provided in No. **4150**, aircraft station transmitters shall comply with the technical characteristics given in Appendix **19**;

4153 *e)* the communications of an aircraft station shall be brief and limited to operations in which stations of the maritime mobile service are primarily involved and where direct communication between the aircraft and the ship or coast station is required.

4154 (2) The frequencies 156.3 MHz and 156.8 MHz may be used by aircraft stations for safety purposes only.

4155 to **4179** NOT allocated.

ARTICLE 60

Special Rules Relating to the Use of Frequencies in the Maritime Mobile Service

Section I. General Provisions

4180 **Mob-83** *A. Single-Sideband Morse Radiotelegraph Transmissions*

4181 **Mob-83** § 1. Stations employing single-sideband Morse radiotelegraph transmissions shall use upper-sideband emissions. The frequencies specified in these Regulations for class H2A and H2B* emissions such as 500 kHz and 8 364 kHz shall be used as carrier frequencies.

4182 **Mob-83** *B. Bands Between 415 kHz and 535 kHz*

4183 § 2. Except as provided in No. **961**, ship stations authorized to work in the bands between 415 kHz and 535 kHz shall transmit on the frequencies indicated in this Article (see No. **4237**).

4184 **Mob-83** SUP

4184A **Mob-83** § 3A. In the maritime mobile service on the frequency 518 kHz no assignments shall be made other than for transmission by coast stations of meteorological and navigational warnings to ships by means of automatic narrow-band direct-printing telegraphy (see Resolution **318 (Mob-83)**).

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* This is to cater for the automatic reception of the radiotelegraph alarm signal.

4184B **Mob-83** § 3B. The frequency 490 kHz is used exclusively for distress and safety calls in the shore-to-ship direction by digital selective calling techniques (see No. **2944**). Additional conditions concerning the use of this frequency are given in Resolution **206 (Mob-83)**).

4185 and **4186** **Mob-83** SUP

4187 *C. Bands Between 1 605 kHz and 4 000 kHz*

4188 **Mob-83** § 6. (1) In Region 1, frequencies assigned to stations operating in the bands between 1 850 kHz and 3 800 kHz (see Article **8**) should, whenever possible, be in accordance with the following subdivision:

–	1 850 - 1 950 kHz:	Coast stations, single-sideband radiotelephony.
–	1 950 - 2 045 kHz:	Ship stations, single-sideband radiotelephony.
–	2 194 - 2 262.5 kHz:	Ship stations, single-sideband radiotelephony.
–	2 262.5 - 2 498 kHz:	Intership, single-sideband radiotelephony.
–	2 502 - 2 578 kHz:	Ship stations, narrow-band direct-printing telegraphy.
–	2 578 - 2 850 kHz:	Coast stations, narrow-band direct-printing telegraphy and single-sideband radiotelephony.
–	3 155 - 3 200 kHz:	Ship stations, narrow-band direct-printing telegraphy.

–	3 200 - 3 340 kHz:	Ship stations, single-sideband radiotelephony.
–	3 340 - 3 400 kHz:	Intership, single-sideband radiotelephony.
–	3 500 - 3 600 kHz:	Intership, single-sideband radiotelephony.
–	3 600 - 3 800 kHz:	Coast stations, single-sideband radiotelephony.

4188A **Mob-83** (1A) In Region 1, frequencies assigned to stations operating in the bands listed below shall be in accordance with the following subdivision:

–	1 606.5 - 1 625 kHz:	Coast stations, narrow-band direct-printing telegraphy, digital selective calling.
–	1 635 - 1 800 kHz:	Coast stations, single-sideband radiotelephony.
–	2 045 - 2 141.5 kHz:	Ship stations, single-sideband radiotelephony.
–	2 145.5 - 2 160 kHz:	Ship stations narrow-band direct-printing telegraphy, digital selective calling.

4189 **Mob-83** (2) In these bands, in Region 1, the channel spacing for narrow-band direct-printing telegraphy and for digital selective calling is 0.5 kHz and for single-sideband radiotelephony it is 3 kHz.

4190 to **4192** **Mob-83** SUP

4193 Mob-83 § 7. In Regions 2 and 3, the carrier frequencies 2 635 kHz (assigned frequency 2 636.4 kHz) and 2 638 kHz (assigned frequency 2 639.4 kHz) are used as single-sideband intership radiotelephony working frequencies in addition to the frequencies prescribed for common use in certain services. The carrier frequencies 2 635 kHz and 2 638 kHz should be used with class J3E emissions only. In Region 3 these frequencies are protected by a guardband between 2 634 kHz and 2 642 kHz.

4194 Mob-83 SUP

4195 *D. Bands Between 4 000 kHz and 27 500 kHz*

4196 § 9. (1) The bands exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz (see Article **8**) are subdivided into the following categories:

4197 Mob-83 *a) Ship stations,* telephony, duplex operation (two-frequency channels) [1]

4 063 - 4 143.6 kHz
6 200 - 6 218.6 kHz
8 195 - 8 291.1 kHz
12 330 - 12 429.2 kHz
16 460 - 16 587.1 kHz
22 000 - 22 124 kHz

4198 *b) Coast stations,* telephony, duplex operation (two-frequency channels)

4 357.4 - 4 438 kHz
6 506.4 - 6 525 kHz
8 718.9 - 8 815 kHz
13 100.8 - 13 200 kHz
17 232.9 - 17 360 kHz
22 596 - 22 720 kHz

4197.1 Mob-83 [1] For the use of some of the frequencies in these sub-bands by ship and coast stations for distress and safety purposes, see Article **38**.

4199 *c)* *Ship stations and coast stations,* telephony, simplex operation (single-frequency channels) and intership cross-band operation (two frequencies)

4 143.6 - 4 146.6 kHz
6 218.6 - 6 224.6 kHz
8 291.1 - 8 297.3 kHz
12 429.2 - 12 439.5 kHz
16 587.1 - 16 596.4 kHz
22 124 - 22 139.5 kHz

4200 *d)* *Ship stations,* wide-band telegraphy, facsimile and special transmission systems

4 146.6 - 4 162.5 kHz
4 166 - 4 170 kHz
6 224.6 - 6 244.5 kHz
6 248 - 6 256 kHz
8 300 - 8 328 kHz
8 331.5 - 8 343.5 kHz
12 439.5 - 12 479.5 kHz
12 483 - 12 491 kHz
16 596.4 - 16 636.5 kHz
16 640 - 16 660 kHz
22 139.5 - 22 160.5 kHz
22 164 - 22 192 kHz

4201 *e)* *Ship stations,* oceanographic data transmission (see note *c)* in Appendix **31**)

4 162.5 - 4 166 kHz
6 244.5 - 6 248 kHz
8 328 - 8 331.5 kHz
12 479.5 - 12 483 kHz
16 636.5 - 16 640 kHz
22 160.5 - 22 164 kHz

4202 *f)* *Ship stations,* narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds (frequencies paired with those in No. **4207**)

4 170 - 4 177.25 kHz
6 256 - 6 267.75 kHz
8 343.5 - 8 357.25 kHz
12 491 - 12 519.75 kHz
16 660 - 16 694.75 kHz
22 192 - 22 225.75 kHz

4203
Mob-83 *g)* *Ship stations,* narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds (non-paired frequencies) [1]

4 177.25 - 4 179.75 kHz
6 267.75 - 6 269.75 kHz
8 297.3 - 8 300 kHz
8 357.25 - 8 357.75 kHz
12 519.75 - 12 526.75 kHz
16 694.75 - 16 705.8 kHz
22 225.75 - 22 227 kHz
25 076 - 25 090.1 kHz

4204 *h)* *Ship stations,* A1A Morse telegraphy, calling

4 179.75 - 4 187.2 kHz
6 269.75 - 6 280.8 kHz
8 359.75 - 8 374.4 kHz
12 539.6 - 12 561.6 kHz
16 719.8 - 16 748.8 kHz
22 227 - 22 247 kHz
25 070 - 25 076 kHz

4203.1
Mob-83 [1] For the use of some of the frequencies in these sub-bands by ship and coast stations for distress and safety purposes, see Article **38**.

4205
Mob-83

i) *Ship stations,* digital selective calling [1]

4 187.2 - 4 188.25 kHz
6 280.8 - 6 282.25 kHz
8 374.4 - 8 376 kHz
12 561.6 - 12 564 kHz
16 748.8 - 16 752 kHz
22 247 - 22 250 kHz

4206
Mob-83

j) *Ship stations,* A1A Morse telegraphy, working

4 188.25 - 4 219.4 kHz
6 282.25 - 6 325.4 kHz
8 357.75 - 8 359.75 kHz
8 376 - 8 435.4 kHz
12 526.75 - 12 539.6 kHz
12 564 - 12 652.3 kHz
16 705.8 - 16 719.8 kHz
16 752 - 16 859.4 kHz
22 250 - 22 310.5 kHz
25 090.1 - 25 110 kHz

4207

k) *Coast stations,* narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds (frequencies paired with those in No. **4202**)

4 349.4 - 4 356.75 kHz
6 493.9 - 6 505.75 kHz
8 704.4 - 8 718.25 kHz
13 070.8 - 13 099.75 kHz
17 196.9 - 17 231.75 kHz
22 561 - 22 594.75 kHz

4205.1
Mob-83

[1] For the use of some of the frequencies in these sub-bands by ship and coast stations for distress and safety purposes, see Article **38**.

4208 *l)* *Coast stations,* digital selective calling

4 356.75 - 4 357.4 kHz
6 505.75 - 6 506.4 kHz
8 718.25 - 8 718.9 kHz
13 099.75 - 13 100.8 kHz
17 231.75 - 17 232.9 kHz
22 594.75 - 22 596 kHz

4209 *m)* *Coast stations,* wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraph systems

4 219.4 - 4 349.4 kHz
6 325.4 - 6 493.9 kHz
8 435.4 - 8 704.4 kHz
12 652.3 - 13 070.8 kHz
16 859.4 - 17 196.9 kHz
22 310.5 - 22 561 kHz

4210 (2) Frequencies in the bands 25 010 - 25 070 kHz, 25 110 - 25 600 kHz and 26 100 - 27 500 kHz may be assigned to coast stations.

4211 § 10. (1) Appendix **16** shows the radiotelephone channels in the frequency bands listed in Nos. **4197**, **4198** and **4199**.

4212 (2) The Frequency Allotment Plan for coast radiotelephone stations in the high frequency bands is contained in Appendix **25**.

4212A **Mob-83** (3) The bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz, allocated on a shared basis to the maritime mobile service (see Article **8**), shall be used in accordance with Appendix **16**.

4213 *E. Bands Between 156 MHz and 174 MHz*

4214 § 11. The ship movement service should be operated only on frequencies allocated to the maritime mobile service in the band 156 - 174 MHz.

Mob-83 **Section II. Use of Frequencies for Morse Radiotelegraphy**

4215 *A. General*

4216 § 12. Whenever the class of emission A2A, A2B*, H2A or H2B** is mentioned in the present Regulations for use in the maritime mobile service, the type of transmission shall, except for selective calling purposes, be telegraphy by on-off keying of the modulated emission, to the exclusion of on-off keying of the modulating audio frequencies only.

4217 Mob-83 *B. Bands Between 415 kHz and 535 kHz*

B1. Call and Reply

4218 Mob-83 § 13. (1) The frequency 500 kHz is the international distress frequency for radiotelegraphy (see No. **2970** for details of its use for distress, urgency and safety purposes).

4219 (2) In addition, 500 kHz may be used only:

4220 Mob-83 *a)* for call and reply using Morse telegraphy (see Nos. **4225** and **4229**);

4221 Mob-83 *b)* by coast stations to announce by means of Morse telegraphy the transmission of their traffic lists under the conditions provided for in Nos. **4727**, **4728** and **4729**.

4222 (3) In order to facilitate the reception of distress calls, other transmissions on the frequency 500 kHz shall be reduced to a minimum, and in any case shall not exceed one minute.

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* This is to cater for the automatic reception of the radiotelegraph alarm signal.

** This is to cater for the automatic reception of the radiotelegraph alarm signal and for selective calling.

4223 (4) Before transmitting on 500 kHz, stations must listen on this frequency for a reasonable period to make sure that no distress traffic is being sent (see No. **4713**).

4224 (5) The provisions of No. **4223** do not apply to stations in distress.

4225 **Mob-83** § 14. (1) The general calling frequency which, except as provided under No. **4849**, shall be used by any ship station or coast station engaged in radiotelegraphy in the authorized bands between 415 kHz and 535 kHz, and by aircraft stations desiring to enter into communication with a station of the maritime mobile service using frequencies in these bands, is the frequency 500 kHz.

4226 **Mob-83** (2) However, in order to reduce interference in regions of heavy traffic, administrations may consider the requirements of No. **4225** as satisfied when the calling frequencies assigned to coast stations open to public correspondence are not separated by more than 2 kHz from the general calling frequency 500 kHz.

4227 § 15. (1) A ship station calling a coast station shall, wherever possible and particularly in regions of heavy traffic, indicate to the coast station that it is ready to receive on the working frequency of that station.

4228 (2) The ship station should make sure beforehand that this frequency is not already being used by the coast station.

4229 § 16. (1) The frequency for replying to a call sent on the general calling frequency (see No. **4225**) shall be as follows:

- either 500 kHz,
- or the frequency specified by the calling station (see Nos. **4227** and **4769**).

4230 (2) In regions of heavy traffic, coast stations may answer calls made by ship stations of their own nationality in accordance with special arrangements made by the administration concerned (see No. **4769**).

4231 **Mob-83** § 17. Selective calling under the provisions of Section II of Article **62** may be carried out on the frequency 500 kHz in the shore-to-ship, ship-to-shore and ship-to-ship directions.

B2. Traffic

4232 **Mob-83** § 18. (1) Coast stations working in the authorized bands between 415 kHz and 535 kHz shall be able to use at least one frequency in addition to 500 kHz. One of these additional frequencies, which is printed in heavy type in the List of Coast Stations, is the normal working frequency of the station.

4233 **Mob-83** (2) In addition to their normal working frequency, coast stations may use, in the authorized bands, additional frequencies which are shown in ordinary type in the List of Coast Stations.

4234 (3) The working frequencies of coast stations shall be chosen so as to avoid interference with neighbouring stations.

4235 **Mob-83** (4) Coast stations and ship stations shall use class A1A emissions on their working frequencies.

4236 § 19. As an exception to the provisions of Nos. **2970**, **4219**, **4220** and **4221** and on condition that signals of distress, urgency and safety, and calls and replies are not interfered with, 500 kHz may be used outside regions of heavy traffic for direction-finding but with discretion.

4237 § 20. (1) Ship stations operating in the authorized bands between 405 kHz and 535 kHz shall use working frequencies chosen from the following: 425 kHz, 454 kHz, 468 kHz, 480 kHz and 512 kHz, except as permitted by No. **961**.

4238 (2) Coast stations are prohibited from transmitting on the working frequencies designated for the use of ship stations on a worldwide basis.

4239 **Mob-83** (3) The frequency 512 kHz may be used by ship stations as a supplementary calling frequency using Morse telegraphy when 500 kHz is being used for distress.

4240 (4) During these periods coast stations may:

4241 *a)* use 512 kHz as a supplementary frequency for call and reply; *or*

4242 *b)* make use of other arrangements for call and reply which shall have been specified in the List of Coast Stations.

4243 (5) When 500 kHz is in use for distress, ship stations shall not use 512 kHz as a working frequency in those areas where it is in use as a supplementary calling frequency.

4244 *C. Bands Between 1 605 kHz and 4 000 kHz*

C1. Region 2

4245 § 21. In Region 2, the frequencies in the band 2 068.5 - 2 078.5 kHz are assigned to ship stations using wide-band telegraphy, facsimile and special transmission systems. The provisions of No. **4254** are applicable.

C2. Additional Provisions Applicable in Region 3 Areas North of the Equator Only

4246 § 22. (1) The band 2 089.5 - 2 092.5 kHz is the calling and safety band for radiotelegraphy in those parts of the bands between 1 605 kHz and 2 850 kHz in which radiotelegraphy is authorized.

4247 (2) Frequencies in the band 2 089.5 - 2 092.5 kHz may be used for calls, replies and safety. These frequencies may also be used for messages preceded by the urgency or safety signals.

4248 (3) Each coast station using the calling band 2 089.5 - 2 092.5 kHz shall, as far as possible, maintain watch on this band during its working hours.

4249 (4) Coast stations which use frequencies in the band 2 089.5 - 2 092.5 kHz for calling shall be able to use at least one other frequency in those parts of the bands between 1 605 kHz and 2 850 kHz in which radiotelegraphy is authorized.

4250 (5) One of these frequencies is printed in heavy type in the List of Coast Stations to indicate that it is the normal working frequency of the station. Supplementary frequencies, if any, are shown in ordinary type.

4251 (6) Working frequencies of coast stations shall be chosen in such a manner as to avoid interference with other stations.

4252 *D. Bands Between 4 000 kHz and 27 500 kHz*

D1. General

4253 § 23. (1) Ship radiotelegraph stations equipped to operate in the bands specified in Nos. **4204** and **4206** shall employ only class A1A Morse telegraphy emissions at speeds not exceeding 40 bauds. Survival craft stations may use class A2A or H2A emissions in these bands (see Nos. **3002** and **3005**).

4254 (2) Ship stations equipped for wide-band telegraphy, facsimile and special transmission systems may, in the frequency bands reserved for such use, employ any class of emission provided that such emissions can be contained within the wide-band channels indicated in Appendix **31**. However, A1A Morse telegraphy and telephony are excluded, except for circuit alignment purposes.

4255 (3) Except as provided for in No. **4376.1**, coast radiotelegraph stations operating in the maritime mobile exclusive bands between 4 000 kHz and 27 500 kHz shall not use Type 2 emissions (see No. **4216**).

4256 (4) Coast radiotelegraph stations employing single-channel class A1A or F1B emissions and operating in the maritime mobile exclusive bands between 4 000 kHz and 27 500 kHz shall at no time use a mean power in excess of the following:

Band	*Maximum mean power*
4 MHz	5 kW
6 MHz	5 kW
8 MHz	10 kW
12 MHz	15 kW
16 MHz	15 kW
22 MHz	15 kW

4257 (5) Coast radiotelegraph stations employing multichannel telegraph emissions and operating in the maritime mobile exclusive bands between 4 000 kHz and 27 500 kHz shall at no time use a mean power in excess of 2.5 kW per 500 Hz bandwidth.

4258 § 24. Nos. **4200** to **4209** and the corresponding columns of Appendix **31** show those parts of the bands between 4 000 kHz and 27 500 kHz exclusively allocated to the maritime mobile service which are to be used by coast stations and ship stations for radiotelegraphy.

D2. Call and Reply

4259 § 25. (1) In order to establish communication with a coast station, each ship station shall use an appropriate calling frequency in one of the bands listed in No. **4204**.

4260 (2) Frequencies in the A1A Morse telegraphy calling bands are assigned to each ship station in accordance with the provisions of Nos. **4277** to **4285**.

4261 § 26. In order to reduce interference, ship stations shall, within the means at their disposal, endeavour to select for calling the band with the most favourable propagation characteristics for effecting reliable communication. In the absence of more precise data, a ship station shall, before making a call, listen for the signals of the station with which it desires to communicate. The strength and intelligibility of such signals are useful as a guide to propagation conditions and indicate which is the preferable band for calling.

4262 § 27. In order to reduce interference on the common calling channels, they shall be used only when a ship cannot use a calling frequency within the group indicated as a coast station receiving channel of the station with which it desires to communicate or when the coast station has indicated that it is keeping watch only on the common calling channels.

4263 § 28. (1) The calling frequency to be used by a coast station, in each of the bands for which it is equipped, is its normal working frequency as shown in heavy type in the List of Coast Stations (see Nos. **4207** and **4209**).

4264 (2) So far as is practicable, a coast station shall transmit its calls at specified times in the form of traffic lists on the frequency or frequencies indicated in the List of Coast Stations (see Nos. **4722** and **4726**).

4265 **Mob-83** § 29. The exclusive digital selective calling frequencies within the bands indicated in No. **4208** (see No. **4684**) may be assigned to any coast station. In order to reduce interference on these frequencies, they may be used as a general rule by coast stations to call ships of another nationality or if it is not known on which of the national calling frequencies allocated to digital selective calling the ship station is maintaining watch.

4266 § 30. Unless the calling station specifies otherwise, the frequency for reply to a call is as follows:

4267 *a)* for a ship station, one of its assigned calling frequencies in the same band, with due regard to No. **4262**;

4268 *b)* for a coast station, its normal working frequency in the same band as that used by the calling station.

4269 § 31. Administrations shall indicate, in respect of each coast station, in which of the ship calling bands and on which coast station receiving channels that coast station keeps watch and, as far as possible, the approximate hours of watchkeeping in Coordinated Universal Time (UTC). This information shall be published in the List of Coast Stations.

4270 § 32. Exceptionally, a coast station may indicate that it is keeping watch on calling frequencies other than those specified as its own receiving frequencies.

4271 § 33. In order to reduce interference on calling frequencies, a coast station shall take adequate steps to ensure, under normal conditions, the prompt receipt of calls (see No. **4755**).

D3. Traffic

4272 § 34. (1) A ship station, after establishing communication on a calling frequency (see No. **4259**), shall change to a working frequency for the transmission of traffic. The use of frequencies in the calling bands for any purpose other than calling shall be prohibited.

4273 (2) Working frequencies shall be assigned to ship stations in accordance with the provisions of Nos. **4288** to **4306** inclusive.

4274 § 35. (1) A coast station shall transmit its traffic on its normal working frequency or on other working frequencies assigned to it.

4275 (2) Countries which share a channel in one of the exclusive maritime mobile bands between 4 000 kHz and 27 500 kHz should give special consideration to the countries among them which have no other channel in the same band and should endeavour to use their primary channel to the greatest extent possible, in order to permit the latter countries to satisfy their minimum communication requirements.

4276 *E. Assignment of Frequencies to Ship Stations*

E1. Calling Frequencies of Ship Stations

4277 § 36. Each calling band between 4 000 kHz and 23 000 kHz indicated in No. **4204** is divided into four groups of channels and two common channels. The 25 MHz band is divided into three channels of which one is a common channel (see Appendix **34**).

4278 § 37. (1) Coast stations shall, when providing international service as published in the List of Coast Stations, keep watch on the common calling channels in each band throughout their hours of

service in the bands concerned, and on the appropriate group channel or channels during busy periods. The times during which watch will be kept on the group channel or channels shall be published for each country in the List of Coast Stations.

4279 (2) If necessary, an indication of the channels on which watch is kept may be included in the coast station transmissions.

4280 **Mob-83** § 38. In the bands between 4 000 kHz and 23 000 kHz, the administration to which a ship station is subject shall assign to it at least two calling frequencies in each band in which the station is equipped to transmit. One of the calling frequencies in each band shall be within one of the common coast station receiving channels contained in Appendix **34**; another in each band shall be selected from within the other channels in Appendix **34**, taking account of the receiving channel or channels of the coast station with which the ship station most frequently communicates. In the 25 MHz band, administrations shall assign to ship stations under their control a frequency within the common channel. Another calling frequency in this band shall be selected from within Channel A or B of Appendix **34**, taking account of the receiving channel of the coast station with which the ship station most frequently communicates.

4281 § 39. A ship station should, wherever possible, be assigned additional calling frequencies (see No. **4262**).

4282 § 40. If it is not intended to maintain watch on all the receiving channels within a group, the administration concerned, in order to ensure an even distribution of calls, shall determine the channel or channels on which watch will be maintained, but only after coordination as far as possible with administrations sharing the same group (see Resolution **312**).

4283 § 41. Administrations which assign to their ships frequencies in two or more calling channels within their group shall take the necessary steps to distribute such assignments uniformly throughout the channels taken into use.

4280.1 **Mob-83** SUP

4284 § 42. In order to ensure an even distribution of calls on the common calling channels, administrations should, as far as practicable, assign frequencies in each of the two channels to an equal number of their ships.

4285 § 43. Administrations shall ensure, as far as possible, that ship stations under their jurisdiction are capable of keeping their transmission within the limits of the assigned channels (see Appendix **7**).

4286 § 44. The exclusive digital selective calling frequencies within the bands indicated in No. **4205** (see No. **4683**) may be assigned to any ship station for use in accordance with No. **4681**.

E2. Working Frequencies of Ship Stations

4287 *a) Channel Spacing and Assignment of Frequencies*

4288 § 45. In all bands, the working frequencies for ship stations equipped to use wide-band telegraphy, facsimile and special transmission systems are spaced 4 kHz apart. The frequencies assignable are shown in Appendix **31**.

4289 § 46. In all bands, the frequencies assignable for oceanographic data transmissions are spaced 0.3 kHz apart. The frequencies assignable are shown in Appendix **31**.

4290 § 47. In all bands, the working frequencies for ship stations using narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds, including those paired with the working frequencies assignable to coast stations (see No. **4207**), are spaced 0.5 kHz apart. The frequencies assignable to ship stations which are paired with those used by coast stations are shown in Appendix **32** (see also No. **4202**). The frequencies assignable to ship stations which are not paired with those used by coast stations are shown in Appendix **33** (see also No. **4203**).

4291 § 48. In all bands, except the 6 MHz band, the working frequencies for ship stations using A1A Morse telegraphy, at speeds not exceeding 40 bauds, are spaced 0.5 kHz apart; in the 6 MHz band they are spaced 0.75 kHz apart (see also note *e)* to Appendix **31**). The extreme frequencies assignable in each of these bands are shown in Appendix **31**.

4292 § 49. In the 4, 6, 8, 12 and 16 MHz bands, certain frequencies are harmonically related as shown in Appendix **35**.

4293 *b) Working Frequencies for Ship Stations Using Wide-Band Telegraphy, Facsimile and Special Transmission Systems*

4294 § 50. (1) Each administration shall assign to each ship station under its jurisdiction and employing wide-band telegraphy, facsimile and special transmission systems one or more series of the working frequencies reserved for this purpose and shown in Appendix **31**. The total number of series assigned to each ship shall be determined by traffic requirements.

4295 (2) When ship stations employing wide-band telegraphy, facsimile and special transmission systems are assigned less than the total number of working frequencies in a band, the administration concerned shall assign working frequencies to such ships in accordance with an orderly system of rotation that will ensure approximately the same number of assignments on any one working frequency.

4296 (3) However, within the limits of the bands given in No. **4200**, administrations may, to meet the needs of specific systems, assign frequencies in a different manner from that shown in Appendix **31**. Nevertheless administrations shall take into account, as far as possible, the provisions of Appendix **31** concerning channelling and 4 kHz spacing.

4297 *c) Working Frequencies for Oceanographic Data Stations*

4298 § 51. The frequency bands in No. **4201** may also be used by buoy stations for oceanographic data transmission and by stations interrogating these buoys.

4299 § 52. Each administration may assign to each station under its jurisdiction of a type specified in Nos. **4201** and **4298** one or more of the assignable frequencies designated in Appendix **31**.

4300 *d) Working Frequencies (paired with those in No.* **4207**) *for Ship Stations Using Narrow-Band Direct-Printing Telegraph and Data Transmission Systems, at Speeds Not Exceeding 100 Bauds*

4301 § 53. The frequency pairs assignable to coast stations and ship stations using narrow-band direct-printing telegraph and data transmission systems are indicated in Appendix **32**.

4302 § 54. When assigning frequencies listed in Appendix **32** for narrow-band direct-printing telegraph and data transmission systems, administrations shall apply the procedure described in Resolution **300**.

4303 *e) Working Frequencies (non-paired) for Ship Stations Using Narrow-Band Direct-Printing Telegraph and Data Transmission Systems, at Speeds Not Exceeding 100 Bauds*

4304 § 55. When assigning frequencies listed in Appendix **33** for narrow-band direct-printing telegraph and data transmission systems, administrations shall take due account of the information entries in the Master Register resulting from the notification procedure contained in Resolution **301**.

4305 *f) Working Frequencies for Ship Stations Using A1A Morse Telegraphy*

4306 § 56. Each administration shall assign to each ship station under its jurisdiction a sufficient number of working frequencies, in any of the 4, 6, 8, 12, 16, 22 and 25 MHz bands, to meet the traffic needs of the ship. In each band used, preferably not less than two working frequencies should be assigned to each ship. Administrations shall ensure a uniform distribution of assignments throughout the bands.

4306A **Mob-83** § 56A. In cases of poor receiving conditions on the working frequency stated by the ship station, the coast station may request the ship station to change to transmission on any other working frequency, whenever the ship is technically able to do so. Such capability is indicated by the transmission of the code QOO.

4307 § 57. For the exclusive purpose of communication with stations of the maritime mobile service, an aircraft station may be assigned one or more working frequencies in the bands shown in No. **4206**. These frequencies shall be assigned in accordance with the same principles of uniform distribution as for ship stations.

4308 *g) Abbreviations for the Indication of Working Frequencies*

4309 § 58. In the bands between 4 000 kHz and 27 500 kHz the following abbreviations may be used to designate a working frequency:

4310 *a)* if the frequency expressed in kHz has no decimal value, the last three figures shall be transmitted;

4311 **Mob-83** *b)* if the frequency expressed in kHz has a decimal value, the last three figures before the decimal point, the letter R and the first decimal figure shall be transmitted.

Section III. Use of Frequencies for Narrow-Band Direct-Printing Telegraphy

4312 *A. General*

4313 § 59. Frequencies assigned to coast stations shall be indicated in the List of Coast Stations (List IV). This List shall also indicate any other useful information concerning the service performed by each coast station.

4314 Mob-83 *B. Bands Between 415 kHz and 535 kHz*

4315 Mob-83 § 60. (1) All ship stations equipped with narrow-band direct-printing transmitting apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to send and receive class F1B or J2B emissions on at least two working frequencies for narrow-band direct-printing telegraphy (see No. **4237**). [1]

4315A Mob-83 (1A) All ship stations equipped with narrow-band direct-printing telegraph apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to receive class F1B emissions on 518 kHz.

4316 (2) Narrow-band direct-printing telegraphy is forbidden in the band 490 - 510 kHz.

4317 *C. Bands Between 1 605 kHz and 4 000 kHz*

4318 Mob-83 § 61. (1) All ship stations equipped with narrow-band direct-printing telegraph apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to send and receive class F1B or J2B emissions on at least two working frequencies.

4319 Mob-83 (2) Narrow-band direct-printing telegraphy is forbidden in the band 2 170 - 2 194 kHz except as provided for in No. **2971D**.

4315.1 [1] In the European Maritime Area, use of these class F1B emissions is subject to special arrangements between interested and affected administrations.

4320 *D. Bands Between 4 000 kHz and 27 500 kHz*

4321 § 62. All ship stations equipped with narrow-band direct-printing telegraph apparatus to work in the authorized bands between 4 000 kHz and 27 500 kHz shall be able to send and receive class F1B emissions on at least two frequencies in each band as required by their service. The assignable frequencies are indicated in Appendices **32** and **33**.

4321A Mob-83 § 62A. Ship and coast stations may use the digital selective calling system in accordance with Article **62**.

4322 *E. Bands Between 156 MHz and 174 MHz*

4323 § 63. All ship stations equipped with narrow-band direct-printing telegraph apparatus may work in the authorized bands between 156 MHz and 174 MHz and shall conform to the provisions of Appendix **18**.

Section IV. Use of Frequencies for Radiotelephony

4324 *A. General*

4325 Mob-83 § 64. Except with regard to the provisions of Article **12** concerning notification and recording of frequencies, when designating frequencies for single-sideband radiotelephony the carrier frequency is always to be designated. The assigned frequency shall be 1 400 Hz higher than the carrier frequency.

4326 § 65. Coast stations shall not occupy idle radiotelephone channels by emitting identification signals, such as those generated by call slips or tapes. Exceptionally, a coast station, when requested by a ship station for the purpose of establishing a radiotelephone call, may emit a receiver tuning signal of not more than 10 seconds' duration.

4327 § 66. The frequencies of transmission (and reception when these frequencies are in pairs as in the case of duplex radiotelephony) assigned to each coast station shall be indicated in the List of Coast Stations. This List shall also indicate any other useful information concerning the service performed by each coast station.

4328 § 67. Single-sideband apparatus in radiotelephone stations of the maritime mobile service operating in the bands between 1 605 kHz and 4 000 kHz allocated to this service and in the bands allocated exclusively to this service between 4 000 kHz and 23 000 kHz shall satisfy the technical and operational conditions specified in Appendix **17** and Resolution **307**.

4329 § 68. When linked compressor and expander systems are used they shall conform to the characteristics specified in Appendix **40**, paragraph *a)*.

4330 § 69. Single-sideband radio equipment used in conjunction with linked compressor and expander systems shall conform to the characteristics specified in Appendix **17** and should also conform to Appendix **40**, paragraph *b)*.

4331 *B. Bands Between 1 605 kHz and 4 000 kHz*

B1. Mode of Operation of Stations

4332 § 70. (1) Except in the cases specified in Nos. **2973**, **4127** and **4342**, the classes of emission to be used in the bands between 1 605 kHz and 4 000 kHz shall be:

4333 *a)* A3E; *or*

4334 *b)* H3E, R3E and J3E.

4335 However, unless otherwise specified in the present Regulations (see Nos. **2973**, **3004**, **4127**, **4342** and **4354**):

4336 – class A3E emissions shall not be used by coast stations; *and*

4337 – after 1 January 1982, class H3E emissions for coast stations and class A3E and H3E emissions for ship stations shall no longer be authorized.

4338 (2) The peak envelope power of coast radiotelephone stations operating in the authorized bands allocated between 1 605 kHz and 4 000 kHz shall not exceed:

4339 – 5 kW for coast stations located north of latitude 32° N;

4340 – 10 kW for coast stations located south of latitude 32° N.

4341 (3) The normal mode of operation for each coast station shall be indicated in the List of Coast Stations.

4342 Mob-83 (4) Transmissions in the bands 2 170 - 2 173.5 kHz and 2 190.5 - 2 194 kHz with the carrier frequency 2 170.5 kHz and the carrier frequency 2 191 kHz respectively are limited to class J3E emissions and are limited to a peak envelope power of 400 W. However, on the frequency 2 170.5 kHz and with the same power limit, coast stations may also use class H2B emissions when using the selective calling system defined in Appendix **39** and exceptionally, in Regions 1 and 3 and in Greenland, may also use class H3E for safety messages.

B2. Call and Reply

4343 § 71. (1) The frequency 2 182 kHz [1] is the international distress frequency for radiotelephony (see No. **2973** for details of use for distress, urgency, safety and emergency position-indicating radiobeacon (EPIRB) purposes). The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be A3E or H3E (see No. **4127**).

4343.1 [1] Where administrations provide at their coast stations a watch on 2 182 kHz for receiving class R3E and J3E emissions as well as class A3E and H3E emissions, ship stations beyond the A3E or H3E communication range of such coast stations may call them for safety purposes using class R3E or J3E emissions. This procedure shall only be used when calling by the use of class A3E and H3E emissions has not been successful.

4344 (2) The frequency 2 182 kHz may also be used:

4345 *a)* for call and reply in accordance with the provisions of Article **65**;

4346 *b)* by coast stations to announce the transmission, on another frequency, of traffic lists (see Nos. **4925** to **4929**).

4347 (3) In addition, an administration may assign to its stations other frequencies for call and reply.

4348 § 72. To facilitate the reception of distress calls, all transmissions on 2 182 kHz shall be kept to a minimum.

4349 § 73. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz.

4350 § 74. (1) Before transmitting on the carrier frequency 2 182 kHz, a station shall listen on this frequency for a reasonable period to make sure that no distress traffic is being sent (see No. **4915**).

4351 (2) The provisions of No. **4350** do not apply to stations in distress.

B3. Traffic

4352 § 75. (1) Coast stations which use 2 182 kHz for calling shall be able to use at least one other frequency in the authorized bands between 1 605 kHz and 2 850 kHz.

4353 **Mob-83** (2) Coast stations authorized to use radiotelephony on one or more frequencies other than 2 182 kHz in the authorized bands between 1 605 kHz and 2 850 kHz shall use class J3E emissions on those frequencies (see also No. **4342**).

4354 **Mob-83** (3) Coast stations open to the public correspondence service on one or more frequencies between 1 605 kHz and 2 850 kHz shall also be capable of transmitting class H3E and J3E emissions with a carrier frequency of 2 182 kHz, and of receiving class A3E, H3E and J3E emissions with a carrier frequency of 2 182 kHz.

4355 (4) One of the frequencies which coast stations are required to be able to use (see No. **4352**) is printed in heavy type in the List of Coast Stations to indicate that it is the normal working frequency of the stations. Supplementary frequencies, if assigned, are shown in ordinary type.

4356 (5) Working frequencies of coast stations shall be chosen in such a manner as to avoid interference with other stations.

B4. Additional Provisions Applying to Region 1

4357 § 76. The peak envelope power of ship radiotelephone stations operating in the authorized bands between 1 605 kHz and 2 850 kHz shall not exceed 400 W.

4358 § 77. (1) All stations on ships making international voyages should be able to use:

4359 *a)* the following ship-to-shore working frequencies, if required by their service:

4360 – carrier frequency 2 046 kHz (assigned frequency 2 047.4 kHz) and carrier frequency 2 049 kHz (assigned frequency 2 050.4 kHz) for class R3E and J3E emissions;

4361 SUP
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4362 *b)* the following intership frequencies, if required by their service:

4363 – carrier frequency 2 053 kHz (assigned frequency 2 054.4 kHz) and carrier frequency 2 056 kHz (assigned frequency 2 057.4 kHz) for class R3E and J3E emissions;

4364 SUP
Mob-83

4365 These frequencies may be used as additional ship-to-shore frequencies.

4366 (2) These frequencies shall not be used for working between stations of the same nationality.

4367 § 78. (1) Ships frequently exchanging correspondence with a coast station of a nationality other than their own may use the same frequencies as ships of the nationality of the coast station where mutually agreed by the administrations concerned.

4368 (2) In exceptional circumstances, if frequency usage according to Nos. **4358**, **4359**, **4360**, **4362**, **4363** and **4365** or No. **4367** is not possible, a ship station may use one of its own assigned national ship-to-shore frequencies for communication with a coast station of another nationality, under the express condition that the coast station as well as the ship station take precautions (see No. **4915**) to ensure that the use of such a frequency will not cause harmful interference to the service for which the frequency in question is authorized.

B5. Additional Provisions Applying to Regions 2 and 3

4369 § 79. All stations on ships making international voyages should, if required by their service, be able to use the intership carrier frequencies:

2 635 kHz (assigned frequency 2 636.4 kHz)
2 638 kHz (assigned frequency 2 639.4 kHz).

The conditions of use of these frequencies are specified in No. **4193**.

4370 *C. Bands Between 4 000 kHz and 23 000 kHz*

C1. Mode of Operation of Stations

4371 **Mob-83** § 80. (1) The class of emission to be used for radiotelephony in the bands between 4 000 kHz and 23 000 kHz shall be J3E.

4371.1 **Mob-83** SUP

4372 (2) The normal mode of operation of each coast station is indicated in the List of Coast Stations.

4373 Mob-83 (3) Coast radiotelephone stations employing class J3E emissions in the bands between 4 000 kHz and 23 000 kHz shall use the minimum power necessary to cover their service area and shall at no time use a peak envelope power in excess of 10 kW per channel.

4374 Mob-83 (4) Ship radiotelephone stations employing class J3E emissions in the bands between 4 000 kHz and 23 000 kHz shall at no time use a peak envelope power in excess of 1.5 kW per channel.

C2. Call and Reply

4375 Mob-83 § 81. (1) Ship stations may use the following carrier frequencies for calling in radiotelephony:

4 125 kHz [1, 2, 3]
6 215.5 kHz [2, 3]
8 257 kHz [3]
12 392 kHz [3]
16 522 kHz [3]
22 062 kHz

4373.1 and 4374.1 Mob-83 SUP

4375.1 Mob-83 [1] In the United States, the carrier frequency 4 125 kHz is also authorized for common use by coast and ship stations for single-sideband radiotelephony on a simplex basis, provided the peak envelope power of such stations does not exceed 1 kW (see also No. **4376.2**).

4375.2 Mob-83 [2] The carrier frequencies 4 125 kHz and 6 215.5 kHz are also authorized for common use by coast and ship stations for single-sideband radiotelephony on a simplex basis for call and reply purposes, provided the peak envelope power of such stations does not exceed 1 kW. The use of these frequencies for working purposes is not permitted (see also Nos. **2982** and **4375.1**).

4375.3 Mob-83 [3] The carrier frequencies 4 125 kHz, 6 215.5 kHz, 8 257 kHz, 12 392 kHz and 16 522 kHz are also authorized for common use by coast and ship stations for single-sideband radiotelephony on a simplex basis for distress and safety traffic.

4376 (2) Coast stations may use the following carrier frequencies for calling in radiotelephony [1]:

4 419.4 kHz [2]
6 521.9 kHz [2]
8 780.9 kHz
13 162.8 kHz
17 294.9 kHz
22 658 kHz

4377 § 82. Ship and coast stations using digital selective calling in accordance with No. **4681** may use the frequencies specified in Nos. **4683** and **4684** respectively.

4378 § 83. The hours of service of coast stations open to public correspondence and the frequency or frequencies on which watch is maintained shall be indicated in the List of Coast Stations.

4379 **Mob-83** § 84. (1) Before transmitting on the carrier frequencies 4 125 kHz, 6 215.5 kHz, 8 257 kHz, 12 392 kHz or 16 522 kHz a station shall listen on the frequency for a reasonable period to make sure that no distress traffic is being sent (see No. **4915**).

4380 (2) The provisions of No. **4379** do not apply to stations in distress.

C3. Traffic

4381 § 85. (1) For the conduct of duplex telephony, the transmitting frequencies of the coast stations and of the corresponding ship

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4376.1 [1] These frequencies may also be used by coast stations with class H2B emission, when using the selective calling system defined in Appendix **39**.

4376.2 **Mob-83** [2] The carrier frequencies 4 419.4 kHz and 6 521.9 kHz are also authorized for common use by coast and ship stations for single-sideband radiotelephony on a simplex basis, provided the peak envelope power of such stations does not exceed 1 kW. The use of 6 521.9 kHz for this purpose should be limited to daytime use (see also No. **4375.1**).

stations shall be associated in pairs, as indicated in Appendix **16**, except temporarily in cases where working conditions prohibit the use of paired frequencies in order to meet operational needs.

4382 (2) The frequencies to be used for the conduct of simplex radiotelephony are shown in Appendix **16**, Section B. In these cases, the peak envelope power of the coast station transmitter shall not exceed 1 kW.

4383 (3) The frequencies indicated in Appendix **16** for ship station transmissions may be used by ships of any category according to traffic requirements.

4384 (4) The technical characteristics of transmitters used for radiotelephony in the bands between 4 000 kHz and 23 000 kHz are specified in Appendix **17**.

4385 *D. Bands Between 156 MHz and 174 MHz*

D1. Call and Reply

4386 § 86. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency for radiotelephony when using frequencies in the authorized bands between 156 MHz and 174 MHz (see No. **2994** for details of use). The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E (see Appendix **19**).

4387 (2) The frequency 156.8 MHz may also be used:

4388 *a)* by coast and ship stations for call and reply in accordance with the provisions of Articles **62** and **65**;

4389 *b)* by coast stations to announce the transmission on another frequency of traffic lists and important maritime information (see Nos. **4925** to **4929**).

4390 (3) The frequency 156.8 MHz may be used by ship stations and coast stations for selective calling.

4391 (4) Any one of the channels designated in Appendix **18** for public correspondence may be used as a calling channel if an administration so desires. Such use shall be indicated in the List of Coast Stations.

4392 (5) Ship and coast stations in the public correspondence service may use a working frequency, for calling purposes, as provided in Articles **62** and **65**.

4393 **Mob-83** (6) All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden. The frequency 156.825 MHz may, however, be used for the purposes described in No. **2995C** subject to not causing harmful interference to authorized transmissions on 156.8 MHz (see also note *m)* of Appendix **18**).

4394 (7) To facilitate the reception of distress calls all transmissions on 156.8 MHz shall be kept to a minimum and shall not exceed one minute.

4395 (8) Before transmitting on the frequency 156.8 MHz, a station should listen on this frequency for a reasonable period to make sure that no distress traffic is being sent (see No. **4915**).

4396 (9) The provisions of No. **4395** do not apply to stations in distress.

D2. Watch

4397 § 87. (1) In addition to the watch referred to in No. **3057**, a coast station open to the international public correspondence service should, during its hours of service, maintain watch on its receiving frequency or frequencies indicated in the List of Coast Stations.

4393.1 **Mob-83** SUP

4398 (2) The method of watch on a working frequency shall be no less efficient than watch by an operator.

4399 (3) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz. Ship stations fitted only with VHF radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz should maintain watch on 156.8 MHz when at sea.

4400 (4) Ship stations, when in communication with a port station, may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station.

4401 (5) Ship stations, when in communication with a coast station in the ship movement service and subject to the agreement of the administration concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided that watch on 156.8 MHz is being maintained by that coast station.

4402 § 88. A coast station in the port operations service in an area where 156.8 MHz is being used for distress, urgency or safety shall, during its working hours, keep an additional watch on 156.6 MHz or another port operations frequency indicated in heavy type in the List of Coast Stations.

4403 § 89. A coast station in the ship movement service in an area where 156.8 MHz is being used for distress, urgency and safety shall, during its working hours, keep an additional watch on the ship movement frequencies indicated in heavy type in the List of Coast Stations.

D3. Traffic

4404 § 90. (1) Where practicable, coast stations open to the international public correspondence service shall be capable of working with ship stations equipped for duplex or semi-duplex operation.

4405 (2) The method of working (single-frequency or two-frequency) specified in Appendix **18** for each channel should be used in the international services (see Resolution **308**).

4406 § 91. Communications in the port operations service shall be restricted to those relating to operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages of a public correspondence nature shall be excluded from this service.

4407 § 92. Communications in the ship movement service shall be restricted to those relating to the movement of ships. Messages of a public correspondence nature shall be excluded from this service.

4408 § 93. (1) Coast stations which use 156.8 MHz for calling shall be able to use at least one other authorized channel in the international maritime mobile radiotelephone service in the band 156 - 174 MHz.

4409 (2) In the band 156 - 174 MHz administrations shall, where practicable, assign frequencies to coast and ship stations in accordance with the Table of Transmitting Frequencies given in Appendix **18** for such international services as administrations consider necessary (see Resolution **308**).

4410 (3) The normal sequence in which channels should be put into use in the band 156 - 174 MHz is indicated by the figures in the relevant columns of Appendix **18**.

4411 SUP
Mob-83

4412 (5) In assigning frequencies to their coast stations, administrations should collaborate in cases where harmful interference might occur.

4413 (6) Channels are designated by numbers in the Table of Transmitting Frequencies given in Appendix **18** (see Resolution **308**).

4414 § 94. (1) In assigning frequencies to stations of authorized services, other than maritime mobile, administrations shall avoid the possibility of interference to international maritime services in the bands between 156 MHz and 174 MHz.

4415 (2) The use of channels for maritime mobile purposes other than those indicated in the Table of Transmitting Frequencies given in Appendix **18** shall not cause harmful interference to services which operate in accordance with that table and shall not prejudice the future development of such services (see Resolution **308**).

4416 **Mob-83** § 95. The carrier power of ship station transmitters shall not exceed 25 W.

4417 to **4440** NOT allocated.

ARTICLE 62

Selective Calling Procedure in the Maritime Mobile Service

Section I. General

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§ 1A (1) Selective calling is designed for automatic station calling and distress alerting or the transmission of information for the organization of traffic.

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(2) Selective calling may be carried out using a sequential single-frequency code system (Section II) or a digital selective calling system (see Section III) in the shore-to-ship, ship-to-shore and ship-to-ship directions.

Section II. Sequential Single-Frequency Code System

4667

A. General

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§ 2. The characteristics of the sequential single-frequency code international selective calling system shall be in accordance with Appendix **39**.

4668A
Mob-83

§ 2A. The sequential single-frequency code system may be in operation until it is superseded by the digital selective calling system referred to in Section III.

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B. Method of Calling

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§ 3. (1) The call shall consist of:

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a) the selective call number or identification number or signal of the station called, followed by

b) the selective call number or identification number or signal of the station calling.

4672 However, in the case of a coast station calling on VHF, the number of the channel to be used for the reply and for traffic may replace the identification number or signal of the coast station.

The call shall be transmitted twice.

4673 (2) When a station called does not reply, the call should not normally be repeated until after an interval of at least five minutes and should not then normally be renewed until after a further interval of fifteen minutes.

4674 (3) The use of an "all ships call" shall be confined to distress and urgency in the MF and HF bands and the announcement of vital navigational warnings in those bands; additionally it may be used for safety purposes in the VHF band. This call may only be used to supplement, if required, the distress procedure specified in Nos. **3101**, **3102**, **3116** and **3117** and shall in no circumstances be used in place of such procedures, in particular the alarm signals mentioned in Nos. **3268** and **3270**.

4675 *C. Reply to Calls*

4676 § 4. The reply to calls shall be made in accordance with the provisions of:

4677 *a)* Nos. **4767** and **4769** when using radiotelegraphy;

4678 *b)* Nos. **4982** to **5002** when using radiotelephony.

4679 *D. Frequencies to Be Used*

4679A Mob-83 § 4A. Selective calling may be carried out on:

a) the following calling frequencies:

500 kHz
2 170.5 kHz
4 125 kHz
4 419.4 kHz
6 521.9 kHz
8 780.9 kHz

13 162.8 kHz
17 294.9 kHz
22 658 kHz
156.8 MHz [1]

4679B **Mob-83** *b)* appropriate radiotelephone working frequencies in the band 1 606.5 - 4 000 kHz (Regions 1 and 3) and in the band 1 605* - 4 000 kHz (Region 2);

4679C **Mob-83** *c)* appropriate radiotelephone working frequencies in the band 156 - 174 MHz.

4680 **Mob-83** SUP

Section III. Digital Selective Calling System

4681 § 6. A digital selective calling system may be used if it is in full conformity with the relevant CCIR Recommendations in which all operational, technical and compatibility aspects which might be involved have been taken into account.

4681A **Mob-83** § 6A. The frequencies used for distress and safety purposes using digital selective calling are as follows (see also Article **38**):

490 kHz (shore-to-ship) [2]
2 187.5 kHz
4 188 kHz
6 282 kHz

4679A.1 **Mob-83** [1] Selective calling on this frequency should normally be only in the direction coast station to ship or intership. Selective calls from ship to coast station should whenever possible be sent on other frequencies of Appendix **18**, as appropriate.

4680.1 and **4680.2** **Mob-83** SUP

4681A.1 **Mob-83** [2] See also Resolution **206 (Mob-83)**.

* For the band 1 605 - 1 625 kHz, see Nos. **480** and **481**.

8 375 kHz
12 563 kHz
16 750 kHz
156.525 kHz

4682 **Mob-83** § 7. The frequencies assignable to ship and coast stations for digital selective calling, for purposes other than distress and safety, are as follows:

4683 **Mob-83** *a) Ship stations*

4 187.5 kHz
6 281.5 kHz
8 375.5 kHz
12 562 kHz
12 562.5 kHz
16 750.5 kHz
16 751 kHz
22 248 kHz
22 248.5 kHz

4684 *b) Coast stations*

4 357 kHz
6 506 kHz
8 718.5 kHz
13 100 kHz
13 100.5 kHz
17 232 kHz
17 232.5 kHz
22 595 kHz
22 595.5 kHz

4685 **Mob-83** § 8. In addition to the frequencies listed in Nos. **4683** and **4684**, appropriate working frequencies in the following bands may be used for digital selective calling:

415 - 526.5 kHz (Regions 1 and 3)
415 - 525 kHz (Region 2)
1 606.5 - 4 000 kHz (Regions 1 and 3)
1 605* - 4 000 kHz (Region 2)

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* For the band 1 605 - 1 625 kHz, see Nos. **480** and **481**.

4 000	- 27 500	kHz	(except in the bands listed in Nos. **4197**, **4198**, **4199** and **4201** , and in the band 4 000 - 4 063 kHz)
156	- 174	MHz	

4686
to NOT allocated.
4709

4996 (2) A coast station called by a ship station shall reply on one of the calling frequencies mentioned in No. **4376**, or on one of its working frequencies shown in the List of Coast Stations.

4997 **Mob-83** (3) When a station is called on the carrier frequency 4 125 kHz it should reply on the same frequency unless another frequency is indicated for that purpose by the calling station.

4998 **Mob-83** (4) When a station is called on the carrier frequency 6 215.5 kHz it should reply on the same frequency unless another frequency is indicated for that purpose by the calling station.

4999 (5) The provisions of Nos. **4995** and **4996** do not apply to communication between ship stations and coast stations using the simplex frequencies specified in Appendix **16**, Section B.

5000 D3. Bands Between 156 MHz and 174 MHz

5001 § 23. (1) When a station is called on 156.8 MHz it should reply on the same frequency unless another frequency is indicated by the calling station.

5002 (2) When a coast station open to public correspondence calls a ship station either by speech or by selective calling, using a two-frequency channel, the ship station shall reply by speech on the frequency associated with that of the coast station; conversely, a coast station shall reply to a call from a ship station on the frequency associated with that of the ship station.

5003 *E. Indication of the Frequency to Be Used for Traffic*

5004 E1. Bands Between 1 605 kHz and 4 000 kHz

5005 § 24. If contact is established on the carrier frequency 2 182 kHz, coast and ship stations shall transfer to working frequencies for the exchange of traffic.

5006 E2. Bands Between 4 000 kHz and 23 000 kHz

5007 § 25. After a ship station has established contact with a coast station, or another ship station, on the calling frequency of the band chosen, traffic shall be exchanged on their respective working frequencies.

5008 E3. Bands Between 156 MHz and 174 MHz

5009 § 26. (1) Whenever contact has been established between a coast station in the public correspondence service and a ship station either on 156.8 MHz or on a two-frequency calling channel (see No. **4392**), the stations shall transfer to one of their normal pairs of working frequencies for the exchange of traffic. The calling station should indicate the channel to which it is proposed to transfer by reference to the frequency in MHz or, preferably, to its channel designator.

5010 (2) When contact on 156.8 MHz has been established between a coast station in the port operations service and a ship station, the ship station should indicate the particular service required (such as navigational information, docking instructions, etc.) and the coast station shall then indicate the channel to be used for the exchange of traffic by reference to the frequency in MHz or, preferably, to its channel designator.

5011 (3) When contact on 156.8 MHz has been established between a coast station in the ship movement service and a ship station, the coast station shall then indicate the channel to be used for the exchange of traffic by reference to the frequency in MHz or, preferably, to its channel designator.

5012 (4) A ship station, when it has established contact with another ship station on 156.8 MHz, should indicate the intership channel to which it is proposed to transfer for the exchange of traffic by reference to the frequency in MHz or, preferably, to its channel designator.

5013 (5) However, a brief exchange of traffic not to exceed one minute concerning the safety of navigation need not be transmitted on a working frequency when it is important that all ships within range receive the transmission.

Section VI. Duration and Control of Working

5055 § 34. (1) Calling, and signals preparatory to traffic, shall not exceed one minute when made on the carrier frequency 2 182 kHz or on 156.8 MHz, except in cases of distress, urgency or safety to which the provisions of Chapter **IX** apply.

5056 (2) In communications between coast stations and ship stations, the ship station shall comply with the instructions given by the coast station in all questions relating to the order and time of transmission, to the choice of frequency, and to the duration and suspension of work.

5057 (3) In communications between ship stations, the station called controls the working in the manner indicated in No. **5056**. However, if a coast station finds it necessary to intervene, the ship stations shall comply with the instructions given by the coast station.

Section VII. Tests

5058 § 35. When it is necessary for a ship station to send signals for testing or adjustments which are liable to interfere with the working of neighbouring coast stations, the consent of these stations shall be obtained before such signals are sent.

5059 § 36. (1) When it is necessary for a station to make test signals, either for the adjustment of a transmitter before making a call or for the adjustment of a receiver, such signals shall not be continued for more than ten seconds, and shall include the call sign or other identification of the station emitting the test signals. This call sign or other identification shall be spoken slowly and distinctly.

5060 **Mob-83** (2) Any signals sent for testing shall be kept to a minimum, particularly on the frequencies identified in Article **38** for the maritime mobile and maritime mobile-satellite service for distress and safety purposes.

5061 (3) It is not permitted to send test transmissions of the radiotelephone alarm signal on the carrier frequency 2 182 kHz and the frequency 156.8 MHz, except where emergency equipment which can operate only on these frequencies is involved, in which case measures shall be taken to prevent radiation. Measures shall also be taken to prevent radiation from radiotelephone alarm tests carried out on frequencies other than 2 182 kHz and 156.8 MHz.

5062 to **5084** NOT allocated.

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II. Notes Concerning Information to Be Entered in the Notice Pertaining to Specific Columns of the Master Register

Column 1 Assigned frequency.

1. Indicate the assigned frequencies [1, 2] as defined in Article **1**: in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive, and in GHz above 10 500 MHz.

2. *This information is a basic characteristic.*

Column 2c Date of bringing into use.

1. In the case of a new assignment, insert the date (actual or foreseen, as appropriate) of bringing the frequency assignment into use.

2. Whenever the assignment is changed in any of its basic characteristics as defined in this Appendix, except in the case of a change in Column 3, 4a, 10a or 11, the date to be indicated shall be that of the latest change (actual or foreseen, as appropriate).

3. *This information is a basic characteristic.*

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[1] For television broadcasting stations in Region 1, the frequencies to be notified are those of the sound and vision carriers.

[2] For stations in the aeronautical mobile (R) service, see Appendix **27 Aer2** revised paragraph **27/72**.

Column 3 Call sign (identification).

1. Indicate the call sign or other identification used in accordance with Article **25**.

2. *This information is a basic characteristic, except for stations referred to in Nos.* **1223** *and* **2055.1** *or when the frequency assignment is used for reception in the circumstances described in No.* **1219**.

Column 4 Particulars of the transmitting station.

When the frequency assignment is used in the circumstances described in Nos. **1214** *to* **1217**, *the basic characteristics to be provided in Column 4 are as follows:*

Column 4a Indicate the name of the locality by which the transmitting station is known or in which it is situated.

Column 4b Indicate the country or geographical area in which the station is located. Symbols from the Preface to the International Frequency List shall be used.

Column 4c Indicate the geographical coordinates (longitude and latitude in degrees and minutes) of the transmitter site. For frequency assignments above 1 GHz in the bands shared between terrestrial radiocommunication and space radiocommunication services, indicate the geographical coordinates (longitude and latitude in degrees, minutes and seconds with an accuracy of one tenth of a minute [1] or, as an alternative, indicate the longitude and latitude in degrees and minutes and, in Column 9a, the azimuth of maximum radiation of the antenna to an accuracy of one tenth of a degree).

[1] The seconds with an accuracy of one tenth of a minute need only be notified if the station is within the coordination area of an earth station.

APPENDIX 13
Mob-83

Miscellaneous Abbreviations and Signals to Be Used in Radiotelegraphy Communications Except in the Maritime Mobile Service

(See Article **52**)

Section I. Q Code
Introduction

1. The series of groups QRA to QUZ, listed in this Appendix, are for use by all services.

2. The QAA to QNZ series are reserved for the aeronautical service. These series are not listed in these Regulations. The QOA to QQZ series are reserved for the maritime services *.

3. Certains Q code abbreviations may be given an affirmative or negative sense by sending YES or NO respectively, immediately following the abbreviation.

4. The meanings assigned to Q code abbreviations may be amplified or completed by the addition of other appropriate groups, call signs, place names, figures, numbers, etc. It is optional to fill in the blanks shown in parentheses. Any data which are filled in where blanks appear shall be sent in the same order as shown in the text of the following tables.

5. Q code abbreviations are given the form of a question when followed by a question mark. When an abbreviation is used as a question and is followed by additional or complementary information, the question mark should follow this information.

6. Q code abbreviations with numbered alternative significations shall be followed by the appropriate figure to indicate the exact meaning intended. This figure shall be sent immediately following the abbreviation.

7. All times shall be given in Coordinated Universal Time (UTC) unless otherwise indicated in the question or reply.

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* *Note by the General Secretariat:* Series QOA to QQZ are shown in Appendix 14.

Abbreviations Available for All Services

A. List of Abbreviations in Alphabetical Order

Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my station is ...
QRB	How far approximately are you from my station?	The approximate distance between our stations is ... nautical miles (*or* kilometres).
QRC	By what private enterprise (*or* state administration) are the accounts for charges for your station settled?	The accounts for charges of my station are settled by the private enterprise ... (*or* state administration).
QRD	Where are you bound for and where are you from?	I am bound for ... from ...
QRE	What is your estimated time of arrival at ... (*or* over ...) *(place)*?	My estimated time of arrival at ... (*or* over ...) *(place)* is ... hours.
QRF	Are you returning to ... *(place)*?	I am returning to ... *(place)*. *or* Return to ... *(place)*.
QRG	Will you tell me my exact frequency (*or* that of ...)?	Your exact frequency (*or* that of ...) is ... kHz (*or* MHz).
QRH	Does my frequency vary?	Your frequency varies.
QRI	How is the tone of my transmission?	The tone of your transmission is ... 1. good 2. variable 3. bad.
QRJ	How many radiotelephone calls have you to book?	I have ... radiotelephone calls to book.

APPENDIX 14
Mob-83

Miscellaneous Abbreviations and Signals to Be Used for Radiocommunications in the Maritime Mobile Service

(See Articles **37**, **63** and **65**)

Section I. Q Code
Introduction

1. The series of groups listed in this Appendix range from QOA to QUZ.

2. The QOA to QQZ series are reserved for the maritime mobile service.

3. Certain Q code abbreviations may be given an affirmative or negative sense by sending, immediately following the abbreviation, the letter C or the letters NO (in radiotelephony spoken as: CHARLIE or NO).

4. The meanings assigned to Q code abbreviations may be amplified or completed by the appropriate addition of other groups, call signs, place names, figures, numbers, etc. It is optional to fill in the blanks shown in parentheses. Any data which are filled in where blanks appear shall be sent in the same order as shown in the text of the following tables.

5. Q code abbreviations are given the form of a question when followed by a question mark in radiotelegraphy and RQ (ROMEO QUEBEC) in radiotelephony. When an abbreviation is used as a question and is followed by additional or complementary information, the question mark (or RQ) should follow this information.

6. Q code abbreviations with numbered alternative significations shall be followed by the appropriate figure to indicate the exact meaning intended. This figure shall be sent immediately following the abbreviation.

7. All times shall be given in Coordubated Universal Time (UTC) unless otherwise indicated in the question or reply.

8. An asterisk * following a Q code abbreviation means that this signal has a meaning similar to a signal appearing in the International Code of Signals.

Abbreviations Available for the Maritime Mobile Service

A. List of Abbreviations in Alphabetical Order

Abbreviation	Question	Answer or Advice
QOA	Can you communicate by radiotelegraphy (500 kHz)?	I can communicate by radiotelegraphy (500 kHz).
QOB	Can you communicate by radiotelephony (2 182 kHz)?	I can communicate by radiotelephony (2 182 kHz).
QOC	Can you communicate by radiotelephony (channel 16 — frequency 156.80 MHz)?	I can communicate by radiotelephony (channel 16 — frequency 156.80 MHz).
QOD	Can you communicate with me in ... 0. Dutch 5. Italian 1. English 6. Japanese 2. French 7. Norwegian 3. German 8. Russian 4. Greek 9. Spanish?	I can communicate with you in ... 0. Dutch 5. Italian 1. English 6. Japanese 2. French 7. Norwegian 3. German 8. Russian 4. Greek 9. Spanish.
QOE	Have you received the safety signal sent by ... *(name and/or call sign)*?	I have received the safety signal sent by ... *(name and/or call sign)*.
QOF	What is the commercial quality of my signals?	The quality of your signals is ... 1. not commercial 2. marginally commercial 3. commercial.
QOG	How many tapes have you to send?	I have ... tapes to send.
QOH	Shall I send a phasing signal for ... seconds?	Send a phasing signal for ... seconds.
QOI	Shall I send my tape?	Send your tape.
QOJ	Will you listen on ... kHz (*or* MHz) for signals of emergency position-indicating radiobeacons?	I am listening on ... kHz (*or* MHz) for signals of emergency position-indicating radiobeacons.

Abbre-viation	Question	Answer or Advice
QOK	Have you received the signals of an emergency position-indicating radiobeacon on ... kHz (*or* MHz)?	I have received the signals of an emergency position-indicating radiobeacon on ... kHz (*or* MHz).
QOL	Is your vessel fitted for reception of selective calls? If so, what is your selective call number or signal?	My vessel is fitted for the reception of selective calls. My selective call number or signal is ...
QOM	On what frequencies can your vessel be reached by a selective call?	My vessel can be reached by a selective call on the following frequency/ies ... (periods of time to be added if necessary).
QOO	Can you send on any working frequency?	I can send on any working frequency.
QOT	Do you hear my call; what is the approximate delay in minutes before we may exchange traffic?	I hear your call; the approximate delay is ... minutes.
QRA	What is the name of your vessel (*or* station)?	The name of my vessel (*or* station) is ...
QRB	How far approximately are you from my station?	The approximate distance between our stations is ... nautical miles (*or* kilometres).
QRC	By what private enterprise (*or* state administration) are the accounts for charges for your station settled?	The accounts for charges of my station are settled by the private enterprise ... (*or* state administration).
QRD	Where are you bound for and where are you from?	I am bound for ... from ...
QRE	What is your estimated time of arrival at ... (*or* over ...) *(place)*?	My estimated time of arrival at ... (*or* over ...) *(place)* is ... hours.

Abbre-viation	Question	Answer or Advice
QRF	Are you returning to ... *(place)*?	I am returning to ... *(place)*. *or* Return to ... *(place)*.
QRG	Will you tell me my exact frequency (*or* that of ...)?	Your exact frequency (*or* that of ...) is ... kHz (*or* MHz).
QRH	Does my frequency vary?	Your frequency varies.
QRI	How is the tone of my transmission?	The tone of your transmission is ... 1. good 2. variable 3. bad.
QRJ	How many radiotelephone calls have you to book?	I have ... radiotelephone calls to book.
QRK	What is the intelligibility of my signals (*or* those of ... *(name and/or call sign)*)?	The intelligibility of your signals (*or* those of ... *(name and/or call sign)*) is ... 1. bad 2. poor 3. fair 4. good 5. excellent.
QRL	Are you busy?	I am busy (*or* I am busy with ... *(name and/or call sign)*). Please do not interfere.
QRM	Is my transmission being interfered with?	Your transmission is being interfered with ... 1. nil 2. slightly 3. moderately 4. severely 5. extremely.

Abbre-viation	Question	Answer or Advice
	Interference (cont.)	
QRN	Are you troubled by static?	I am troubled by static ... 1. nil 2. slightly 3. moderately 4. severely 5. extremely.
	Adjustment of Frequency	
QRG	Will you tell me my exact frequency (*or* that of ...)?	Your exact frequency (*or* that of ...) is ... kHz (*or* MHz).
QRH	Does my frequency vary?	Your frequency varies.
QTS	Will you send your call sign (*and/or* name) for ... seconds?	I will send my call sign (*and/or* name) for ... seconds.
	Choice of Frequency and/or Class of Emission	
QOO	Can you send on any working frequency?	I can send on any working frequency.
QSN	Did you hear me (*or* ... *(name and/or call sign)*) on ... kHz (*or* MHz)?	I did hear you (*or* ... *(name and/or call sign)*) on ... kHz (*or* MHz).
QSS	What working frequency will you use?	I will use the working frequency ... kHz (*or* MHz) *(in the high frequency bands normally only the last three figures of the frequency need be given).*
QSU	Shall I send or reply on this frequency (*or* on ... kHz (*or* MHz)) (with emissions of class ...)?	Send or reply on this frequency (*or* on ... kHz (*or* MHz)) (with emissions of class ...).
QSV	Shall I send a series of Vs (*or* signs) for adjustment on this frequency (*or* on ... kHz (*or* MHz))?	Send a series of Vs (*or* signs) for adjustment on this frequency (*or* on ... kHz (*or* MHz)).

Abbre-viation	Question	Answer or Advice
	Choice of Frequency and/or Class of Emission (cont.)	
QSW	Will you send on this frequency (*or* on ... kHz (*or* MHz)) (with emissions of class ...)?	I am going to send on this frequency (*or* on ... kHz (*or* MHz)) (with emissions of class ...).
QSX	Will you listen to ... *(name and/or call sign(s))* on ... kHz (*or* MHz), or in the bands .../channels ...?	I am listening to ... *(name and/or call sign(s))* on ... kHz (*or* MHz), or in the bands .../channels ...
	Change of Frequency	
QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency (*or* on ... kHz (*or* MHz)).
	Establishing Communication	
QOA	Can you communicate by radiotelegraphy (500 kHz)?	I can communicate by radiotelegraphy (500 kHz).
QOB	Can you communicate by radiotelephony (2 182 kHz)?	I can communicate by radiotelephony (2 182 kHz).
QOC	Can you communicate by radiotelephony (channel 16 — frequency 156.80 MHz)?	I can communicate by radiotelephony (channel 16 — frequency 156.80 MHz).
QOD	Can you communicate with me in ... 0. Dutch 5. Italian 1. English 6. Japanese 2. French 7. Norwegian 3. German 8. Russian 4. Greek 9. Spanish?	I can communicate with you in .. 0. Dutch 5. Italian 1. English 6. Japanese 2. French 7. Norwegian 3. German 8. Russian 4. Greek 9. Spanish.
QOT	Do you hear my call; what is the approximate delay in minutes before we may exchange traffic?	I hear your call; the approximate delay is ... minutes.

APPENDIX 16
Mob-83

Channelling of the Maritime Mobile Radiotelephone Bands Between 4 000 kHz and 23 000 kHz

(See Article **60**, Section IV)

1. Radiotelephone channelling arrangements for the frequencies to be used by coast and ship stations in the bands allocated to the maritime mobile service are indicated in the following sections:

Section A – Table of single-sideband transmitting frequencies for duplex (two-frequency) operation (in kHz);

Section B – Table of single-sideband transmitting frequencies for simplex (single-frequency) operation and for intership cross-band (two-frequency) operation (in kHz);

Section C-1 – Table of single-sideband transmitting frequencies (in kHz) for ship stations in the band 4 000 - 4 063 kHz shared with the fixed service;

Section C-2 – Table of single-sideband transmitting frequencies (in kHz) for ship and coast stations in the band 8 100 - 8 195 kHz shared with the fixed service.

2. The technical characteristics for single-sideband transmitters are specified in Appendix **17**.

3. One or more series of frequencies from Section A (with the exception of those frequencies mentioned in paragraph 5 below) may be assigned to each coast station, which uses these frequencies associated in pairs (see No. **4381**); each pair consists of a transmitting and a receiving frequency. The series shall be selected with due regard to the areas served and so as to avoid, as far as possible, harmful interference between the services of different coast stations.

4. The frequencies in Section B are provided for worldwide common use by ships of all categories, according to traffic requirements, for ship transmissions to coast stations and for intership communication. They are also authorized for worldwide common use for transmissions by coast stations (simplex operation) provided the peak envelope power does not exceed 1 kW. (See Recommendation **304**.)

5. The following frequencies in Section A are allocated for calling purposes:

- Channel No. 421 in the 4 MHz band;
- Channel No. 606 in the 6 MHz band;
- Channel No. 821 in the 8 MHz band;
- Channel No. 1221 in the 12 MHz band;
- Channel No. 1621 in the 16 MHz band;
- Channel No. 2221 in the 22 MHz band.

The remaining frequencies in Sections A, B, C-1 and C-2 are working frequencies.

5A. For the use of the carrier frequencies:

4 125 kHz (Channel No. 421)
6 215.5 kHz (Channel No. 606)
8 257 kHz (Channel No. 821)
12 392 kHz (Channel No. 1221)
16 522 kHz (Channel No. 1621)

in Section A, by coast and ship stations for distress and safety purposes, see Article **38**.

6. *a)* Maritime radiotelephone stations using single-sideband emissions shall operate only on the carrier frequencies shown in Sections A, B, C-1 and C-2 in conformity with the technical characteristics specified in Appendix **17**. The upper sideband mode shall always be employed.

b) Stations employing the single-sideband mode shall use only class R3E and J3E emissions. However, administrations should endeavour, as far as possible, to restrict to class J3E emissions the use of the Channels Nos. 401, 601, 801, 1201, 1601 and 2201.

7. The channelling plan established in Section C-2 does not prejudice the rights of administrations to establish, and to notify assignments to stations in the maritime mobile service other than those using radiotelephony in the band 8 100 - 8 195 kHz, in conformity with the relevant provisions of these Regulations.

Table of Single-Sideband Transmitting Frequencies for Duplex (Two-Frequency) Operation (in kHz)

Channel No.	4 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
401	4 357·4	4 358·8	4 063	4 064·4
402	4 360·5	4 361·9	4 066·1	4 067·5
403	4 363·6	4 365	4 069·2	4 070·6
404	4 366·7	4 368·1	4 072·3	4 073·7
405	4 369·8	4 371·2	4 075·4	4 076·8
406	4 372·9	4 374·3	4 078·5	4 079·9
407	4 376	4 377·4	4 081·6	4 083
408	4 379·1	4 380·5	4 084·7	4 086·1
409	4 382·2	4 383·6	4 087·8	4 089·2
410	4 385·3	4 386·7	4 090·9	4 092·3
411	4 388·4	4 389·8	4 094	4 095·4
412	4 391·5	4 392·9	4 097·1	4 098·5
413	4 394·6	4 396	4 100·2	4 101·6
414	4 397·7	4 399·1	4 103·3	4 104·7
415	4 400·8	4 402·2	4 106·4	4 107·8
416	4 403·9	4 405·3	4 109·5	4 110·9
417	4 407	4 408·4	4 112·6	4 114
418	4 410·1	4 411·5	4 115·7	4 117·1
419	4 413·2	4 414·6	4 118·8	4 120·2
420	4 416·3	4 417·7	4 121·9	4 123·3
421	4 419·4*	4 420·8*	4 125 *[1]	4 126·4*
422	4 422·5	4 423·9	4 128·1	4 129·5
423	4 425·6	4 427	4 131·2	4 132·6
424	4 428·7	4 430·1	4 134·3	4 135·7
425	4 431·8	4 433·2	4 137·4	4 138·8
426	4 434·9	4 436·3	4 140·5	4 141·9

Channel No.	6 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
601	6 506·4	6 507·8	6 200	6 201·4
602	6 509·5	6 510·9	6 203·1	6 204·5
603	6 512·6	6 514	6 206·2	6 207·6
604	6 515·7	6 517·1	6 209·3	6 210·7
605	6 518·8	6 520·2	6 212·4	6 213·8
606	6 521·9*	6 523·3*	6 215·5*[2]	6 216·9*

Channel No.	8 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
801	8 718·9	8 720·3	8 195	8 196·4
802	8 722	8 723·4	8 198·1	8 199·5
803	8 725·1	8 726·5	8 201·2	8 202·6
804	8 728·2	8 729·6	8 204·3	8 205·7
805	8 731·3	8 732·7	8 207·4	8 208·8
806	8 734·4	8 735·8	8 210·5	8 211·9
807	8 737·5	8 738·9	8 213·6	8 215
808	8 740·6	8 742	8 216·7	8 218·1
809	8 743·7	8 745·1	8 219·8	8 221·2
810	8 746·8	8 748·2	8 222·9	8 224·3
811	8 749·9	8 751·3	8 226	8 227·4
812	8 753	8 754·4	8 229·1	8 230·5
813	8 756·1	8 757·5	8 232·2	8 233·6
814	8 759·2	8 760·6	8 235·3	8 236·7
815	8 762·3	8 763·7	8 238·4	8 239·8
816	8 765·4	8 766·8	8 241·5	8 242·9
817	8 768·5	8 769·9	4 244·6	8 246
818	8 771·6	8 773	8 247·7	8 249·1
819	8 774·7	8 776·1	8 250·8	8 252·2
820	8 777·8	8 779·2	8 253·9	8 255·3
821	8 780·9*	8 782·3*	8 257 *	8 258·4*
822	8 784	8 785·4	8 260·1	8 261·5
823	8 787·1	8 788·5	8 263·2	8 264·6
824	8 790·2	8 791·6	8 266·3	8 267·7
825	8 793·3	8 794·7	8 269·4	8 270·8
826	8 796·4	8 797·8	8 272·5	8 273·9
827	8 799·5	8 800·9	8 275·6	8 277
828	8 802·6	8 804	8 278·7	8 280·1
829	8 805·7	8 807·1	8 281·8	8 283·2
830	8 808·8	8 810·2	8 284·9	8 286·3
831	8 811·9	8 813·3	8 288	8 289·4

Channel No.	12 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
1201	13 100·8	13 102·2	12 330	12 331·4
1202	13 103·9	13 105·3	12 333·1	12 334·5
1203	13 107	13 108·4	12 336·2	12 337·6
1204	13 110·1	13 111·5	12 339·3	12 340·7
1205	13 113·2	13 114·6	12 342·4	12 343·8
1206	13 116·3	13 117·7	12 345·5	12 346·9
1207	13 119·4	13 120·8	12 348·6	12 350
1208	13 122·5	13 123·9	12 351·7	12 353·1
1209	13 125·6	13 127	12 354·8	12 356·2
1210	13 128·7	13 130·1	12 357·9	12 359·3
1211	13 131·8	13 133·2	12 361	12 362·4
1212	13 134·9	13 136·3	12 364·1	12 365·5
1213	13 138	13 139·4	12 367·2	12 368·6
1214	13 141·1	13 142·5	12 370·3	12 371·7
1215	13 144·2	13 145·6	12 373·4	12 374·8
1216	13 147·3	13 148·7	12 376·5	12 377·9
1217	13 150·4	13 151·8	12 379·6	12 381
1218	13 153·5	13 154·9	12 382·7	12 384·1
1219	13 156·6	13 158	12 385·8	12 387·2
1220	13 159·7	13 161·1	12 388·9	12 390·3
1221	13 162·8*	13 164·2*	12 392 *	12 393·4*
1222	13 165·9	13 167·3	12 395·1	12 396·5
1223	13 169	13 170·4	12 398·2	12 399·6
1224	13 172·1	13 173·5	12 401·3	12 402·7
1225	13 175·2	13 176·6	12 404·4	12 405·8
1226	13 178·3	13 179·7	12 407·5	12 408·9
1227	13 181·4	13 182·8	12 410·6	12 412
1228	13 184·5	13 185·9	12 413·7	12 415·1
1229	13 187·6	13 189	12 416·8	12 418·2
1230	13 190·7	13 192·1	12 419·9	12 421·3
1231	13 193·8	13 195·2	12 423	12 424·4
1232	13 196·9	13 198·3	12 426·1	12 427·5

Channel No.	16 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
1601	17 232·9	17 234·3	16 460	16 461·4
1602	17 236	17 237·4	16 463·1	16 464·5
1603	17 239·1	17 240·5	16 466·2	16 467·6
1604	17 242·2	17 243·6	16 469·3	16 470·7
1605	17 245·3	17 246·7	16 472·4	16 473·8
1606	17 248·4	17 249·8	16 475·5	16 476·9
1607	17 251·5	17 252·9	16 478·6	16 480
1608	17 254·6	17 256	16 481·7	16 483·1
1609	17 257·7	17 259·1	16 484·8	16 486·2
1610	17 260·8	17 262·2	16 487·9	16 489·3
1611	17 263·9	17 265·3	16 491	16 492·4
1612	17 267	17 268·4	16 494·1	16 495·5
1613	17 270·1	17 271·5	16 497·2	16 498·6
1614	17 273·2	17 274·6	16 500·3	16 501·7
1615	17 276·3	17 277·7	16 503·4	16 504·8
1616	17 279·4	17 280·8	16 506·5	16 507·9
1617	17 282·5	17 283·9	16 509·6	16 511
1618	17 285·6	17 287	16 512·7	16 514·1
1619	17 288·7	17 290·1	16 515·8	16 517·2
1620	17 291·8	17 293·2	16 518·9	16 520·3
1621	17 294·9*	17 296·3*	16 522 *	16 523·4*
1622	17 298	17 299·4	16 525·1	16 526·5
1623	17 301·1	17 302·5	16 528·2	16 529·6
1624	17 304·2	17 305·6	16 531·3	16 532·7
1625	17 307·3	17 308·7	16 534·4	16 535·8
1626	17 310·4	17 311·8	16 537·5	16 538·9
1627	17 313·5	17 314·9	16 540·6	16 542
1628	17 316·6	17 318	16 543·7	16 545·1
1629	17 319·7	17 321·1	16 546·8	16 548·2
1630	17 322·8	17 324·2	16 549·9	16 551·3
1631	17 325·9	17 327·3	16 553	16 554·4
1632	17 329	17 330·4	16 556·1	16 557·5
1633	17 332·1	17 333·5	16 559·2	16 560·6
1634	17 335·2	17 336·6	16 562·3	16 563·7
1635	17 338·3	17 339·7	16 565·4	16 566·8
1636	17 341·4	17 342·8	16 568·5	16 569·9
1637	17 344·5	17 345·9	16 571·6	16 573
1638	17 347·6	17 349	16 574·7	16 576·1
1639	17 350·7	17 352·1	16 577·8	16 579·2
1640	17 353·8	17 355·2	16 580·9	16 582·3
1641	17 356·9	17 358·3	16 584	16 585·4

Channel No.	22 MHz Band			
	Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
2201	22 596	22 597·4	22 000	22 001·4
2202	22 599·1	22 600·5	22 003·1	22 004·5
2203	22 602·2	22 603·6	22 006·2	22 007·6
2204	22 605·3	22 606·7	22 009·3	22 010·7
2205	22 608·4	22 609·8	22 012·4	22 013·8
2206	22 611·5	22 612·9	22 015·5	22 016·9
2207	22 614·6	22 616	22 018·6	22 020
2208	22 617·7	22 619·1	22 021·7	22 023·1
2209	22 620·8	22 622·2	22 024·8	22 026·2
2210	22 623·9	22 625·3	22 027·9	22 029·3
2211	22 627	22 628·4	22 031	22 032·4
2212	22 630·1	22 631·5	22 034·1	22 035·5
2213	22 633·2	22 634·6	22 037·2	22 038·6
2214	22 636·3	22 637·7	22 040·3	22 041·7
2215	22 639·4	22 640·8	22 043·4	22 044·8
2216	22 642·5	22 643·9	22 046·5	22 047·9
2217	22 645·6	22 647	22 049·6	22 051
2218	22 648·7	22 650·1	22 052·7	22 054·1
2219	22 651·8	22 653·2	22 055·8	22 057·2
2220	22 654·9	22 656·3	22 058·9	22 060·3
2221	22 658 *	22 659·4*	22 062 *	22 063·4*
2222	22 661·1	22 662·5	22 065·1	22 066·5
2223	22 664·2	22 665·6	22 068·2	22 069·6
2224	22 667·3	22 668·7	22 071·3	22 072·7
2225	22 670·4	22 671·8	22 074·4	22 075·8
2226	22 673·5	22 674·9	22 077·5	22 078·9
2227	22 676·6	22 678	22 080·6	22 082
2228	22 679·7	22 681·1	22 083·7	22 085·1
2229	22 682·8	22 684·2	22 086·8	22 088·2
2230	22 685·9	22 687·3	22 089·9	22 091·3
2231	22 689	22 690·4	22 093	22 094·4
2232	22 692·1	22 693·5	22 096·1	22 097·5
2233	22 695·2	22 696·6	22 099·2	22 100·6
2234	22 698·3	22 699·7	22 102·3	22 103·7
2235	22 701·4	22 702·8	22 105·4	22 106·8
2236	22 704·5	22 705·9	22 108·5	22 109·9
2237	22 707·6	22 709	22 111·6	22 113
2238	22 710·7	22 712·1	22 114·7	22 116·1
2239	22 713·8	22 715·2	22 117·8	22 119·2
2240	22 716·9	22 718·3	22 120·9	22 122·3

* The frequencies followed by an asterisk are calling frequencies (see Nos. **4375** and **4376**).

[1] For the conditions of use of the carrier frequency 4 125 kHz, see Nos. **2982**, **4379** and **4380**.

[2] For the conditions of use of the carrier frequency 6 215.5 kHz, see No. **2986**.

SECTION B

Table of Single-Sideband Transmitting Frequencies for Simplex (Single-Frequency) Operation and for Intership Cross-Band (Two-Frequency) Operation (in kHz)

(See paragraph 4 of this Appendix)

4 MHz Band		6 MHz Band		8 MHz Band		12 MHz Band		16 MHz Band		22 MHz Band	
Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
4 143·6	4 145	6 218·6	6 220	8 291·1	8 292·5	12 429·2	12 430·6	16 587·1	16 588·5	22 124	22 125·4
		6 221·6	6 223	8 294·2	8 295·6	12 432·3	12 433·7	16 590·2	16 591·6	22 127·1	22 128·5
						12 435·4	12 436·8	16 593·3	16 594·7	22 130·2	22 131·6
										22 133·3	22 134·7
										22 136·4	22 137·8

SECTION C-1

Table of Single-Sideband Transmitting Frequencies (in kHz) for Ship Stations in the Band 4 000 - 4 063 kHz Shared with the Fixed Service

The frequencies in this Section may be used:

- for supplementing ship-to-shore channels for duplex operation in Section A;
- for intership simplex (single-frequency) and cross-band operation;
- for cross-band working with coast stations on channels in Section C-2;
- for duplex operation with coast stations working in the band 4 438 - 4 650 kHz.

Channel No.	Carrier Frequency	Assigned Frequency	Channel No.	Carrier Frequency	Assigned Frequency
1	4 000 *	4 001.4 *	12	4 033	4 034.4
2	4 003 *	4 004.4 *	13	4 036	4 037.4
3	4 006	4 007.4	14	4 039	4 040.4
4	4 009	4 010.4	15	4 042	4 043.4
5	4 012	4 013.4	16	4 045	4 046.4
6	4 015	4 016.4	17	4 048	4 049.4
7	4 018	4 019.4	18	4 051	4 052.4
8	4 021	4 022.4	19	4 054	4 055.4
9	4 024	4 025.4	20	4 057	4 058.4
10	4 027	4 028.4	21	4 060	4 061.4
11	4 030	4 031.4			

* Administrations are requested to urge ship stations under their jurisdiction to refrain from using the band 4 000 - 4 005 kHz when navigating in Region 3 (see also No. **516**).

SECTION C-2

Table of Single-Sideband Transmitting Frequencies (in kHz) for Ship and Coast Stations in the Band 8 100 - 8 195 kHz Shared With the Fixed Service

(See paragraph 8 of this Appendix)

The frequencies in this Section may be used:

- for supplementing ship-to-shore and shore-to-ship channels for duplex operation in Section A;
- for intership simplex (single frequency) and cross-band operation;
- for cross-band working with ship stations on channels in Section C-1;
- for ship-to-shore or shore-to-ship simplex operation.

Channel No.	Carrier Frequency	Assigned Frequency	Channel No.	Carrier Frequency	Assigned Frequency
1	8 101	8 102.4	17	8 149	8 150.4
2	8 104	8 105.4	18	8 152	8 153.4
3	8 107	8 108.4	19	8 155	8 156.4
4	8 110	8 111.4	20	8 158	8 159.4
5	8 113	8 114.4	21	8 161	8 162.4
6	8 116	8 117.4	22	8 164	8 165.4
7	8 119	8 120.4	23	8 167	8 168.4
8	8 122	8 123.4	24	8 170	8 171.4
9	8 125	8 126.4	25	8 173	8 174.4
10	8 128	8 129.4	26	8 176	8 177.4
11	8 131	8 132.4	27	8 179	8 180.4
12	8 134	8 135.4	28	8 182	8 183.4
13	8 137	8 138.4	29	8 185	8 186.4
14	8 140	8 141.4	30	8 188	8 189.4
15	8 143	8 144.4	31	8 191	8 192.4
16	8 146	8 147.4			

5. The unwanted frequency modulation of the carrier shall be sufficiently low to prevent harmful distortion.

6. When class H3E, R3E or J3E emissions are used, the power of any unwanted emission supplied to the antenna transmission line on any discrete frequency shall, when the transmitter is driven to full peak envelope power, be in accordance with the following table:

a) Transmitters in use or installed before 2 January 1982 [1]:

Separation Δ in kHz between the frequency of the unwanted emission[2] and the assigned frequency	Minimum attenuation below peak envelope power
$1.6 < \Delta \leqslant 4.8$	28 dB
$4.8 < \Delta \leqslant 8$	38 dB
$8 < \Delta$	43 dB without exceeding the power of 50 mW

Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions [3] and those spurious emissions [4] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions [3], be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.6 kHz removed from the assigned frequency.

For notes, see page AP17-4.

b) Transmitters installed after 1 January 1982 [1]:

Separation Δ in kHz between the frequency of the unwanted emission[2] and the assigned frequency	Minimum attenuation below peak envelope power
$1.5 < \Delta \leqslant 4.5$	31 dB
$4.5 < \Delta \leqslant 7.5$	38 dB
$7.5 < \Delta$	43 dB without exceeding the power of 50 mW

Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions [3] and those spurious emissions [4] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions [3], be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.5 kHz removed from the assigned frequency.

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[1] All administrations recognize the need to reduce the level of unwanted emissions and will therefore endeavour to ensure that the new requirements will be met by all newly designed transmitters under their jurisdiction as soon as practicable before 2 January 1982.

[2] *Unwanted emission:* See Article **1**, No. **140**.

[3] *Out-of-band emission:* See Article **1**, No. **138**.

[4] *Spurious emission:* See Article **1**, No. **139**.

APPENDIX 18
Mob-83

Table of Transmitting Frequencies in the Band 156-174 MHz for Stations in the Maritime Mobile Service

(See No. **613** and Articles **59** and **60**)

Note 1: For assistance in understanding the Table, see notes *a)* to *p)* below.

Note 2: Channels 01 to 28, except 15 and 17, correspond to the channels of Appendix 18 to the Radio Regulations, Geneva, 1959, and channels 15, 17, and 60 to 88 correspond to those additional channels made available for assignment in accordance with the provisions of Appendix 18 Mar to the Radio Regulations, Geneva, 1967 (see Resolution **308**).

Note 3: Channel designators 60 to 88 were chosen for the additional channels in order to separate them clearly from the original channels.

Channel designators	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations		Ship movement		Public correspondence
		Ship stations	Coast stations		Single frequency	Two frequency	Single frequency	Two frequency	
60	*h)*	156.025	160.625			17		9	25
01		156.050	160.650			10		15	8
61		156.075	160.675			23		3	19
02		156.100	160.700			8		17	10
62		156.125	160.725			20		6	22
03		156.150	160.750			9		16	9
63		156.175	160.775			18		8	24
04		156.200	160.800			11		14	7
64		156.225	160.825			22		4	20
05		156.250	160.850			6		19	12
65		156.275	160.875			21		5	21
06	*g)*	156.300		1					
66		156.325	160.925			19		7	23
07		156.350	160.950			7		18	11
67	*l)*	156.375	156.375	9	10		9		
08		156.400		2					
68	*n)*	156.425	156.425		6		2		
09	*m)*	156.450	156.450	5	5		12		
69	*n)*	156.475	156.475	8	11		4		
10	*l)*	156.500	156.500	3	9		10		
70	*p)*	156.525	156.525	Digital selective calling for distress and safety					
11	*n)*	156.550	156.550		3		1		
71	*n)*	156.575	156.575		7		6		
12	*n)*	156.600	156.600		1		3		
72	*m)*	156.625		6					
13	*n)*	156.650	156.650	4	4		5		
73	*l)*	156.675	156.675	7	12		11		
14	*n)*	156.700	156.700		2		7		
74	*n)*	156.725	156.725		8		8		

Channel designators	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations		Ship movement		Public correspondence
		Ship stations	Coast stations		Single frequency	Two frequency	Single frequency	Two frequency	
15	*j)*	156.750	156.750	11	14				
75	*k)*		Guardband 156.7625 – 156.7875 MHz						
16		156.800	156.800	DISTRESS, SAFETY AND CALLING					
76	*k)*	156.825	156.825	Direct-printing telegraphy for distress and safety purposes					
17	*j)*	156.850	156.850	12	13				
77		156.875		10					
18	*f)*	156.900	161.500			3		22	
78		156.925	161.525			12		13	27
19	*f)*	156.950	161.550			4		21	
79	*f) n)*	156.975	161.575			14		1	
20	*f)*	157.000	161.600			1		23	
80	*f) n)*	157.025	161.625			16		2	
21	*f)*	157.050	161.650			5		20	
81		157.075	161.675			15		10	28
22	*f)*	157.100	161.700			2		24	
82		157.125	161.725			13		11	26
23		157.150	161.750						5
83		157.175	161.775						16
24		157.200	161.800						4
84		157.225	161.825			24		12	13
25		157.250	161.850						3
85		157.275	161.875						17
26		157.300	161.900						1
86	*o)*	157.325	161.925						15
27		157.350	161.950						2
87		157.375	161.975						14
28		157.400	162.000						6
88	*h)*	157.425	162.025						18

NOTES REFERRING TO THE TABLE

a) The figures in the column headed "Intership" indicate the normal sequence in which channels should be taken into use by mobile stations.

b) The figures in the columns headed "Port operations", "Ship movement" and "Public correspondence" indicate the normal sequence in which channels should be taken into use by each coast station. However, in some cases, it may be necessary to omit channels in order to avoid harmful interference between the services of neighbouring coast stations.

c) Administrations may designate frequencies in the intership, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations under the conditions specified in Nos. **4144**, **4148**, **4149**, **4150**, **4151**, **4152** and **4153**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

d) The channels of the present Appendix, with the exception of channels 06, 15, 16, 17, 75 and 76, may also be used for highspeed data and facsimile transmissions, subject to special arrangement between interested and affected administrations (see also notes *k)* and *p)*).

e) Except in the United States of America, the channels of Appendix **18**, preferably two adjacent channels from the series 87, 28, 88, with the exception of channels 06, 15, 16, 17, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations (see also notes *k)* and *p)*).

f) The two-frequency channels for port operations (18, 19, 20, 21, 22, 79 and 80) may be used for public correspondence, subject to special arrangement between interested and affected administrations.

g) The frequency 156.300 MHz (channel 06) (see Nos. **2993** and **4154**) may also be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. Ship stations shall avoid harmful interference to such communications on channel 06 as well as to communications between aircraft stations, ice-breakers and assisted ships during ice seasons.

h) Channels 60 and 88 can be used subject to special arrangements between interested and affected administrations.

i) The frequencies in this Table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **613**.

j) Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters. (However, see Recommendation **305**.)

k) The frequency 156.825 MHz (channel 76) is used exclusively for direct-printing telegraphy for distress and safety purposes subject to not causing harmful interference to channel 16 (see also Nos. **3033** and **4393**).

l) Within the European Maritime Area and in Canada these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **4144**, **4148**, **4149**, **4150**, **4151**, **4152** and **4153**.

m) The preferred first three frequencies for the purpose indicated in note *c)* are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).

n) These channels (68, 69, 11, 71, 12, 13, 14, 74, 79 and 80) are the preferred channels for the ship movement service. They may, however, be assigned to the port operations service until required for the ship movement service if this should prove to be necessary in any specific area. Channel 13 is also used on a worldwide basis for intership navigation safety communications.

o) This channel (86) may be used as a calling channel if such a channel is required in an automatic radiotelephone system when such a system is recommended by the CCIR.

p) This channel (70) is to be used exclusively for digital selective calling for distress and safety purposes as from 1 January 1986 (see Resolution **317 (Mob-83)**); until 31 December 1985 it may be used as an intership channel with order of priority 13 (see note *a)*).

APPENDIX 25

Frequency Allotment Plan for Coast Radiotelephone Stations operating in the Exclusive Maritime Mobile Bands between 4 000 kHz and 23 000 kHz*

(See Nos. **4198** and **4212** of the Radio Regulations and Appendix **16**)

Note *a)*: The frequencies in Column 1 are assigned frequencies (see No. **142**) as listed in Appendix **16** to the Radio Regulations. Each frequency is followed, in parentheses, by the carrier frequency and the channel number. (See Section A of Appendix **16** to the Radio Regulations.)

Note *b)*: The coast radiotelephone stations operating in the exclusive maritime mobile bands between 4 000 kHz and 23 000 kHz must use the minimum power required to cover their service area. They may in no case use a peak envelope power above 10 kW per channel. (See No. **4373** of the Radio Regulations.)

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* *Note by the General Secretariat:* Changes to the Frequency Allotment Plan adopted by the World Maritime Administrative Radio Conference, Geneva, 1974, resulting from the application of the procedures prescribed in Article **16** are indicated on pages AP25-91 and following.

Note *c)*: The Plan contained in this Appendix is updated in accordance with the procedure defined in Article **16** of the Radio Regulations.

Column 1	Column 2	Column 3
Assigned frequency (carrier frequency) (channel number)	Country or area	Observations

Column 3
Observations

ADD This allotment has been entered in the Plan as a result of the application of the procedure of Article **16**. The basic characteristics of the allotment are given, as published in Part B of the relevant Special Section of the IFRB Circular, in the *Table of allotments added to the Plan*, pages AP25-91/95.

1	2	3
4 365 **(4 363.6)** (Ch. No. 403) *(cont.)*	Norway Peru Puerto Rico	
	Sri Lanka South Africa Sweden	
	Togo Ukraine U.S.S.R. (Far East)	
4 368.1 **(4 366.7)** (Ch. No. 404)		
	Alaska Australia Bangladesh	
	Brazil Chile (South) China	
	Congo Ivory Coast United States of America (Central)	
	United States of America (East) United States of America (West) France	
	Guadeloupe (French Department of) Iran Israel	
	Japan Martinique (French Department of) Mexico	
	New Caledonia and Dependencies Oman Easter Island	
	Poland Reunion (French Department of) S. Pierre and Miquelon (French Dep. of)	
	Senegal Thailand	

1	2	3
4 371.2 **(4 369.8)** (Ch. No. 405)	Alaska Australia (East) Brazil	
	Cameroon Canary Islands Chile	
	China United States of America (Central) United States of America (East)	ADD
	United States of America (West) United States of America (South) France	
	Gambia Greece Hawaii	
	Iran Jamaica Netherlands	
	German Democratic Republic Romania Singapore	
	South Africa Uruguay U.S.S.R. (Southern Asia)	
	U.S.S.R. (Europe) U.S.S.R. (Far East)	
4 374.3 **(4 372.9)** (Ch. No. 406)	Alaska Albania Saudi Arabia	
	Argentina China Cyprus	
	Colombia Congo Spain	

(cont.)

1	2	3
4 374.3 **(4 372.9)** (Ch. No. 406) *(cont.)*	United States of America (Central) United States of America (East) United States of America (West)	
	United States of America (South) Fiji Finland	
	Guam Hawaii Iceland	
	Madagascar Panama Poland	
	Puerto Rico United Kingdom Sri Lanka	
	Tunisia	
4 377.4 **(4 376)** (Ch. No. 407)		
	Alaska Argentina Australia	ADD
	Barbados Cameroon Canada (Central)	
	Spain United States of America (East) United States of America (West)	
	Guam Hawaii India (East)	
	Iran Japan Norway	
	Netherlands Peru Puerto Rico	
(cont.)	German Democratic Republic Singapore South Africa	

1	2	3
4 377.4 **(4 376)** (Ch. No. 407) *(cont.)*	Turkey U.S.S.R. (Northern Asia) U.S.S.R. (North West)	
4 380.5 **(4 379.1)** (Ch. No. 408)	Alaska Netherlands Antilles Argentina	
	Belgium Canada (East) Canada (West)	
	United States of America (East) United States of America (West) Guam	
	Hawaii Indonesia Iran	
	Italy Japan Liberia	
	Mexico Mozambique New Zealand	
	Poland American Samoa Switzerland	ADD
	Yugoslavia	
4 383.6 **(4 382.2)** (Ch. No. 409)	Saudi Arabia Brazil China	
	Cuba Denmark United States of America (Central)	
(cont.)	United States of America (East) United States of America (West) United States of America (South)	

1	2	3
4 383.6 **(4 382.2)** (Ch. No. 409) *(cont.)*	India (West) Italy Norway	
	Papua New Guinea Philippines Sweden	
	Thailand Turkey Zaire	
4 386.7 **(4 385.3)** (Ch. No. 410)		
	Algeria Argentina (South) Bermuda	
	Canada (West) Canary Islands China	
	United States of America (East) Greece Guam	
	Hungary Iran Israel	
	Jamaica Malta Mauritania	
	New Zealand Netherlands German Democratic Republic	
	Romania United Kingdom Seychelles (Republic of)	
	Sri Lanka	
4 389.8 **(4 388.4)** (Ch. No. 411) *(cont.)*		
	Argentina (North) Bangladesh Belgium	

1	2	3
4 389.8 **(4 388.4)** (Ch. No. 411) *(cont.)*	Spain United States of America (Central) United States of America (East)	
	United States of America (West) Falkland Islands (Malvinas) Hongkong	
	Indonesia Iran Japan	
	Liberia S. Paul and Amsterdam Islands Turkey	ADD
	Ukraine U.S.S.R. (North West)	
4 392.9 **(4 391.5)** (Ch. No. 412)		
	Germany (Federal Republic of) Australia United States of America (East)	
	United States of America (West) United States of America (South) India (West)	
	Iraq Italy Japan	
	Peru Philippines Ukraine	
	U.S.S.R. (Far East) U.S.S.R. (Europe) U.S.S.R. (North West)	
	Yemen (P.D.R. of)	
4 396 **(4 394.6)** (Ch. No. 413) *(cont.)*		
	Azores Alaska Algeria	

1	2	3
4 414.6 **(4 413.2)** (Ch. No. 419) *(cont.)*	Japan Kuwait Libya	
	Pakistan Netherlands Puerto Rico	
	German Democratic Republic Czechoslovakia U.S.S.R. (North West)	
	Yugoslavia	
4 417.7 **(4 416.3)** (Ch. No. 420)		
	Alaska Bulgaria Cameroon	
	Denmark United States of America (East) United States of America (West)	
	Guam Hawaii India (East)	
	Iran Italy Japan	
	Jordan Malaysia Morocco	
	Norway Panama Puerto Rico	
	Sweden Turkey U.S.S.R. (Southern Asia)	
	U.S.S.R. (Northern Asia)	

1	2	3
4 423.9 **(4 422.5)** (Ch. No. 422)	Alaska Belgium Canada (West)	
	Canary Islands China Cuba	
	United States of America (East) United States of America (West) Finland	
	Greece Guiana (French Department of) Hungary	
	Indonesia Iraq Japan	
	Liberia Libya Morocco	
	United Kingdom U.S.S.R. (Europe)	
4 427 **(4 425.6)** (Ch. No. 423)	Alaska Germany (Federal Republic of) Brazil	ADD
	China United States of America (Central) United States of America (East)	
	United States of America (West) United States of America (South) Indonesia	
	Israel Italy Japan	
(cont.)	Malta Pakistan Panama	ADD

1	2	3
4 427 **(4 425.6)** (Ch. No. 423) *(cont.)*	Papua New Guinea	
	Poland	
	Qatar	ADD
4 430.1 **(4 428.7)** (Ch. No. 424)	Alaska	
	Algeria	
	Argentina	
	Australia (East)	ADD
	Australia (West)	
	China	
	Denmark	
	United States of America (Central)	
	United States of America (East)	
	United States of America (West)	
	United States of America (South)	
	Greece	
	Guadeloupe (French Department of)	
	Guam	
	Hawaii	
	Morocco	
	Martinique (French Department of)	
	Norway	
	Puerto Rico	
	Sweden	
	Switzerland	
	Thailand	
4 433.2 **(4 431.8)** (Ch. No. 425)	Alaska	
	Belgium	
	Brazil	ADD
	Chile	
	Denmark	
	Spain	
	United States of America (Central)	
	United States of America (East)	
	United States of America (West)	
	United States of America (South)	
	Greece	
(cont.)	Guam	

1	2	3
4 433.2 **(4 431.8)** (Ch. No. 425) *(cont.)*	Hawaii Hungary Japan	
	Jordan Kuwait Libya	ADD
	Malaysia Norway New Zealand	
	Panama Netherlands Puerto Rico	
4 436.3 **(4 434.9)** (Ch. No. 426)		
	Azores Alaska Algeria	
	Angola Argentina Bulgaria	
	Cape Verde China Cyprus	
	Denmark United States of America (East) United States of America (West)	
	United States of America (South) Guam Guinea-Bissau	
	Hawaii Japan Lebanon	
	Madeira Mozambique Norway	
	Panama Puerto Rico Portugal	
	United Kingdom Thailand Portuguese Timor	

1	2	3
6 507.8 **(6 506.4)** (Ch. No. 601)	Alaska Algeria Germany (Federal Republic of)	
	Saudi Arabia Argentina (Central) Argentina (South)	
	Bangladesh Canada (West) Chile (Central)	
	Chile (North) China Congo	
	United States of America (Central) United States of America (East) United States of America (West)	
	United States of America (South) Greece Guam	
	Hawaii Hungary Indonesia	
	Iran Iraq Iceland	
	Japan Libya Malaysia	
	Mexico (East) Mexico (West) New Zealand	
	Peru Puerto Rico Romania	
	Sri Lanka Czechoslovakia Ukraine	
	U.S.S.R. (Southern Asia) U.S.S.R. (Europe) Yugoslavia	

1	2	3
6 510.9 **(6 509.5)** (Ch. No. 602)	Alaska Bangladesh Belgium	
	Bulgaria Canada (East) Canada (West)	
	Korea Ivory Coast United States of America (Central)	
	United States of America (East) United States of America (West) United States of America (South)	
	Fiji Guam Hawaii	ADD
	Indonesia Iran Italy	
	Kuwait Madagascar Monaco	
	Netherlands Peru Poland	
	Puerto Rico Portugal Singapore	
	South Africa Tunisia Turkey	
	U.S.S.R. (Southern Asia) U.S.S.R. (Northern Asia) U.S.S.R. (Europe)	
	U.S.S.R. (Far East) Yugoslavia	

1	2	3
6 514 **(6 512.6)** (Ch. No. 603)	Alaska Albania Algeria	
	Saudi Arabia Argentina Bangladesh	
	Bermuda Canada (North) Canada (West)	
	Cyprus Ivory Coast Denmark	
	Spain United States of America (Central) United States of America (East)	
	United States of America (West) United States of America (South) Greece	
	Guam Hawaii Hungary	
	India (East) Indonesia Iran	
	Iraq Iceland Israel	
	Japan Libya Malta	ADD
	Mauritania Mexico Norway	
	Peru Philippines Puerto Rico	
(cont.)	Romania Western Samoa Sweden	

1	2	3
6 514 **(6 512.6)** (Ch. No. 603) *(cont.)*	Thailand Togo Ukraine U.S.S.R. (Far East) U.S.S.R. (North West)	
6 517.1 **(6 515.7)** (Ch. No. 604)	Alaska Netherlands Antilles Australia Bangladesh Bulgaria Cameroon Canada (West) Chile China Spain United States of America (Central) United States of America (East) United States of America (West) United States of America (South) Guam Hawaii Hongkong Indonesia Iran Israel Italy Madagascar Mauritania Mexico Pakistan Papua New Guinea Peru Poland Puerto Rico Tunisia Turkey U.S.S.R. (North West) Yugoslavia	ADD

1	2	3
8 729.6 **(8 728.2)** (Ch. No. 804) *(cont.)*	Jordan Monaco Peru	ADD
	Poland Qatar Sierra Leone	ADD
	Singapore U.S.S.R. (Southern Asia) U.S.S.R. (Northern Asia)	
	U.S.S.R. (Far East)	
8 732.7 **(8 731.3)** (Ch. No. 805)	Albania	
	Belgium Spain United States of America (East)	
	United States of America (West) United States of America (South) Ethiopia	
	Finland Iran Iceland	
	Israel Japan Liberia	
	New Caledonia and Dependencies Papua New Guinea Netherlands	
	South Africa U.S.S.R. (Europe) U.S.S.R. (Far East)	
8 735.8 **(8 734.4)** (Ch. No. 806)		
	Alaska Argentina Bahrain	
(cont.)	Bangladesh Belgium Ivory Coast	

1	2	3
8 735.8 **(8 734.4)** (Ch. No. 806) *(cont.)*	Spain United States of America (East) United States of America (West)	
	Greece Guam Hawaii	
	Italy Japan Panama	
	Netherlands Poland Puerto Rico	
	American Samoa Thailand Ukraine	ADD
8 738.9 **(8 737.5)** (Ch. No. 807)		
	Canada (West) Chile Cyprus	
	Congo Cuba United States of America (Central)	
	Iceland Japan Kuwait	
	Madagascar Malta Mauritania	ADD
	New Zealand S. Helena Czechoslovakia	
	U.S.S.R. (Southern Asia) U.S.S.R. (Northern Asia) U.S.S.R. (Europe)	
8 742 **(8 740.6)** (Ch. No. 808) *(cont.)*		
	Alaska Saudi Arabia Argentina	

1	2	3
8 763.7 **(8 762.3)** (Ch. No. 815)	Germany (Federal Republic of) Australia (West) Belgium	
	Chile China United States of America (East)	
	United States of America (West) United States of America (South) Greece	
	Guiana (French Department of) Iraq Japan	
	Morocco Singapore U.S.S.R. (Europe)	
	U.S.S.R. (North West) Zaire	
8 766.8 **(8 765.4)** (Ch. No. 816)	Alaska Argentina Barbados	
	China Congo Spain	
	United States of America (East) United States of America (West) United States of America (South)	
	Greece Guam Hawaii	
	Indonesia Pakistan Puerto Rico	
	United Kingdom Tunisia U.S.S.R. (Europe)	
(cont.)		

1	2	3
8 766.8 **(8 765.4)** (Ch. No. 816) *(cont.)*	U.S.S.R. (North West)	
8 769.9 **(8 768.5)** (Ch. No. 817)	Alaska Germany (Federal Republic of) Australia	
	Bangladesh Bermuda Canada (East)	
	Chile Egypt United States of America (Central)	
	United States of America (East) United States of America (West) United States of America (South)	
	France Guam Hawaii	
	Iran Mexico Nauru	ADD
	Philippines Puerto Rico Romania	
	Thailand U.S.S.R. (Europe) U.S.S.R. (Far East)	
	Yemen (P.D.R. of)	
8 773 **(8 771.6)** (Ch. No. 818)	Alaska Argentina Bulgaria	
(cont.)	Cameroon China Cyprus	

1	2	3
8 785.4 **(8 784)** (Ch. No. 822) *(cont.)*	Yugoslavia	
8 788.5 **(8 787.1)** (Ch. No. 823)	Argentina Canada (East) Denmark	
	Greece India (West) Iraq	
	Italy Jamaica Japan	
	Norway Romania Sweden	
	Portuguese Timor U.S.S.R. (Far East) U.S.S.R. (North West)	
8 791.6 **(8 790.2)** (Ch. No. 824)	Germany (Federal Republic of) Brazil China	
	United States of America (East) United States of America (West) United States of America (South)	
	Greece Iran Jamaica	
	Morocco Oman Peru	
	Poland Reunion (French Department of) Singapore	
	Switzerland Tunisia U.S.S.R. (North West)	

1	2	3
8 794.7 **(8 793.3)** (Ch. No. 825)	Alaska Algeria Argentina	
	Barbados Canada (Central) Cook Islands	
	Denmark United States of America (East) United States of America (West)	
	United States of America (South) France Guadeloupe (French Department of)	
	Hungary India (East) Iran	
	Martinique (French Department of) Norway Philippines	
	S. Paul and Amsterdam Islands Ukraine U.S.S.R. (Southern Asia)	ADD
	U.S.S.R. (Far East)	
8 797.8 **(8 796.4)** (Ch. No. 826)	Cameroon Canada (West) China	
	Colombia United States of America (Central) United States of America (East)	
	Guam Indonesia Italy	
	Japan Mexico Netherlands	
(cont.)		

1	2	3
13 111.5 **(13 110.1)** (Ch. No. 1204) *(cont.)*	Panama Puerto Rico German Democratic Republic Thailand U.S.S.R. (Europe)	
13 114.6 **(13 113.2)** (Ch. No. 1205)	Alaska Germany (Federal Republic of) Argentina Bangladesh Ivory Coast Spain United States of America (East) United States of America (West) United States of America (South) Guam Hawaii Italy Japan Mozambique Norway New Caledonia and Dependencies Puerto Rico Portuguese Timor Ukraine U.S.S.R. (Europe) Yemen (P.D.R. of)	
13 117.7 **(13 116.3)** (Ch. No. 1206) *(cont.)*	Albania Australia (West) China Spain United States of America (East) United States of America (West) United States of America (South) Finland Iran	

1	2	3
13 117.7 **(13 116.3)** (Ch. No. 1206) *(cont.)*	Iceland Italy Japan	
	Madagascar Morocco Peru	
	German Democratic Republic United Kingdom Turkey	
13 120.8 **(13 119.4)** (Ch. No. 1207)		
	Azores Algeria Angola	
	Netherlands Antilles Belgium Canada (West)	
	Cape Verde China Greece	
	Iran Israel Japan	
	Madeira Mozambique Nauru	ADD
	Netherlands Portugal Portuguese Timor	
	U.S.S.R. (North West) Yugoslavia	
13 123.9 **(13 122.5)** (Ch. No. 1208)		
	Germany (Federal Republic of) Argentina Bangladesh	
	China Cyprus United States of America (East)	
(cont.)		

1	2	3
13 148.7 **(13 147.3)** (Ch. No. 1216)	Alaska Albania Argentina	
	China Egypt United States of America (East)	
	United States of America (West) United States of America (South) Finland	
	Guam Hawaii Iran	
	Lebanon Malta Morocco	ADD
	Panama Poland Puerto Rico	
	Singapore Turkey	
13 151.8 **(13 150.4)** (Ch. No. 1217)	Algeria Bulgaria Cuba	
	Denmark United States of America (Central) United States of America (East)	
	United States of America (West) United States of America (South) Greece	
	Guadeloupe (French Department of) Guam India (East)	
	Iraq Japan Martinique (French Department of)	
(cont.)		

1	2	3
13 151.8 **(13 150.4)** (Ch. No. 1217) *(cont.)*	Norway S. Helena Sweden U.S.S.R. (Southern Asia) U.S.S.R. (Far East)	
13 154.9 **(13 153.5)** (Ch. No. 1218)	Alaska Germany (Federal Republic of) Bangladesh Belgium Cameroon Canary Islands Chile United States of America (East) United States of America (West) United States of America (South) Guam Hawaii Iran Italy Japan Niue Island Norway Panama Puerto Rico Turkey U.S.S.R. (Europe)	
13 158 **(13 156.6)** (Ch. No. 1219) *(cont.)*	Alaska Belgium Brazil Bulgaria Denmark United States of America (East) United States of America (West) United States of America (South) Japan	

1	2	3
13 158 **(13 156.6)** (Ch. No. 1219) *(cont.)*	Morocco Norway Netherlands	
	Singapore Sweden Ukraine	
	U.S.S.R. (Europe) U.S.S.R. (Far East) U.S.S.R. (North West)	
13 161.1 **(13 159.7)** (Ch. No. 1220)		
	Alaska Argentina Bangladesh	
	Bermuda United States of America (East) United States of America (West)	
	United States of America (South) Fiji Greece	
	Guam Hawaii Iran	
	Iceland Japan Jordan	ADD
	Panama Philippines Poland	
	Puerto Rico Tunisia	
13 167.3 **(13 165.9)** (Ch. No. 1222)		
	Argentina Canada (East) Cook Islands	
(cont.)	France Guadeloupe (French Department of) Hawaii	

1	2	3
13 167.3 **(13 165.9)** (Ch. No. 1222) *(cont.)*	India (West) Iran Japan	
	Martinique (French Department of) Mexico Norway	
	Romania Turkey U.S.S.R. (Far East)	
13 170.4 **(13 169)** (Ch. No. 1223)		
	Saudi Arabia Bangladesh Brazil	
	Denmark United States of America (East) United States of America (West)	
	United States of America (South) Greece Guam	
	Japan Morocco Norway	
	Sweden Czechoslovakia Ukraine	
13 173.5 **(13 172.1)** (Ch. No. 1224)		
	Alaska Germany (Federal Republic of) Chile	
	United States of America (East) United States of America (West) Finland	
	Guam Hawaii Jamaica	
	Japan Kuwait Monaco	
(cont.)		

1	2	3
13 189 **(13 187.6)** (Ch. No. 1229)	Argentina Australia Bulgaria	
	Canada (East) Korea United States of America (West)	
	France Japan Poland	
	Qatar U.S.S.R. (Southern Asia) U.S.S.R. (Northern Asia)	ADD
	U.S.S.R. (Europe) U.S.S.R. (North West) Yugoslavia	
13 192.1 **(13 190.7)** (Ch. No. 1230)	Argentina Bangladesh Cyprus	
	United States of America (East) United States of America (West) United States of America (South)	
	Finland Hawaii Italy	
	Japan Mauritania United Kingdom	
	Switzerland Ukraine	
13 195.2 **(13 193.8)** (Ch. No. 1231) *(cont.)*	Alaska Australia United States of America (East)	

1	2	3
13 195.2 **(13 193.8)** (Ch. No. 1231) *(cont.)*	United States of America (West) France Greece	
	Guam Hawaii Hongkong	
	Iran Libya Norway	
	Panama Paraguay Peru	
	Poland Puerto Rico	
13 198.3 **(13 196.9)** (Ch. No. 1232)		
	Alaska Algeria Argentina	
	United States of America (East) United States of America (West) Greece	
	Guam Hawaii Japan	
	Mauritania Pakistan German Democratic Republic	
	United Kingdom American Samoa U.S.S.R. (Southern Asia)	ADD

1	2	3
17 234.3 **(17 232.9)** (Ch. No. 1601)	Alaska Argentina Denmark	
	United States of America (East) United States of America (South) Hawaii	
	Japon Norway Seychelles (Republic of)	
	Sweden Tunisia Ukraine	
	U.S.S.R. (Europe) U.S.S.R. (North West)	
17 237.4 **(17 236)** (Ch. No. 1602)	Saudi Arabia Australia (East) Bangladesh	
	Cameroon United States of America (East) United States of America (West)	
	United States of America (South) Greece Morocco	
	United Kingdom U.S.S.R. (Northern Asia) U.S.S.R. (Europe)	
	U.S.S.R. (Far East)	
17 240.5 **(17 239.1)** (Ch. No. 1603) *(cont.)*	Alaska Argentina (North) Bangladesh	

1	2	3
17 240.5 **(17 239.1)** (Ch. No. 1603) *(cont.)*	China Cyprus Denmark	
	United States of America (East) United States of America (West) United States of America (South)	
	Guadeloupe (French Department of) Hungary Italy	
	Malta Martinique (French Department of) Norway	ADD
	Sweden	
17 243.6 **(17 242.2)** (Ch. No. 1604)		
	Australia Canada (East) France	
	Greece Japan Mexico	
	Norway Romania	
17 246.7 **(17 245.3)** (Ch. No. 1605)		
	Denmark United States of America (East) United States of America (West)	
	France India (West) Iran	
	Japan Norway Philippines	
	French Polynesia Sweden Ukraine	
(cont.)		

1	2	3
17 311.8 **(17 310.4)** (Ch. No. 1626)	Canada (West) Cuba United States of America (East)	
	Greece Iraq Netherlands	
	Qatar U.S.S.R. (Northern Asia) U.S.S.R. (Far East)	ADD
	U.S.S.R. (North West)	
17 314.9 **(17 313.5)** (Ch. No. 1627)	Belgium Spain Greece	
	Hungary Japan Norway	
	Peru U.S.S.R. (Europe) Yugoslavia	
17 318 **(17 316.6)** (Ch. No. 1628)	Bangladesh Cuba France	
	Greece Guadeloupe (French Department of) Iraq	
	Israel Martinique (French Department of) Romania	
	U.S.S.R. (Far East) U.S.S.R. (North West)	

1	2	3
17 321.1 **(17 319.7)** (Ch. No. 1629)	Algeria Australia Canada (East)	
	Greece Iran Japan	
	Norway German Democratic Republic Senegal	
17 324.2 **(17 322.8)** (Ch. No. 1630)	Alaska Belgium Spain	
	United States of America (East) United States of America (West) United States of America (South)	
	Guam Hawaii India (West)	
	Iceland Panama Puerto Rico	
	U.S.S.R. (Europe)	
17 327.3 **(17 325.9)** (Ch. No. 1631)	Algeria Bulgaria Chile	
	China United States of America (East) Greece	
	Iraq Poland Switzerland	
(cont.)		

1	2	3
17 342.8 **(17 341.4)** (Ch. No. 1636) *(cont.)*	Guam Hawaii India (East)	
	Japan Pakistan Panama	
	Netherlands Puerto Rico	
17 345.9 **(17 344.5)** (Ch. No. 1637)		
	Korea Spain Hongkong	
	Jamaica Madagascar New Zealand	
	United Kingdom U.S.S.R. (Southern Asia)	
17 349 **(17 347.6)** (Ch. No. 1638)		
	Alaska Bulgaria United States of America (East)	
	United States of America (West) Finland Guam	
	Hawaii Morocco Pakistan	
	Poland American Samoa Yugoslavia	ADD
17 352.1 **(17 350.7)** (Ch. No. 1639) *(cont.)*		
	Alaska Albania Germany (Federal Republic of)	

1	2	3
17 352.1 **(17 350.7)** (Ch. No. 1639) *(cont.)*	Spain United States of America (East) United States of America (West) Guam Hawaii Panama Netherlands Puerto Rico Zaire	
17 355.2 **(17 353.8)** (Ch. No. 1640)	Barbados Chile Greece Japan German Democratic Republic United Kingdom Sri Lanka Thailand U.S.S.R. (Europe)	
17 358.3 **(17 356.9)** (Ch. No. 1641)	Algeria Denmark United States of America (East) United States of America (West) United States of America (South) Iraq Japan Norway Singapore Sweden Ukraine	

1	2	3
22 647 **(22 645.6)** (Ch. No. 2217) *(cont.)*	Hongkong Iran Israel Liberia Panama Peru Puerto Rico	
22 650.1 **(22 648.7)** (Ch. No. 2218)	Alaska Cyprus Denmark United States of America (East) United States of America (West) United States of America (South) France Guam Hawaii Norway Puerto Rico Sweden Ukraine	
22 653.2 **(22 651.8)** (Ch. No. 2219)	Bangladesh Belgium China Cuba Greece Liberia Monaco Poland Western Samoa	

1	2	3
22 656.3 **(22 654.9)** (Ch. No. 2220)	Canada (West) Greece German Democratic Republic United Kingdom Senegal Switzerland Czechoslovakia	ADD
22 662.5 **(22 661.1)** (Ch. No. 2222)	Azores Germany (Federal Republic of) Saudi Arabia Cape Verde Korea United States of America (East) United States of America (West) United States of America (South) Finland Greece Madeira Portugal Portuguese Timor	
22 665.6 **(22 664.2)** (Ch. No. 2223) *(cont.)*	Alaska Germany (Federal Republic of) Australia Bangladesh United States of America (East) United States of America (West) Hawaii Italy Japan	

1	2	3
22 665.6 **(22 664.2)** (Ch. No. 2223) *(cont.)*	Malta Puerto Rico Togo Turkey	ADD
22 668.7 **(22 667.3)** (Ch. No. 2224)	Alaska Spain United States of America (East) United States of America (West) Greece Guam Hawaii Iraq Mauritius Panama Puerto Rico German Democratic Republic	
22 671.8 **(22 670.4)** (Ch. No. 2225)	Algeria Belgium Chile Ivory Coast Greece India (West) Iceland Japan Mexico	
22 674.9 **(22 673.5)** (Ch. No. 2226) *(cont.)*	Albania Bangladesh China Egypt France Iceland	

1	2	3
22 674.9 **(22 673.5)** (Ch. No. 2226) *(cont.)*	German Democratic Republic Romania	
22 678 **(22 676.6)** (Ch. No. 2227)	Algeria United States of America (East) United States of America (West) United States of America (South) Greece Guadeloupe (French Department of) India (East) Japan Martinique (French Department of) Pakistan United Kingdom Ukraine	
22 681.1 **(22 679.7)** (Ch. No. 2228)	Australia Bangladesh Denmark United States of America (East) United States of America (West) Greece Morocco Norway Sweden U.S.S.R. (Far East)	
22 684.2 **(22 682.8)** (Ch. No. 2229) *(cont.)*	Canada (East) Spain India (West) Japan United Kingdom Thailand	

1	2	3
22 702.8 **(22 701.4)** (Ch. No. 2235)	Alaska United States of America (East) United States of America (West)	
	United States of America (South) France Greece	
	Guam Hawaii Iran	
	Japan Puerto Rico Qatar	ADD
	U.S.S.R. (North West)	
22 705.9 **(22 704.5)** (Ch. No. 2236)	Denmark Spain United States of America (East)	
	United States of America (West) Greece Iraq	
	Japan Norway New Zealand	
	Ukraine	
22 709 **(22 707.6)** (Ch. No. 2237)	Azores United States of America (East) United States of America (West)	
	United States of America (South) Iran Italy	
(cont.)		

1	2	3
22 709 **(22 707.6)** (Ch. No. 2237) *(cont.)*	Japan Madeira Norway Portugal Romania	
22 712.1 **(22 710.7)** (Ch. No. 2238)	Algeria Germany (Federal Republic of) Australia Brazil Greece Hungary Iraq Japan Mexico U.S.S.R. (Europe)	
22 715.2 **(22 713.8)** (Ch. No. 2239)	Alaska Belgium Spain United States of America (East) United States of America (West) Guam Hawaii India (East) Iran Norway Panama Puerto Rico Yugoslavia	

TABLE OF ALLOTMENTS ADDED TO THE PLAN

Column headings

1. Channel number (the corresponding carrier and assigned frequencies are indicated in Section A of Appendix **16** and in the present Appendix).

2. Country or area of allotment.

3.1 Main service area.

A number between 1 and 22 refers to a Zone defined on the Map of Maritime Zones appearing in the Preface to the International Frequency List.

3.2 Maximum length of circuit in kilometres.

4. Nature of service.

5. Class of emission.

6. Peak envelope power in kW.

7. Transmitting antenna characteristics.

7.1 In the case of a non-directional antenna, the symbol ND is entered in this column and columns 7.2a), b) and c) are left blank. In the case of a directional antenna, the symbol D is entered in this column and the characteristics are given in columns 7.2a), b) and c).

7.2a) Azimuth of maximum radiation. The symbol ROT entered in this column means that a rotatable antenna is used.

7.2b) Angular width of main lobe.

7.2c) Relative gain of the antenna in dB.

8. Planned scheduled hours of operation in the channel (UTC).

9.a) Estimated peak hours of traffic.

9.b) Estimated daily volume of traffic in minutes.

10. Special Section No./IFRB Circular No./Date (e.g. MAR/10/1305/280278).

1	2	3		4	5	6	7				8	9		10
		3.1	3.2				7.1	7.2 a)	7.2 b)	7.2 c)		9 a)	9 b)	
405	USA	GREAT LAKES (CL USA)	800	CP	J3E	1 0.032	ND				1100-2300 2300-1100	1200-1800	180	MAR/50/1609/280284
407	AUS	—	800	CO CP	J3E R3E	5	ND				0000-2400			MAR/48/1602/100184
408	SMA	SO PACIF	1000	CP	J3E	1	ND				1800-0400		30	MAR/10/1305/280278
411	AMS	10	–	CP	J3E R3E	0.3	ND				0430-0445 0830-0845 1230-1245		5-25	MAR/15/1347/191278
423	B	—	800	CV	J3E	0.5	ND				0000-2400			MAR/16/1350/160179
423	MLT	MEDIT, NO E ATLANT, RED SEA, NO INDN OC	3000	CP	J3E R3E	1.5	ND				HN	2000-2100	60	MAR/41/1565/190483
423	QAT	GULF, INDN OC GULF, INDN OC GULF, INDN OC GULF, INDN OC	800 1500 1500 1500	CP	J3E R3E	5	ND	130 200 310	60 60 60	9 9 9	0000-2400		200	MAR/23/1412/010480
424	AUS	—	800	CO CP	J3E R3E	1	ND				0000-2400			MAR/48/1602/100184
425	B	—	800	CV	J3E	0.5	ND				1000-2300	1900-2200	100	MAR/16/1350/160179
425	JOR	6, 15, 17	5000	CP	J3E R3E	5	ND				1700-0500			MAR/49/1604/240184
602	FJI	12	1000	CP	J3E	1	ND				1800-0600	2000-0500	120	MAR/37/1519/180582
603	MLT	MEDIT, NO E ATLANT, RED SEA, NO INDN OC	3000	CP	J3E R3E	1.5	ND				HJ	0900-1100	60	MAR/41/1565/190483
604	ATN	CL ATLANT, CARIB SEA, GF MEX	1500	CP	J3E R3E	1	ND				0000-0200 0600-1000		120	MAR/35/1495/171181
804	JOR	6, 15, 17	5000	CP	J3E R3E	5	ND				0500-1700			MAR/49/1604/240184
804	QAT	GULF, RED SEA, INDN OC GULF, INDN OC GULF, RED SEA, INDN OC GULF, RED SEA, INDN OC, MEDIT	1500 2500 2500 2500	CP	J3E R3E	5	ND	130 200 310	60 60 60	10 10 10	0000-2400		200	MAR/23/1412/010480
806	SMA	SO PACIF	3000	CP	J3E	1	ND				1800-0400		30	MAR/11/1310/040478
807	MLT	MEDIT, NO E ATLANT, RED SEA, NO INDN OC	3000	CP	J3E R3E	1.5	ND				HJ	0100-1100	60	MAR/41/1565/190483
817	NRU	PACIF	2500	CP	J3E R3E	1	ND				2030-0500		3	MAR/28/1440/141080
825	AMS	10	–	CP	J3E R3E	0.3	ND				0445-0500 0845-0900 1245-1300		5-25	MAR/15/1347/191278

1	2	3		4	5	6	7				8	9		10
		3.1	3.2				7.1	7.2 a)	7.2 b)	7.2 c)		9 a)	9 b)	
1207	NRU	CL PACIF	3000	CP	J3E R3E	1	ND				HX	2000-0530	20	MAR/34/1475/300681
1216	MLT	MEDIT, NO ATLANT	3000	CP	J3E R3E	1.5	ND				0000-2400			MAR/22/1399/030180
1220	JOR	6, 15, 17	5000	CP	J3E R3E	5	ND				0500-1700			MAR/49/1604/240184
1229	QAT	GULF, RED SEA, INDN OC, MEDIT GULF, INDN OC GULF, RED SEA, INDN OC, MEDIT GULF, RED SEA, INDN OC, MEDIT	2000 3000 3000 3000	CP	J3E R3E	5	ND	 130 200 310	 60 60 60	 11 11 11	0400-0600 1400-1600		200	MAR/23/1412/010480
1232	SMA	SO PACIF	3000	CP	J3E	1	ND				1800-0400		30	MAR/11/1310/040478
1603	MLT	MEDIT, NO ATLANT	3000	CP	J3E R3E	1.5	ND				0000-1159			MAR/21/1379/070879
1626	QAT	INDN OC, RED SEA, MEDIT INDN OC INDN OC, RED SEA, MEDIT RED SEA, MEDIT, ATLANT	4000 6000 6000 6000	CP	J3E R3E	10	ND	 130 200 310	 60 60 60	 11 11 11	0600-0800 1200-1400		200	MAR/23/1412/010480
1638	SMA	SO PACIF	4000	CP	J3E	1	ND				1800-0400		30	MAR/10/1305/280278
2220	SUI	6, 10, 18, 20, 21	14000	CP	J3E	10		ROT	70	8,5	0600-1800	0900-1600	60	MAR/27/1431/120880
2223	MLT	MEDIT, NO ATLANT	3000	CP	J3E R3E	1.5	ND				0000-1159			MAR/20/1372/190679
2235	QAT	INDN OC, MEDIT INDN OC INDN OC, MEDIT, ATLANT MEDIT, ATLANT	5000 8000 8000 8000	CP	J3E R3E	10	ND	 130 200 310	 60 60 60	 11 11 11	0800-1200		200	MAR/23/1412/010480

Note by the General Secretariat

Bringing up to date the Frequency Allotment Plan for Coast Radiotelephone Stations operating in the Exclusive Maritime Mobile Band between 4 000 kHz and 23 000 kHz

(Article **16** of the Radio Regulations)

Rev. 1, June 1979

1. This revision of the Plan is published in accordance with No. **1722**.

2. The present revision contains the following new allotments:

Symbol	*Country or area*	*Channel(s)*
AMS	St Paul and Amsterdam Islands	411 825
B	Brazil	423 425
MLT	Malta	1603 2223
SMA	American Samoa	408 806 1232 1638

3. The allotments of channels 411 and 825 to Kerguelen Islands have been deleted from the Plan at the request of the Administration concerned.

4. The present revision takes into account the deletion of the following allotments in application of No. **1720**:

Symbol	*Country or area*	*Channel(s)*
ASC	Ascension	414 808
BEN	Benin	412 605 809 1201 1624 2209
BER	Bermuda	2204
BHR	Bahrain	415 812 818
BOL	Bolivia	402 409 602 605 801 805 1204 1603 2209

4. *(cont.)*

Symbol	*Country or area*	*Channel(s)*
BRB	Barbados	405 412 605 822
CNR	Canaries	409 416 601 804 808 818 1208 1620 2226 2234
COG	Congo (Brazzaville)	1204 1216 1604 1609 2205 2208
COM	Comoro Islands	414
DOM	Dominican Republic	819
E	Spain	1228
EGY	Egypt	408 601 807 1203 1614 2233
FJI	Fiji	403 410 801 816
G	United Kingdom	809 812 814 824 1212 1214 1220 1222 1609 1626 1629 1635 2202 2214 2233 2240
GIB	Gibraltar	401 404 602 807 1212 1611 2212
GIL	Gilbert and Ellice Islands	411 814 1207 1607
GUB	Guyana	824
HKG	Hongkong	603 805 1227 1626 2218
HND	Honduras	402
IOB	Turks and Caicos Islands	401 816
IRQ	Iraq	1634 1639
KEN	Kenya	407 423 603 804 809 814 826 1208 1213 1229 1230 1624 2228
NHB	New Hebrides	406 808 818
PHL	Philippines	420 806 2220
SLM	Solomon Islands	830

These deletions have been published in Sub-section C of Special Section No. MAR/21/1397 of 7 August 1979.

5. The present revision contains the following modification of country name or area:

From		*To*		*Channel(s)*
AFI	French Territory ot the Afars and Issas	DJI	Djibouti	418 827 1210

Rev. 2, November 1980

1. This revision of the Plan is published in accordance with No. **1722**.

2. The present revision contains the following new allotments:

Symbol	*Country or area*	*Channel(s)*
MLT	Malta	1216
NRU	Nauru	817
QAT	Qatar	423 804 1229 1626 2235
SUI	Switzerland	2220

3. The present revision takes into account the deletion of the following allotments in application of No. **1720**:

Symbol	*Country or area*	*Channel(s)*
AGL	Angola	2207 2222
CBG	Khmer Republic	406 410 604 828 830 1206 1604 2203
CLM	Colombia	1615
CTI	Ivory Coast	1605 2203
ETH	Ethiopia	413 425 602 812 827 829 1201 1204 1214 1228 1231 1604 1611 1614 1620 1627 1640 2201 2212 2216 2226 2229 2234
GAB	Gabon	401 403 602 603 806 811 1201 1210 1614 1617 2211
GHA	Ghana	402 409 601 602 823 825 1202 1224 1616 1622 2213 2215
GMB	Gambia	831
GNB	Guinea-Bissau	1207
GTM	Guatemala	402
MOZ	Mozambique	2207 2222
NIG	Nigeria	414 423 425 601 604 605 801 817 819 1220 1225 1231 1625 1627 1640 2202 2204 2206
PAK	Pakistan	403 406 414 424 426 601 807 826 828 1201 1204 1207 1215 1608 2201 2209 2211 2218 2220
PNR	Panama	401 403 424 602 817 819 1204
PRG	Paraguay	410 826 1217 1227 1637
PRU	Peru	1617 2211
STP	Sao Tome and Principe	413 426 802 813 1203 1207 1615 1635
SUR	Surinam	408 808 1207 1608

Symbol	*Country or area*	*Channel(s)*
TGK	Tanzania (Tanganyika)	417 419 820 823 1227
TMP	Portuguese Timor	802 813
TUR	Turkey	822 828 1211 1227 1615 1624 2239
VEN	Venezuela	409 419 602 827 829 1203 1219 1604 1622 2203 2206
ZAN	Tanzania (Zanzibar).....	417 419 820 823 1227

These deletions have been published in Sub-section C of Special Sections Nos. MAR/22/1399 of 3 January 1980 and MAR/29/1441 of 21 October 1980.

Rev. 3, February 1984

1. This revision of the Plan is published in accordance with No. **1722**.

2. The present revision contains the following new allotments:

Symbol	*Country or area*	*Channel(s)*
ATN	Netherlands Antilles.....	604
AUS	Australia	407 424
FJI	Fiji	602
JOR	Jordan	425 804 1220
MLT	Malta	423 603 807
NRU	Nauru.....	1207
USA	United States of America.....	405

APPENDIX 26

Frequency Allotment Plan for the Aeronautical Mobile Service and Related Information

This Appendix was published as a separate booklet. As far as the Aeronautical Mobile (R) Service is concerned, a revised Plan was adopted in 1978 by the World Administrative Radio Conference on the Aeronautical Mobile (R) Service: it is contained in Appendix **27 Aer2**. *However, the Plan adopted in 1959 for the Aeronautical Mobile (OR) Service remains in force, so that for this service reference should be made to Appendix* **26**. *Copies of Appendix* **26** *(1959 edition) are obtainable from the General Secretariat of the ITU.*

APPENDIX 27 Aer2

Frequency Allotment Plan for the Aeronautical Mobile (R) Service and Related Information Between 2 850 kHz and 22 000 kHz

This Appendix is published as a separate booklet. It contains provisions relating exclusively to the Aeronautical Mobile (R) Service, which have replaced the provisions relating to this service that are contained in Appendix **26**. *Reference should therefore be made exclusively to Appendix* **27 Aer2** *as far as the Aeronautical Mobile (R) Service is concerned.*

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2. *Limit of power flux-density*

2.1 *General*

The limiting power flux-density not to be exceeded at the edge of the service area in order to protect the broadcasting-satellite service of an administration is given by the formula:

$$F = F_o - R + D + P \qquad (1)$$

where:

F = the maximum permissible interfering power flux-density (dB(W/m^2)) in the broadcasting-satellite necessary bandwidth;

F_o = the wanted power flux-density (dB(W/m^2)) at the edge of the service area;

R = the protection ratio (dB) between the wanted and interfering signals;

D = angular discrimination (dB) provided by the radiation pattern of the satellite broadcasting receiver antenna;

P = polarization discrimination (dB) between the wanted and interfering signals.

2.2 *Wanted power flux-density (F_o)*

The value of F_o is equal to:

a) -103 dB(W/m^2) for service areas in Regions 1 and 3;

b) -105 dB(W/m^2) for service areas in Region 2.

2.3 *Protection ratio (R)*

2.3.1 The single entry protection ratio against all types of terrestrial transmissions, with the exception of amplitude-modulation multichannel television systems, is 35 dB for carrier frequency differences between the

wanted and interfering signals of up to ± 10 MHz, decreasing linearly from 35 dB to 0 dB for carrier frequency differences between 10 MHz and 35 MHz, and is 0 dB for frequency differences in excess of 35 MHz (see Fig. 1).

2.3.2 The carrier frequency difference should be determined by reference to the frequency assignments in the broadcasting-satellite Plan or, in the case of assignments not contained within a plan, by reference to the description of the characteristics of the proposed or operational system. For amplitude-modulation multichannel television systems which produce peaks of high power flux-density spread over a wide range of their necessary bandwidth, the protection ratio R is 35 dB and is independent of the carrier frequency difference.

2.3.3 A signal from a terrestrial station should be considered only if its necessary bandwidth overlaps the necessary bandwidth of the broadcasting-satellite assignment.

2.4 *Angular discrimination (D)*

2.4.1 *Broadcasting-satellite service areas in Regions 1 and 3*

Where the angle of elevation φ selected for the proposed or operational broadcasting-satellite system for the broadcasting-satellite service area concerned is equal to or greater than 19°, the value of D to be assumed in expression (1) is 33 dB. When φ is less than 19°, D should be derived from the expression (2.a) below.

Note: If more than one value of φ is specified for a particular service area, the appropriate value of φ should be used for each section of the edge of the service area under consideration.

$$\begin{aligned} D &= 0 && \text{for } 0^\circ \leqslant \varphi \leqslant 0.5^\circ \\ D &= 3\,\varphi^2 && \text{for } 0.5^\circ < \varphi \leqslant 1.41^\circ \\ D &= 3 + 20 \log_{10} \varphi && \text{for } 1.41^\circ < \varphi \leqslant 2.52^\circ \\ D &= 1 + 25 \log_{10} \varphi && \text{for } 2.52^\circ < \varphi \leqslant 19^\circ \end{aligned} \qquad (2.a)$$

Note: For the graphical determination of D see Fig. 2.

APPENDIX 31
Mob-83

Table of Frequencies to Be Used in the Bands Between 4 MHz and 27.5 MHz Allocated Exclusively to the Maritime Mobile Service

(See Article **60**)

In the table, where appropriate, the assignable frequencies in a given band for each usage are:

- indicated by the lowest and highest frequency, in heavy type, assigned in that band;
- regularly spaced, the number of assignable frequencies and the spacing in kHz being indicated in italics.

Table of Frequencies to Be Used in the Bands Between 4 MHz and 23 MHz Allocated Exclusively to the Maritime Mobile Service

(kHz)

Bands (MHz)	Limits	Frequencies assignable to ship stations for telephony, duplex operation	Limits	Frequencies assignable to ship and coast stations for telephony, simplex operation	Limits	Frequencies (non-paired) assignable to ship stations for narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds	Limits	Frequencies assignable to ship stations for wide-band telegraphy, facsimile and special transmission systems	Limits	Frequencies assignable to ship stations for oceanographic data transmission	Limits	Frequencies assignable to ship stations for wide-band telegraphy, facsimile and special transmission systems	Limits	Frequencies (paired) assignable to ship stations for narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds	Limits	Frequencies (non-paired) assignable to ship stations for narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds	Limits
		a) i)*		*a)*		*b)*				*c)*				*d)*		*b) i)*	
4	4 063	**4 064·4 - - - 4 141·9** *26 frequencies spaced 3·1*	4 143·6	**4 145** *1 frequency*	4 146·6		4 146·6	**4 148·6 - - - 4 160·6** *4 frequencies spaced 4*	4 162·5	**4 162·9 - - - 4 165·6** *10 frequencies spaced 0·3*	4 166	**4 168** *1 frequency*	4 170	**4 170·5 - - - 4 177** *14 frequencies spaced 0·5*	4 177·25	**4 177·5 - - - 4 179·5** *5 frequencies spaced 0·5*	4 179·75
6	6 200	**6 201·4 - - - 6 216·9** *6 frequencies spaced 3·1*	6 218·6	**6 220** and **6 223** *2 frequencies spaced 3*	6 224·6		6 224·6	**6 226·6 - - - 6 242·6** *5 frequencies spaced 4*	6 244·5	**6 244·9 - - - 6 247·6** *10 frequencies spaced 0·3*	6 248	**6 250** and **6 254** *2 frequencies spaced 4*	6 256	**6 256·5 - - - 6 267·5** *23 frequencies spaced 0·5*	6 267·75	**6 268 - - - 6 269·5** *4 frequencies spaced 0·5*	6 269·75
8	8 195	**8 196·4 - - - 8 289·4** *31 frequencies spaced 3·1*	8 291·1	**8 292·5** and **8 295·6** *2 frequencies spaced 3.1*	8 297·3	**8 297·6 - - - 8 299·6** *5 frequencies spaced 0·5*	8 300	**8 302 - - - 8 326** *7 frequencies spaced 4*	8 328	**8 328·4 - - - 8 331·1** *10 frequencies spaced 0·3*	8 331·5	**8 333·5 - - - 8 341·5** *3 frequencies spaced 4*	8 343·5	**8 344 - - - 8 357** *27 frequencies spaced 0·5*	8 357·25	**8 357·5** *1 frequency*	8 357·75
12	12 330	**12 331·4 - - - 12 427·5** *32 frequencies spaced 3·1*	12 429·2	**12 430·6 - - - 12 436·8** *3 frequencies spaced 3·1*	12 439·5		12 439·5	**12 441·5 - - - 12 477·5** *10 frequencies spaced 4*	12 479·5	**12 479·9 - - - 12 482·6** *10 frequencies spaced 0·3*	12 483	**12 485** and **12 489** *2 frequencies spaced 4*	12 491	**12 491·5 - - - 12 519·5** *57 frequencies spaced 0·5*	12 519·75	**12 520 - - - 12 526·5** *14 frequencies spaced 0·5*	12 526·75
16	16 460	**16 461·4 - - - 16 585·4** *41 frequencies spaced 3·1*	16 587·1	**16 588·5 - - - 16 594·7** *3 frequencies spaced 3·1*	16 596·4		16 596·4	**16 598·4 - - - 16 634·4** *10 frequencies spaced 4*	16 636·5	**16 636·9 - - - 16 639·6** *10 frequencies spaced 0·3*	16 640	**16 642 - - - 16 658** *5 frequencies spaced 4*	16 660	**16 660·5 - - - 16 694·5** *69 frequencies spaced 0·5*	16 694·75	**16 695 - - - 16 705·5** *22 frequencies spaced 0·5*	16 705·8
22	22 000	**22 001·4 - - - 22 122·3** *40 frequencies spaced 3·1*	22 124	**22 125·4 - - - 22 137·8** *5 frequencies spaced 3·1*	22 139·5		22 139·5	**22 142 - - - 22 158** *5 frequencies spaced 4*	22 160·5	**22 160·9 - - - 22 163·6** *10 frequencies spaced 0·3*	22 164	**22 166 - - - 22 190** *7 frequencies spaced 4*	22 192	**22 192·5 - - - 22 225·5** *67 frequencies spaced 0·5*	22 225·75	**22 226** and **22 226·5** *2 frequencies spaced 0·5*	22 227

* For notes *a)* to *i)*, see page AP31-7.

(Rev. 1985) *(continued)*

Table of Frequencies to Be Used in the Bands Between 4 MHz and 23 MHz
Allocated Exclusively to the Maritime Mobile Service

(kHz)

(concluded)

Bands (MHz)	Limits	Working frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits	Calling frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits	Frequencies assignable to ship stations for digital selective calling	Limits	Working frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits	Frequencies assignable to coast stations for wide-band and A1A or A1B Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Limits	Frequencies (paired) assignable to coast stations, narrow-band direct-printing telegraph and data transmission systems, at speeds not exceeding 100 bauds	Limits	Frequencies assignable to coast stations for digital selective calling	Limits	Frequencies assignable to coast stations for telephony, duplex operation	Limits
		e) *		*g) h)*		*i)*		*e) f)*				*d)*				*a)*	
4	4 179·75		4 179·75		4 187·2	**4 187.5** and **4 188** *2 frequencies spaced 0.5*	4 188.25	**4 188·5 - - - 4 219** *62 frequencies spaced 0·5*	4 219·4		4 349·4	**4 350 - - - 4 356·5** *14 frequencies spaced 0·5*	4 356·75	**4 357** *1 frequency*	4 357·4	**4 358·8 - - - 4 436·3** *26 frequencies spaced 3·1*	4 438
6	6 269·75		6 269·75		6 280·8	**6 281.5** and **6 282** *2 frequencies spaced 0.5*	6 282.25	**6 282·75 - - - 6 324·75** *57 frequencies spaced 0·75*	6 325·4		6 493·9	**6 494·5 - - - 6 505·5** *23 frequencies spaced 0·5*	6 505·75	**6 506** *1 frequency*	6 506·4	**6 507·8 - - - 6 523·3** *6 frequencies spaced 3·1*	6 525
8	8 357·75	**8 358·5 - - - 8 359·5** *3 frequencies spaced 0·5*	8 359·75		8 374·4	**8 375** and **8 375.5** *2 frequencies spaced 0.5*	8 376	**8 377 - - - 8 435** *117 frequencies spaced 0·5*	8 435·4		8 704·4	**8 705 - - - 8 718** *27 frequencies spaced 0·5*	8 718·25	**8 718·5** *1 frequency*	8 718·9	**8 720·3 - - - 8 813·3** *31 frequencies spaced 3·1*	8 815
12	12 526·75	**12 528 - - - 12 538·5** *22 frequencies spaced 0·5*	12 539·6		12 561·6	**12 562 - - - 12 563** *3 frequencies spaced 0.5*	12 564	**12 565·5 - - - 12 651** *172 frequencies spaced 0·5*	12 652·3		13 070·8	**13 071·5 - - - 13 099·5** *57 frequencies spaced 0·5*	13 099·75	**13 100** and **13 100·5** *2 frequencies spaced 0·5*	13 100·8	**13 102·2 - - - 13 198·3** *32 frequencies spaced 3·1*	13 200
16	16 705·8	**16 707 - - - 16 719** *25 frequencies spaced 0·5*	16 719·8		16 748·8	**16 750 - - - 16 751** *3 frequencies spaced 0.5*	16 752	**16 754 - - - 16 858** *209 frequencies spaced 0·5*	16 859·4		17 196·9	**17 197·5 - - - 17 231·5** *69 frequencies spaced 0·5*	17 231·75	**17 232** and **17 232·5** *2 frequencies spaced 0·5*	17 232·9	**17 234·3 - - - 17 358·3** *41 frequencies spaced 3·1*	17 360
22	22 227		22 227		22 247	**22 248** and **22 248·5** *2 frequencies spaced 0·5*	22 250	**22 250·5 - - - 22 309** *118 frequencies spaced 0·5*	22 310·5		22 561	**22 561·5 - - - 22 594·5** *67 frequencies spaced 0·5*	22 594·75	**22 595** and **22 595·5** *2 frequencies spaced 0·5*	22 596	**22 597·4 - - - 22 718·3** *40 frequencies spaced 3·1*	22 720

* For notes *a)* to *i)*, see page AP31-7.

Table of Frequencies Assignable to Ship Stations in the 25 MHz Band

(kHz)

Limit	Calling frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limit	Frequencies (non-paired) assignable to ship stations for narrow-band direct-printing telegraphy and data transmission systems, at speeds not exceeding 100 bauds	Limit	Working frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limit
	g)		*b)*		*e)*	
25 070		25 076	**25 076.3 - - - 25 089.8** *28 frequencies spaced 0.5*	25 090.1	**25 091.5 - - - 25 108.5** *35 frequencies spaced 0.5*	25 110

a) See Appendix **16**.

b) See Appendix **33**.

c) The frequency bands may also be used by buoy stations for oceanographic data transmission and by stations interrogating these buoys, in accordance with the conditions set forth in Resolution **314**.

d) See Appendix **32**.

e) In the frequency bands to be used by ship stations for A1A Morse telegraphy working at speeds not exceeding 40 bauds, administrations may assign additional frequencies interleaved between the extreme assignable frequencies. Any frequencies so assigned shall be multiples of 100 Hz. Administrations shall ensure a uniform distribution of such assignments within the bands, and avoid, as far as possible, assigning the two frequencies at ± 100 Hz from each of the harmonically related frequencies indicated in the first line of each series in Appendix **35**.

f) See Appendix **35**.

g) See Appendix **34**.

h) For the conditions of use of the frequency 8 364 kHz, see No. **2988**.

i) For the use of some of the frequencies in these sub-bands by ship and coast stations for distress and safety purposes, see Article **38**.

APPENDIX 33
Mob-83

Channelling of the Maritime Mobile Bands Between 4 000 kHz and 27 500 kHz Used for Narrow-Band Direct-Printing Telegraphy and Data Transmission (Non-Paired Frequencies)

(See Article **60** and Resolution **301**)

One or more frequencies are assigned
to each ship station as transmitting frequencies.

Table of Ship Station Transmitting Frequencies

(kHz)

	Frequency Bands						
	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz	25 MHz
1	4 177.5[1]	6 268[1]	8 297.6	12 520[1]	16 695[1]	22 226	25 076.3
2	4 178	6 268.5	8 298.1	12 520.5	16 695.5	22 226.5	25 076.8
3	4 178.5	6 269	8 298.6	12 521	16 696		25 077.3
4	4 179	6 269.5	8 299.1	12 521.5	16 696.5		25 077.8
5	4 179.5		8 299.6	12 522	16 697		25 078.3
6			8 357.5[1]	12 522.5	16 697.5		25 078.8
7				12 523	16 698		25 079.3
8				12 523.5	16 698.5		25 079.8
9				12 524	16 699		25 080.3
10				12 524.5	16 699.5		25 080.8
11				12 525	16 700		25 081.3
12				12 525.5	16 700.5		25 081.8
13				12 526	16 701		25 082.3
14				12 526.5	16 701.5		25 082.8
15					16 702		25 083.3
16					16 702.5		25 083.8
17					16 703		25 084.3
18					16 703.5		25 084.8
19					16 704		25 085.3
20					16 704.5		25 085.8
21					16 705		25 086.3
22					16 705.5		25 086.8
23							25 087.3
24							25 087.8
25							25 088.3
26							25 088.8
27							25 089.3
28							25 089.8

[1] The frequencies 4 177.5 kHz, 6 268 kHz, 8 357.5 kHz, 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for use of these frequencies are prescribed in Article **38**.

APPENDIX 37
Mob-83

Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequency 2 182 kHz

(See Section I of Article **41**)

Emergency position-indicating radiobeacons operating on the carrier frequency 2 182 kHz shall fulfil the following conditions:

a) the emergency position-indicating radiobeacons shall be capable of class A2A (or A2B) or H2A (or H2B) emissions, with a depth of modulation between 30 and 90 per cent;

b) the audio-frequency tolerance of emissions used for emergency position-indicating radiobeacons (see Nos. **3256** to **3258**) are:

± 20 Hz for the frequency of 1 300 Hz

± 35 Hz for the frequency of 2 200 Hz;

c) equipment shall be designed to comply with relevant CCIR Recommendations.

APPENDIX 37A
Mob-83

Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequencies 121.5 MHz and 243 MHz

(See Section I of Article **41**)

Emergency position-indicating radiobeacons operating on the carrier frequencies 121.5 MHz and 243 MHz shall fulfil the following conditions: [1]

a) emission in normal antenna conditions and positions shall be vertically polarized and essentially shall be omnidirectional in the horizontal plane;

b) carrier frequencies shall be amplitude-modulated (minimum duty cycle of 33%), with a minimum modulation index of 0.85;

c) the emission shall consist of a characteristic audio-frequency signal obtained by amplitude modulation of the carrier frequencies with a downward audio-frequency sweep within a range of not less than 700 Hz between 1 600 Hz and 300 Hz and with a sweep repetition rate of 2 to 4 times per second;

d) the class of emission shall be A3X; however, any type of modulation which satisfies the requirements laid down in *b)* and *c)* above may be used, provided it does not impair the precise location of the radiobeacon by the homing equipment.

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[1] Additional characteristics for emergency position-indicating radiobeacons aboard aircraft are specified in the relevant annexes to the Convention on International Civil Aviation.

Call Sign Series	Allocated to
6VA-6WZ	Senegal (Republic of the)
6XA-6XZ	Madagascar (Democratic Republic of)
6YA-6YZ	Jamaica
6ZA-6ZZ	Liberia (Republic of)
7AA-7IZ	Indonesia (Republic of)
7JA-7NZ	Japan
7OA-7OZ	Yemen (People's Democratic Republic of)
7PA-7PZ	Lesotho (Kingdom of)
7QA-7QZ	Malawi (Republic of)
7RA-7RZ	Algeria (Algerian Democratic and Popular Republic)
7SA-7SZ	Sweden
7TA-7YZ	Algeria (Algerian Democratic and Popular Republic)
7ZA-7ZZ	Saudi Arabia (Kingdom of)
8AA-8IZ	Indonesia (Republic of)
8JA-8NZ	Japan
8OA-8OZ	Botswana (Republic of)
8PA-8PZ	Barbados
8QA-8QZ	Maldives (Republic of)
8RA-8RZ	Guyana
8SA-8SZ	Sweden
8TA-8YZ	India (Republic of)
8ZA-8ZZ	Saudi Arabia (Kingdom of)
9AA-9AZ	*
9BA-9DZ	Iran (Islamic Republic of)
9EA-9FZ	Ethiopia
9GA-9GZ	Ghana
9HA-9HZ	Malta (Republic of)
9IA-9JZ	Zambia (Republic of)
9KA-9KZ	Kuwait (State of)
9LA-9LZ	Sierra Leone
9MA-9MZ	Malaysia
9NA-9NZ	Nepal
9OA-9TZ	Zaire (Republic of)
9UA-9UZ	Burundi (Republic of)
9VA-9VZ	Singapore (Republic of)
9WA-9WZ	Malaysia
9XA-9XZ	Rwanda (Republic of)
9YA-9ZZ	Trinidad and Tobago

* *Note by the General Secretariat:* The call sign series 9AA-9AZ, previously allocated to the Republic of San Marino, has now been released.

Note by the General Secretariat

The following call sign series were allocated by the Secretary-General on a provisional basis between the end of the WARC-79 and 16 July 1984:

Call Sign Series	Allocated to
J8A-J8Z	Saint Vincent and the Grenadines
T7A-T7Z	San Marino (Republic of)
V2A-V2Z	Antigua
V3A-V3Z	Belize
V4A-V4Z	Saint Christopher and Nevis
V8A-V8Z	Brunei
Z2A-Z2Z	Zimbabwe (Republic of)

APPENDIX 43
Mob-83

Maritime Mobile Service Identities

1. *General*

1.1 Maritime mobile service identities are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations and group calls.

1.2 Ship station identities shall be in accordance with relevant CCIR and CCITT Recommendations.

1.3 These identities are formed in such a way that the identity or part thereof can be used by telephone and telex subscribers connected to the general telecommunications network to call ships automatically in the shore-to-ship direction.

1.4 There are three kinds of maritime mobile service identities:

i) ship station identities,
ii) group call identities,
iii) coast station identities.

1.5 In this Appendix, the word "country" is used with the meaning attributed to it in No. **2246** of the Radio Regulations.

2. *Maritime Identification Digits (MID)*

Table 1 gives the Maritime Identification Digits (MID) allocated to each country. In accordance with No. **2087**, the Secretary-General is responsible for allocating Maritime Identification Digits to countries not included in this table. No. **2987A** authorizes the Secretary-General to allocate additional MIDs to countries in accordance with Resolution **320 (Mob-83)**.

3. *Ship Station Identities*

The 9-digit code constituting a ship station identity is formed as follows:

$$M_1\ I_2\ D_3\ X_4\ X_5\ X_6\ X_7\ X_8\ X_9$$

wherein

$$M_1\ I_2\ D_3$$

represent the Maritime Identification Digits and X is any figure from 0 to 9.

4. *Group Call Identities*

Group call identities for calling simultaneously more than one ship are formed as follows:

$$0_1\ M_2\ I_3\ D_4\ X_5\ X_6\ X_7\ X_8\ X_9$$

where the first figure is zero and X is any figure from 0 to 9.

The particular MID reflects only the country allocating the group call identity and so does not prevent group calls to fleets containing more than one ship nationality.

5. *Coast Station Identities*

Coast station identities are formed as follows:

$$0_1\ 0_2\ M_3\ I_4\ D_5\ X_6\ X_7\ X_8\ X_9$$

where the first two figures are zeros and X is any figure from 0 to 9.

The MID reflects the country in which the coast station or coast earth station is located.

TABLE 1

MARITIME IDENTIFICATION DIGITS

MID	Allocated to
100 – 200	***
201	Albania (Socialist People's Republic of)
202	Andorra (Principality of)
203	Austria
204	Azores
205	Belgium
206	Bielorussian Soviet Socialist Republic
207	Bulgaria (People's Republic of)
208	Vatican City State
209	Cyprus (Republic of)
210	*
211	Germany (Federal Republic of)
212 – 217	*
218	German Democratic Republic
219	Denmark
220 – 223	*
224	Spain
225 – 226	*
227	France
228 – 229	*
230	Finland
231	Faroe Islands
232	United Kingdom of Great Britain and Northern Ireland
233 – 235	*
236	Gibraltar
237	Greece
238 – 241	*
242	Morocco (Kingdom of)
243	Hungarian People's Republic
244	Netherlands (Kingdom of the)
245 – 246	*
247	Italy
248 – 249	*
250	Ireland
251	Iceland
252	Liechtenstein (Principality of)
253	Luxembourg
254	Monaco
255	Madeira
256	Malta (Republic of)
257	Norway

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
258 – 260	*
261	Poland (People's Republic of)
262	*
263	Portugal
264	Romania (Socialist Republic of)
265	Sweden
266 – 267	*
268	San Marino (Republic of)
269	Switzerland (Confederation of)
270	Czechoslovak Socialist Republic
271	Turkey
272	Ukrainian Soviet Socialist Republic
273	Union of Soviet Socialist Republics
274 – 278	*
279	Yugoslavia (Socialist Federal Republic of)
280 – 300	***
301	Anguilla
302	*
303	Alaska (State of)
304	Antigua and Barbuda
305	*
306	Netherlands Antilles
307	*
308	Bahamas (Commonwealth of the)
309	*
310	Bermuda
311	*
312	Belize
313	*
314	Barbados
315	*
316	Canada
317 – 318	*
319	Cayman Islands
320	*
321	Costa Rica
322	*
323	Cuba
324	*
325	Dominica (Commonwealth of)
326	*
327	Dominican Republic
328	*
329	Guadeloupe (French Department of)
330	Grenada
331	Greenland

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
332	Guatemala (Republic of)
333	*
334	Honduras (Republic of)
335	*
336	Haiti (Republic of)
337	*
338	Hawaii (State of)
339	Jamaica
340	*
341	St. Kitts-Nevis
342	*
343	Saint Lucia
344	*
345	Mexico
346	*
347	Martinique (French Department of)
348	Montserrat
349	*
350	Nicaragua
351	*
352	Panama (Republic of)
353 – 357	*
358	Puerto Rico
359	El Salvador (Republic of)
360	*
361	Saint Pierre and Miquelon (French Department of)
362	Trinidad and Tobago
363	*
364	Turks and Caicos Islands
365	*
366	United States of America
367 – 375	*
376	Saint Vincent and the Grenadines
377	*
378	British Virgin Islands
379	United States Virgin Islands
380 – 400	***
401	Afghanistan (Democratic Republic of)
402	*
403	Saudi Arabia (Kingdom of)
404	*
405	Bangladesh (People's Republic of)
406 – 407	*
408	Bahrain (State of)
409	*
410	Bhutan (Kingdom of)

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
411	*
412	China (People's Republic of)
413 – 416	*
417	Sri Lanka (Democratic Socialist Republic of)
418	*
419	India (Republic of)
420 – 421	*
422	Iran (Islamic Republic of)
423 – 424	*
425	Iraq (Republic of)
426 – 427	*
428	Israel (State of)
429 – 430	*
431	Japan
432 – 437	*
438	Jordan (Hashemite Kingdom of)
439	*
440	Korea (Republic of)
441 – 444	*
445	Democratic People's Republic of Korea
446	*
447	Kuwait (State of)
448 – 449	*
450	Lebanon
451 – 452	*
453	Macao
454	*
455	Maldives (Republic of)
456	*
457	Mongolian People's Republic
458	*
459	Nepal
460	*
461	Oman (Sultanate of)
462	*
463	Pakistan (Islamic Republic of)
464 – 465	*
466	Qatar (State of)
467	*
468	Syrian Arab Republic
469	*
470	United Arab Emirates
471 – 472	*
473	Yemen Arab Republic
474	*
475	Yemen (People's Democratic Republic of)

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
476	*
477	Hongkong
478 – 479	*
480 – 500	***
501	Adelie Land
502	*
503	Australia
504 – 505	*
506	Burma (Socialist Republic of the Union of)
507	*
508	Brunei
509	*
510	Caroline Islands
511	*
512	New Zealand
513	*
514	Democratic Kampuchea
515	*
516	Christmas Island (Indian Ocean)
517	*
518	Cook Islands
519	*
520	Fiji
521 – 522	*
523	Cocos Keeling Islands
524	*
525	Indonesia (Republic of)
526 – 528	*
529	Kiribati (Republic of)
530	*
531	Lao People's Democratic Republic
532	*
533	Malaysia
534 – 535	*
536	Mariana Islands
537	*
538	Marshall Islands
539	*
540	New Caledonia and Dependencies
541	*
542	Niue Island
543	*
544	Nauru (Republic of)
545	*
546	French Polynesia
547	*

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
548	Philippines (Republic of the)
549 – 552	*
553	Papua New Guinea
554	*
555	Pitcairn Island
556	*
557	Solomon Islands
558	*
559	American Samoa
560	*
561	Western Samoa (Independent State of)
562	*
563	Singapore (Republic of)
564 – 566	*
567	Thailand
568 – 569	*
570	Tonga (Kingdom of)
571	*
572	Tuvalu
573	*
574	Viet Nam (Socialist Republic of)
575	*
576	Vanuatu (Republic of)
577	*
578	Wallis and Futuna Islands
579	*
580 – 600	***
601	South Africa (Republic of)
602	*
603	Angola (People's Republic of)
604	*
605	Algeria (People's Democratic Republic of)
606	*
607	Saint Paul and Amsterdam Islands
608	Ascension
609	Burundi (Republic of)
610	Benin (People's Republic of)
611	Botswana (Republic of)
612	Central African Republic
613	Cameroon (United Republic of)
614	*
615	Congo (People's Republic of the)
616	Comoros (Islamic Federal Republic of the)
617	Cape Verde (Republic of)
618	Crozet Archipelago
619	Ivory Coast (Republic of the)

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
620	*
621	Djibouti (Republic of)
622	Egypt (Arab Republic of)
623	*
624	Ethiopia
625	*
626	Gabonese Republic
627	Ghana
628	*
629	Gambia (Republic of the)
630	Guinea-Bissau (Republic of)
631	Equatorial Guinea (Republic of)
632	Guinea (Revolutionary People's Republic of)
633	Upper Volta (Republic of the)
634	Kenya (Republic of)
635	Kerguelen Islands
636	Liberia (Republic of)
637 – 641	*
642	Libya (Socialist People's Libyan Arab Jamahiriya)
643	*
644	Lesotho (Kingdom of)
645	Mauritius
646	*
647	Madagascar (Democratic Republic of)
648	*
649	Mali (Republic of)
650	Mozambique (People's Republic of)
651 – 653	*
654	Mauritania (Islamic Republic of)
655	Malawi
656	Niger (Republic of the)
657	Nigeria (Federal Republic of)
658	*
659	Namibia
660	Reunion (French Department of)
661	Rwandese Republic
662	Sudan (Democratic Republic of the)
663	Senegal (Republic of)
664	Seychelles (Republic of)
665	Saint Helena
666	Somali Democratic Republic
667	Sierra Leone
668	Sao Tome and Principe (Democratic Republic of)
669	Swaziland (Kingdom of)
670	Chad (Republic of)
671	Togolese Republic

* Not allocated.
*** Not available for allocation at this stage.

MID	Allocated to
672	Tunisia
673	*
674	Tanzania (United Republic of)
675	Uganda (Republic of)
676	Zaire (Republic of)
677	Zanzibar
678	Zambia (Republic of)
679	Zimbabwe (Republic of)
680 – 700	***
701	Argentine Republic
702 – 709	*
710	Brazil (Federative Republic of)
711 – 719	*
720	Bolivia (Republic of)
721 – 724	*
725	Chile
726 – 729	*
730	Colombia (Republic of)
731 – 734	*
735	Ecuador
736 – 739	*
740	Falkland Islands (Malvinas)
741 – 744	*
745	Guiana (French Department of)
746 – 749	*
750	Guyana
751 – 754	*
755	Paraguay (Republic of)
756 – 759	*
760	Peru
761 – 764	*
765	Suriname (Republic of)
766 – 769	*
770	Uruguay (Eastern Republic of)
771 – 774	*
775	Venezuela (Republic of)
776 – 779	*
780 – 999	***

* Not allocated.
*** Not available for allocation at this stage.

Note by the General Secretariat

The following blocks of selective call numbers for ship stations and selective call numbers for groups of ship stations were supplied to Administrations by the Secretary-General between the end of the WARC-79 and 17 July 1984:

Blocks* of selective call numbers for ship stations and selective call numbers for groups of ship stations	Supplied to
02300-02399	Saint Vincent and the Grenadines
02400-02499	Cook Islands
02500-02599	Niue Island
02600-02699	Western Samoa (Independent State of)
07000-07069	Denmark
07071-08079	Denmark
08081-08299	Denmark
08500-09089	Spain
09090*	Spain
09091-09499	Spain
10101*	Spain
11400-11699	United States of America
15600-16160	France
16162-16699	France
18700-18999	Honduras (Republic of)
20800-21211	Italy
21213-21299	Italy
22900-22999	Indonesia (Republic of)
27000-27271	Japan
27272*	Japan
27273-27999	Japan
28282*	Japan
29292*	Japan
30303*	Japan

* 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 administrations.

Blocks* of selective call numbers for ship stations and selective call numbers for groups of ship stations	Supplied to
31300-31312	Morocco (Kingdom of)
31313*	Morocco (Kingdom of)
31314-31399	Morocco (Kingdom of)
32300-32322	Norway
32324-32399	Norway
34500-35352	Norway
35354-35999	Norway
36363*	Japan
41500-41899	Germany (Federal Republic of)
44100-44399	Sweden
44500-45453	Sweden
45455-45499	Sweden
46900-47399	United Kingdom of Great Britain and Northern Ireland
51500-51514	Switzerland (Confederation of)
51516-51599	Switzerland (Confederation of)
51800-51999	Portugal
56600-56699	Thailand
57575*	Yugoslavia (Socialist Federal Republic of)
57600-57699	Uruguay (Eastern Republic of)
58300-58399	Costa Rica
58900-58999	Sri Lanka (Democratic Socialist Republic of)
59000-59099	Ecuador
59200-59299	Iran (Islamic Republic of)
60700-60999	Pakistan (Islamic Republic of)
61400-61499	Bahamas (Commonwealth of the)
61616*	Bahamas (Commonwealth of the)
62100-62625	Germany (Federal Republic of)
62627-62999	Germany (Federal Republic of)
64000-64599	Germany (Federal Republic of)
65000-65499	Germany (Federal Republic of)

* 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 administrations.

Blocks* of selective call numbers for ship stations and selective call numbers for groups of ship stations	Supplied to
74300-74499	Austria
76700-76766	Philippines (Republic of the)
76767*	Philippines (Republic of the)
76768-76799	Philippines (Republic of the)
78200-78299	Singapore (Republic of)
79500-79599	Senegal (Republic of)
80000-80807	Netherlands (Kingdom of the)
80809-80999	Netherlands (Kingdom of the)
81800-81817	Czechoslovak Socialist Republic
81818*	Czechoslovak Socialist Republic
81819-81899	Czechoslovak Socialist Republic
81900-81999	Djibouti (Republic of)
82000-82799	Germany (Federal Republic of)
82900-83799	France
83900-84799	France
84900-85799	Denmark
85900-86799	Denmark
86900-87799	Denmark
87900-88799	Germany (Federal Republic of)
88900-89799	Germany (Federal Republic of)
90000-90899	Norway
91000-91899	Norway
92000-92899	Norway
93000-93899	Norway
94000-94399	Norway
95000-95899	Sweden
96000-96099	Sweden
97000-97899	France
98000-98099	France
99500-99799	Germany (Federal Republic of)

* 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 administrations.

Part II. Table of Blocks of Coast Station Identification Numbers Supplied to Administrations

Blocks of coast station identification numbers	Supplied to
0100 – 0119	Argentine Republic
0270 – 0279	Algeria (Algerian Democratic and Popular Republic)
0330 – 0339	Australia
0480 – 0489	Belgium
0580 – 0589	Canada
0810 – 0819	Bulgaria (People's Republic of)
0830 – 0899	Denmark
0990 – 1089	Spain
1090 – 1109	United States of America
1590 – 1609	Finland
1630 – 1669	France
1780 – 1789	Greece
1860 – 1889	Chile
1920 – 1929	Ghana
1980 – 1989	Ireland
2010 – 2019	China (People's Republic of)
2070 – 2109	Italy
2130 – 2149	Iraq (Republic of)
2180 – 2189	Kuwait (State of)
2280 – 2289	Libya (Socialist People's Libyan Arab Jamahiriya)
2300 – 2339	India (Republic of)
2480 – 2489	Malta (Republic of)
2500 – 2509	Monaco
2510 – 2519	Cuba
2550 – 2599	Norway
2740 – 2749	Iceland
2770 – 2779	Netherlands (Kingdom of the)
2830 – 2849	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
3850 – 3859	Yugoslavia (Socialist Federal Republic of)
3910 – 3919	Venezuela (Republic of)
4330 – 4349	South Africa (Republic of)
4360 – 4369	Turkey
4400 – 4599	Union of Soviet Socialist Republics
4600 – 4619	German Democratic Republic
4620 – 4629	Singapore (Republic of)

Blocks of coast station identification numbers	Supplied to
4630 – 4639	United Kingdom of Great Britain and Northern Ireland
4640 – 4649	Sierra Leone
4650 – 4659	Bahrain (State of)
4660 – 4669	Seychelles (Republic of)
4690 – 4699	Qatar (State of)
4710 – 4719	United Arab Emirates
4810 – 4819	Yemen (People's Democratic Republic of)
4820 – 4829	Egypt (Arab Republic of)
4830 – 4839	Saudi Arabia (Kingdom of)
4900 – 4939	Mexico
4980 – 4999	Syrian Arab Republic
5010 – 5019	Oman (Sultanate of)

Note by the General Secretariat

The following blocks of coast station identification numbers were supplied to Administrations by the Secretary-General between the end of the WARC-79 and 11 September 1984:

Blocks of coast station identification numbers	Supplied to
2200-2209	Indonesia (Republic of)
2360-2409	Japan
2450-2459	Morocco (Kingdom of)
2890-2899	Panama (Republic of)
3560-3579	Portugal
3830-3839	Thailand
3870-3879	Uruguay (Eastern Republic of)
3950-3959	Sudan (Democratic Republic of the)
4010-4029	New Zealand
4050-4069	Pakistan (Islamic Republic of)
4150-4159	Philippines (Republic of the)
4670-4679	Czechoslovak Socialist Republic
4680-4689	Djibouti (Republic of)
4750-4759	Ecuador
4860-4869	Suriname (Republic of)
5100-5109	Senegal (Republic of)

Note by the General Secretariat

The Resolutions are arranged in order and numbered along the lines of the grouping and numbering system below. As some Resolutions in one group have direct relationship to Resolutions in other groups, this has been reflected, as far as possible, to facilitate consultation.

In this respect, see also the Analytical Index.

RESOLUTIONS

RESOLUTIONS

RESOLUTION No. 11

Relating to the Use of Radiocommunications for Ensuring the Safety of Ships and Aircraft of States Not Parties to an Armed Conflict

(Abrogated by Resolution **90 (Mob-83)***)*

RESOLUTION No. 18 (Mob-83)

Relating to the Procedure for Identifying and Announcing the Position of Ships and Aircraft of States Not Parties to an Armed Conflict

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that ships and aircraft encounter considerable risk in the vicinity of an area of armed conflict;

b) that for the safety of life and property it is desirable for ships and aircraft of States not parties to an armed conflict to be able to identify themselves and announce their position in such circumstances;

c) that radiocommunication offers such ships and aircraft a rapid means of self-identification and providing location information prior to their entering areas of armed conflict and during their passage through the areas;

d) that it is considered desirable to provide a supplementary signal and procedure for use, in accordance with customary practice, in the area of armed conflict by ships and aircraft of States representing themselves as not parties to an armed conflict;

resolves

1. that the frequencies specified in No. **3201** of the Radio Regulations may be used by ships and aircraft of States not parties to an armed conflict for self-identification and establishing communications. The transmission will consist of the urgency or safety signals, as appropriate,

described in Article **40** followed by the addition of the single group "NNN" in radiotelegraphy and by the addition of the single word "NEUTRAL" pronounced as in French "neutral" in radiotelephony. As soon as practicable, communications shall be transferred to an appropriate working frequency;

2. that the use of the signal as described in the preceding paragraph indicates that the message which follows concerns a ship or aircraft of a State not party to an armed conflict. The message shall convey at least the following data:

a) call sign or other recognized means of identification of such ship or aircraft;

b) position of such ship or aircraft;

c) number and type of such ships or aircraft;

d) intended route;

e) estimated time en route and of departure and arrival, as appropriate;

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

3. that the provisions of Sections I and III of Article **40** shall apply as appropriate to the use of the urgency and safety signals, respectively, by such ship or aircraft;

4. that the identification and location of ships of a State not party to an armed conflict may be effected by means of appropriate standard maritime radar transponders. The identification and location of aircraft of a State not party to an armed conflict may be effected by the use of the secondary surveillance radar (SSR) system in accordance with procedures to be recommended by the International Civil Aviation Organization (ICAO);

5. that the use of the signals described above would not confer or imply recognition of any rights or duties of a State not party to an armed conflict or a party to the conflict, except as may be recognized by common agreement between the parties to the conflict and a non-party;

6. to encourage parties to a conflict to enter into such agreements;

requests the Secretary-General

to communicate the contents of this Resolution to the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) for such action as they may consider appropriate;

requests the CCIR

to recommend an appropriate signal in the digital selective calling system for use in the maritime mobile service and other appropriate information as necessary.

RESOLUTION No. 39 (Mob-83)

Relating to the Improved Use of the International Monitoring System in Applying Decisions of Administrative Radio Conferences

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) Article **20** of the Radio Regulations concerning the international monitoring system;

b) No. **1218** of the Radio Regulations concerning the assistance which may be provided by the IFRB in the selection of frequency assignments;

c) Resolution **103** of the World Administrative Radio Conference, Geneva, 1979, relating to improvements in assistance to developing countries in securing access to the HF bands for their fixed services and ensuring protection of their assignments from harmful interference;

d) Resolution **309** of the World Administrative Radio Conference, Geneva, 1979, relating to the unauthorized use of frequencies in the bands allocated to the maritime mobile service;

e) Resolution **407** of the World Administrative Radio Conference, Geneva, 1979, relating to the unauthorized use of frequencies in the bands allocated to the aeronautical mobile (R) service;

f) Recommendation **203** of the World Administrative Radio Conference, Geneva, 1979, relating to the future use of the band 2 170 - 2 194 kHz;

g) Resolution 9 of the Plenipotentiary Conference, Nairobi, 1982, relating to the use by the broadcasting service of the bands additionally allocated to this service by the WARC-79;

h) that it is of the utmost importance to ensure that distress and safety channels, particularly those used for alerting, are kept free of harmful interference;

convinced

that an increase in the number of stations participating in the international monitoring system and that a more rational use of the information obtained from such stations would be of considerable assistance to all administrations and to the IFRB:

a) in acquiring a real knowledge of the degree of occupancy of the radio-frequency spectrum;

b) in the performance of certain tasks assigned to the IFRB by administrative conferences, particularly as regards the application of the provisions of the Radio Regulations relating to assistance to administrations and to the identification and elimination of harmful interference (see Nos. **1963** to **1965**);

aware

that the nature and the form of the monitoring information received by the IFRB is so diverse as to make it difficult to analyse and publish;

noting

- the Article 80 of the International Telecommunication Convention, Nairobi, 1982, requesting that financial implications be taken into account when decisions are made by administrative conferences, and

- Resolution 48 of the Plenipotentiary Conference, Nairobi, 1982, concerning the impact on the budget of the Union of the decisions of administrative conferences;

resolves

1. that there is an urgent need to improve protection of frequency bands allocated to the maritime mobile and aeronautical mobile services and to the distress and safety system and that this protection may be facilitated through an improvement in the international monitoring system;

2. that to this end, ad hoc meetings shall be organized between monitoring experts from administrations, the IFRB and the CCIR;

3. that for practical reasons such ad hoc meetings should be organized to coincide in time and place with the competent CCIR Study Group meetings, without increasing their duration. Similar meetings may be organized, if necessary, concurrently with the World Administrative Radio Conference for the Mobile Services planned for 1987;

4. that the purpose of such meetings is:

- to examine the international monitoring system procedures (see Article **20** of the Radio Regulations) with a view to making the system more effective by improving the quality of information collected, as well as the form in which it is analysed, used and published by the IFRB;
- to draw up for administrations a report indicating recommended actions as a result of this examination;

requests the IFRB and the Director of the CCIR

1. to take appropriate measures in order to convene such ad hoc meetings during the interim and final meetings of the competent CCIR Study Group;

2. to jointly report results of these meetings to the Administrative Council for consideration, as appropriate, when the Council is formulating the agenda of a future competent administrative radio conference;

invites administrations

1. to develop monitoring systems and contribute to improved spectrum management by participating in the international monitoring system;

2. to take part in monitoring programmes requested by the IFRB in accordance with Article **20** of the Radio Regulations on any frequency, particularly in the HF bands allocated to the mobile services, with a view to identifying and locating stations of services other than those authorized in these bands; and

3. to take the joint report of the IFRB and CCIR into account when preparing proposals for the competent administrative radio conference.

RESOLUTION No. 90 (Mob-83)

Relating to the Revision, Replacement and Abrogation of Resolutions and Recommendations of the World Administrative Radio Conference, Geneva, 1979

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

its agenda (Conference Document No. 1), in particular agenda item 2 and the action taken on a number of Resolutions and Recommendations of the World Administrative Radio Conference, Geneva, 1979;

further considering

a) that the following Resolutions and Recommendations have been revised as indicated:

Resolution **200**	Relating to the Use of Class R3E and J3E Emissions for Distress and Safety Purposes on the Carrier Frequency 2 182 kHz, by Resolution **200 (Rev.Mob-83)**;
Resolution **310**	Relating to Frequency Provisions for Development and Future Implementation of Ship Movement Telemetry, Telecommand and Data Exchange Systems, by Resolution **310 (Rev.Mob-83)**;
Recommendation **201**	Relating to Distress, Urgency and Safety Traffic, by Recommendation **201 (Rev.Mob-83)**;

Recommendation **204**	Relating to the Application of Chapters NX, NXI and NXII of the Rearranged Radio Regulations, by Recommendation **204 (Rev.Mob-83)**;
Recommendation **313**	Relating to Temporary Provisions Covering the Technical and Operational Aspects of the Maritime Mobile-Satellite Service, by Recommendation **313 (Rev.Mob-83)**;
Recommendation **602**	Relating to Maritime Radiobeacons, by Recommendation **602 (Rev.Mob-83)**;
Recommendation **604**	Relating to the Future Use and Characteristics of Emergency Position-Indicating Radiobeacons, by Recommendation **604 (Rev.Mob-83)**;

b) that the following Resolution and Recommendation have been superseded as indicated:

Resolution **313**	Relating to the Introduction of a New System for Identifying Stations in the Maritime Mobile and Maritime Mobile-Satellite Services (Maritime Mobile Service Identities), by Resolution **320 (Mob-83)**;
Recommendation **200**	Relating to the Date of Entry into Force of the 10 kHz Guardband for the Frequency 500 kHz in the Mobile Service (Distress and Calling), by Resolution **206 (Mob-83)**;

c) that all necessary action has been taken on the following Resolutions and Recommendations:

Resolution **11**	Relating to the Use of Radiocommunications for Ensuring the Safety of Ships and Aircraft of States not Parties to an Armed Conflict;
Resolution **305**	Relating to the Use of Class R3E and J3E Emissions on the Carrier Frequencies 4 125 kHz and 6 215.5 kHz Used to Supplement the Carrier Frequency 2 182 kHz for Distress and Safety Purposes;
Recommendation **202**	Relating to the Improvement of Protection of Distress and Safety Frequencies, and those Related to Distress and Safety, against Harmful Interference;
Recommendation **309**	Relating to the Designation of a Frequency in the Bands 435 - 495 kHz or 505 - 526.5 kHz (525 kHz in Region 2) on a Worldwide Basis for the Transmission by Coast Stations of Navigational and Meteorological Warnings to Ships, Using Narrow-Band, Direct-Printing Telegraphy;

resolves

that all the said Resolutions and Recommendations of the World Administrative Radio Conference, Geneva, 1979, listed under *a)*, *b)* and *c)* above, are abrogated.

(Rev. 1985)

RESOLUTION No. 200

Relating to the Use of Class R3E and J3E Emissions for Distress and Safety Purposes on the Carrier Frequency 2 182 kHz

(Abrogated by Resolution **90 (Mob-83)***)*

RESOLUTION No. 200 (Rev.Mob-83)

Relating to the Class of Emission to be Used for Distress and Safety Purposes on the Carrier Frequency 2 182 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

noting

a) the requirements of No. **2973** of the Radio Regulations concerning the class of emission to be used on the carrier frequency 2 182 kHz;

b) that the main objective of this provision is to permit the orderly introduction of the new and improved global maritime distress and safety system using advanced techniques whilst at the same time maintaining reliable distress and safety communications using existing and proven techniques;

recognizing

a) that the use of class J3E emission on the carrier frequency 2 182 kHz would provide the operational advantages, inherent in single-sideband techniques, which are being obtained on other frequencies;

b) that, however, provision for the transmission and reception of the radiotelephone alarm signal on the carrier frequency 2 182 kHz will be required until, and for some time after, the introduction of the future global maritime distress and safety system (FGMDSS);

c) that there are many uncertain factors relating to the date of introduction of the FGMDSS;

d) that the Radio Regulations as revised by this Conference provide frequencies in the band 2 173.5 kHz to 2 190.5 kHz for the orderly introduction of the FGMDSS without calling for the interruption or cessation of present distress and safety communication systems using existing and proven techniques;

e) that the requirement for direction finding and homing must be satisfied under all conditions;

resolves that

the question of the date for transferring entirely to J3E emissions on the carrier frequency 2 182 kHz for distress and safety communications be referred to the next competent world administrative radio conference;

further resolves to invite the International Maritime Organization (IMO)

to consider the matter as part of its on-going studies of the FGMDSS;

requests the CCIR

to continue its studies on making provisions for direction finding and homing requirements when using J3E emissions, on the carrier frequency 2 182 kHz, as a matter of urgency and, if possible, to issue Recommendations sufficiently in advance of the above-mentioned conference to permit their full consideration;

requests the Secretary-General

to communicate this Resolution to the IMO.

(Rev. 1985)

RESOLUTION No. 203 (Mob-83)

Relating to the Use of Frequencies of the Future Global Maritime Distress and Safety System (FGMDSS) by the Land Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that some administrations are frequently confronted with situations requiring the scenes of disasters to be located and human lives to be saved in sparsely populated and remote land areas of their territory;

b) that the distress and safety system designed for the maritime mobile service in the Radio Regulations can effectively assist such administrations to locate the scenes of disasters and organize rescue operations;

c) that there are no provisions in the Radio Regulations applicable to the land mobile service for development and organization of a distress and safety system in uninhabited land areas;

d) that No. **347** of the Radio Regulations permits a station in distress to use any means of radiocommunication at its disposal to attract attention, make known its condition and location and obtain assistance;

resolves

1. that the stations of the land mobile service in uninhabited and remote areas may be authorized to use the frequencies of the FGMDSS on condition that no harmful interference is caused to other distress and safety communications;

2. to recommend that a future competent world administrative radio conference should consider this matter in detail with a view to adopting appropriate procedures applicable to the land mobile service;

requests the CCIR

to study this question urgently with a view to developing suitable technical and operational characteristics and procedures for consideration by the future competent world administrative radio conference;

invites the administrations

to participate actively in the CCIR studies and to submit appropriate proposals to the next competent conference;

requests the Administrative Council

to include this question in the agenda of the next competent world administrative radio conference;

requests the Secretary-General

to communicate this Resolution to the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO).

RESOLUTION No. 204 (Mob-83)

Relating to the Use of the Band 2 170 - 2 194 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

noting

a) that this Conference had as part of its agenda a number of Recommendations and one Resolution relating to the use of the band 2 170 - 2 194 kHz, i.e.:

- Recommendation **203** which calls for an examination of the allocations in the band 2 170 - 2 194 kHz, and a further examination of the guardband around 2 182 kHz;

- Recommendation **307** which calls for a frequency in the MF band to be reserved exclusively for distress calls and messages, and for a different frequency to be set aside for routine (non-distress) calling;

- Recommendation **308** which invites administrations to study the question of establishing common frequencies in the MF band for use by coast radiotelephone stations to communicate with ships of other nationalities;

- Resolution **200** which calls for a date to be established for final conversion to class J3E emissions on 2 182 kHz;

b) that the International Maritime Organization (IMO) established a requirement for several distress and safety frequencies in the MF band for the following functions:

- a frequency to be used exclusively for distress traffic using narrow-band direct-printing telegraphy;

- a frequency to be used exclusively for radiotelephone distress traffic, i.e. 2 182 kHz;

- a frequency to be used exclusively for distress alerting using digital selective calling techniques;

c) that the Conference has adopted the following frequencies for these functions in the 2 MHz band:

- 2 174.5 kHz for narrow-band direct-printing telegraphy distress traffic;

- 2 182 kHz for radiotelephony distress traffic;

- 2 187.5 kHz for digital selective calling (DSC) alerting;

d) that the frequency 2 182 kHz has already been made available to the future global maritime distress and safety system (FGMDSS) on a non-exclusive basis;

considering

a) that further action on the subjects covered by Resolution **200 (Rev.Mob-83)** and Recommendations **203**, **307** and **308** will be a matter for the World Administrative Radio Conference (WARC) for the Mobile Services scheduled for 1987;

b) that some administrations have no current requirement or desire to separate the existing distress and calling functions currently using 2 182 kHz;

resolves

1. to invite the next competent WARC to take account of the terms of this Resolution in its decisions concerning the future use of the band 2 170 - 2 194 kHz and in particular not to introduce new non-distress functions in the band 2 173.5 - 2 190.5 kHz;

2. to invite the CCIR to continue its studies on the use of the band 2 170 - 2 194 kHz and in particular:

- on the selection of frequencies for routine (non-distress) voice calling and digital selective calling,
- on the implications of a digital selective calling channel in the band 2 188 - 2 190.5 kHz with regard to the protection of the DSC channel at 2 187.5 kHz;

requests the Administrative Council

to place this Resolution and the Resolution and Recommendations listed in *considering a)* on the agenda of the WARC for the Mobile Services scheduled for 1987;

requests the Secretary-General

to communicate this Resolution to the IMO.

RESOLUTION No. 205 (Mob-83)

Relating to the Protection of the Band 406 - 406.1 MHz Allocated to the Mobile-Satellite Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the World Administrative Radio Conference, Geneva, 1979, allocated the band 406 - 406.1 MHz to the mobile-satellite service in the Earth-to-space direction;

b) that No. **649** of the Radio Regulations limits the use of the band 406 - 406.1 MHz to low power satellite emergency position-indicating radiobeacons (EPIRBs);

c) that this Conference has made provision in the Radio Regulations for the introduction and development of a global distress and safety system;

d) that the use of satellite emergency position-indicating radiobeacons is an essential element of this system;

e) that, like any frequency band reserved for a distress and safety system, the band 406 - 406.1 MHz is entitled to full protection against all harmful interference;

f) that this Conference has adopted Recommendation **604 (Rev.Mob-83)** which recommends that the CCIR continue its studies in the technical and operational questions for EPIRBs, including those using the frequencies in the band 406 - 406.1 MHz;

considering further

g) that some administrations are participating in the development of a polar orbiting satellite system operating in the band 406 - 406.1 MHz to provide alerting and to aid in the locating of distress incidents;

h) that observations of the use of frequencies in the band 406 - 406.1 MHz show that they are being used by stations other than those authorized by No. **649** of the Radio Regulations, and that these stations could cause harmful interference to the mobile-satellite service and particularly to the satellite system being developed to aid those in distress;

i) that in the future, new satellite systems which may be either geostationary or non-geostationary may be introduced in this band;

recognizing

that it is essential for the protection of human life and property that bands allocated exclusively to a service for distress and safety purposes be kept free from harmful interference;

resolves

to instruct the IFRB

to organize monitoring programmes in the band 406 - 406.1 MHz in order to identify the source of any unauthorized emission in that band;

to urge administrations

1. to take part in monitoring programmes requested by the IFRB in accordance with No. **1874** of the Radio Regulations, in the band 406 - 406.1 MHz, with a view to identifying and locating stations of services other than those authorized in this band;

2. to ensure that stations other than those operated under No. **649** abstain from using frequencies in the band 406 - 406.1 MHz;

3. to take the appropriate measures to eliminate harmful interference caused to the distress and safety system;

invites the CCIR

to study urgently conditions of compatibility between satellite EPIRBs in the band 406 - 406.1 MHz and services using adjacent bands.

RESOLUTION No. 206 (Mob-83)

Relating to the Date of Entry Into Force of the 10 kHz Guardband for the Frequency 500 kHz in the Mobile Service (Distress and Calling) [1]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the frequency spectrum should be used in the most efficient way possible;

b) that the World Administrative Radio Conference, Geneva, 1979, adopted a guardband from 495 kHz to 505 kHz for the frequency 500 kHz, which is the international distress and calling frequency for radiotelegraphy in the mobile service;

c) that the use of frequencies in the band 490 - 510 kHz must be such as to provide full protection to distress and safety communications on 500 kHz;

d) that an adequate amortization period should be allowed for the radio equipment currently in service;

recognizing

a) that this Conference has considered it premature to set a date at this stage for the implementation of the reduced guardband 495 - 505 kHz;

b) that the Conference has, however, adopted the frequency 490 kHz for distress and safety calls in the shore-to-ship direction by digital selective calling techniques;

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[1] Replaces Recommendation **200** of the World Administrative Radio Conference, Geneva, 1979.

c) that there is a need for the testing, evaluation and implementation of the use of 490 kHz for these purposes to start as soon as possible;

d) that arrangements must therefore be made to ensure that the introduction of digital selective calling on 490 kHz does not degrade the degree of protection accorded to distress and safety communications on 500 kHz;

resolves

1. that the next competent world administrative radio conference should decide on the date of entry into force of the definitive guardband from 495 kHz to 505 kHz, and that the date decided upon should be not earlier than 1 January 1990;

2. that until the date of implementation of the reduced guardband, digital selective calling for distress and safety purposes on 490 kHz shall be carried out subject to the following conditions:

- no harmful interference shall be caused to distress and safety communications on 500 kHz,
- no transmissions shall be carried out during the silence periods specified in No. **3038** of the Radio Regulations;

requests the Secretary-General

to forward this Resolution to the International Maritime Organization (IMO) inviting it to examine this matter further within the framework of the future global maritime distress and safety system (FGMDSS).

RESOLUTION No. 305

Relating to the Use of Class R3E and J3E Emissions on the Carrier Frequencies 4 125 kHz and 6 215.5 kHz Used to Supplement the Carrier Frequency 2 182 kHz for Distress and Safety Purposes

(Abrogated by Resolution **90 (Mob-83)***)*

RESOLUTION No. 310

Relating to Frequency Provisions for Development and Future Implementation of Ship Movement Telemetry, Telecommand and Data Exchange Systems

(Abrogated by Resolution **90 (Mob-83)***)*

RESOLUTION No. 310 (Rev.Mob-83)

Relating to Frequency Provisions for Development and Future Implementation of Ship Movement Telemetry, Telecommand and Data Exchange Systems

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) the need to specify radio frequencies which may be used by the maritime mobile service on a worldwide basis for ship movement requirements using digital automated data exchange, telemetry and telecommand techniques;

b) the developments now in progress in different portions of the frequency spectrum which will require common frequency bands in the future for efficient frequency utilization;

c) the importance of these short-range systems in the safe and efficient operations of ships;

d) the advantages to port authorities for safe and efficient port management and operations;

noting

a) the conclusions of the Special Meeting of Study Group 8 of the CCIR in preparation for the present Conference that CCIR studies are under way (particularly, Question 55/8);

b) that further operational and technical information is needed in deciding the most effective frequency utilization and sharing criteria;

resolves

1. that the next competent world administrative radio conference shall review possible frequency provisions in the light of additional studies;

2. that the CCIR shall examine and advise on bandwidths and data formats in coordination with administrations developing and testing these digital transmission systems;

requests the Secretary-General

to refer this Resolution to the International Maritime Organization (IMO), inviting it to define the operational requirements for data exchange with ships using digital transmission techniques and to make appropriate recommendations to assist administrations in preparing for a future conference.

RESOLUTION No. 313

Relating to the Introduction of a New System for Identifying Stations in the Maritime Mobile and Maritime Mobile-Satellite Services (Maritime Mobile Service Identities)

(Abrogated by Resolution **90 (Mob-83)***)*

RESOLUTION No. 317 (Mob-83)

Relating to the Implementation of the Frequency 156.525 MHz for Distress and Safety Digital Selective Calling in the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Maritime Organization (IMO) has transmitted to this Conference its requirements for the future global maritime distress and safety system (FGMDSS) which it proposes should be implemented fully by about 1990;

b) that this Conference has made provisions in the Radio Regulations to enable and facilitate testing and implementation of the FGMDSS while maintaining the provisions for the continuation of the existing system during a transitional period;

c) that the FGMDSS requirements include the need for digital selective calling to be used for distress and safety alerting to coast and ship stations in the band 156 - 174 MHz;

d) that to be effective, this function must operate on an exclusive frequency basis;

e) that VHF radio equipment for a large number of ships is the only radio means to transmit and receive an alert;

f) that this Conference has decided that the frequency 156.525 MHz (channel 70 in Appendix **18** of the Radio Regulations) be the exclusive frequency for this function;

g) that the practical testing stage is to start in the period 1984/1985 and that this necessary channel must be available by then;

recognizing

a) that the World Administrative Radio Conference, Geneva, 1979, authorized the use of the frequency 156.525 MHz (channel 70) for inter-ship communications and this use is operationally incompatible with the use of this channel specifically for distress and safety alerting purposes using digital selective calling techniques;

b) that other maritime mobile communications on this frequency must cease as soon as practicable, but not later than 1 January 1986, to enable the FGMDSS to be fully tested, evaluated and implemented;

urges administrations

to take all practicable measures, including the possible use of technical means, to prevent any maritime mobile use of the frequency 156.525 MHz (channel 70) other than for digital selective calling for distress and safety purposes;

resolves that in the maritime mobile service

1. as soon as practicable, but not later than 1 January 1986, the frequency 156.525 MHz shall be used exclusively for distress and safety purposes using digital selective calling;

2. no new assignments on this frequency shall be allowed, other than those relating to distress and safety communications using digital selective calling;

3. no communications other than those related to distress and safety shall be allowed on this frequency as from the beginning of the implementation of the FGMDSS;

requests the Secretary-General

to communicate this Resolution to the IMO.

(Rev. 1985)

RESOLUTION No. 318 (Mob-83)

Relating to Provisional Procedures Applicable to Stations Transmitting Navigational and Meteorological Warnings and Urgent Information to Ships on the Frequency 518 kHz Using Automatic Narrow-Band Direct-Printing Telegraphy (NAVTEX)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that this Conference has designated a frequency for transmission by coast stations of navigational and meteorological warnings and urgent information using automatic narrow-band direct-printing telegraphy;

b) that in the maritime mobile service the frequency 518 kHz shall be used exclusively for this purpose (see No. **2971B**);

c) that the proper functioning of such a system is dependent on a coordinated use of the frequency 518 kHz by the coast stations involved;

d) that the coordination of the operational aspects of the NAVTEX system is being undertaken by the International Maritime Organization (IMO) and the International Hydrographic Organization (IHO);

e) that the IMO in cooperation with the IHO provides guidance on the operational aspects of these matters in order to ensure coordination of transmissions by coast stations;

f) that the frequency band 510 - 526.5 kHz (510 - 525 kHz in Region 2) is allocated on a shared basis to several services and that sharing criteria are required;

resolves

1. that from 15 January 1985 the provisional procedure contained in the Annex to this Resolution shall be applied for coordinating the planned use of 518 kHz for the transmission of navigational and meteorological warnings and urgent information, prior to notifying the frequency assignment concerned in accordance with Article **12** of the Radio Regulations;

2. that in order to permit the administrations and the IFRB to apply the procedure in the Annex, the IFRB shall proceed as follows:

2.1 request administrations having stations transmitting navigational and meteorological warnings and urgent information on the frequency 518 kHz to communicate to the IFRB, not later than 31 October 1983, the characteristics of these stations as listed in Section A of Appendix **1** to the Radio Regulations, Geneva, 1979, together with the following additional characteristics:

1) regular transmission schedule allocated to the station;

2) the duration of transmissions;

3) the B_1 character (transmitter coverage area identifier) to be used by the coast station (CCIR Recommendation 540-1);

4) the ground-wave coverage area of transmission;

2.2 send to the administrations concerned extracts of assignments to stations of the maritime mobile service (other than those referred to in 2.1 above) whose necessary bandwidth overlaps into the band 517.5 - 518.5 kHz requesting them to modify the characteristics of their assignments or to transfer these assignments to other appropriate frequencies within a period of six months. For this purpose the IFRB shall provide, if requested, all necessary assistance in accordance with Nos. **1445-1449** of the Radio Regulations;

2.3 if the Board finds that a frequency assignment of another service, in Region 1 or Region 3, which is in conformity with the Table of Frequency Allocations is recorded in the Master Register with a date earlier than that of the maritime mobile service and is likely to cause harmful interference to that assignment, the Board shall recommend the administration responsible for the assignment of the other service to transfer it to another appropriate frequency. In doing so, it shall provide all necessary assistance in accordance with the provisions of Nos. **1445-1449** with a view to ensuring that the assignment shall be retained in the Master Register with its original date;

2.4 the Board shall publish the data received in response to paragraph 2.1 above in a special list in an appropriate form;

urges administrations

1. to refer to and comply with, to the maximum extent possible, CCIR Recommendation 540-1 concerning the "Operational and Technical Characteristics for an Automated Direct-Printing Telegraph System for Transmission of Navigational and Meteorological Warnings and Urgent Information to Ships";

2. intending to use the frequency 518 kHz for the promulgation of navigational and meteorological warnings and urgent information to ships to effect appropriate operational coordination with the IMO and the IHO;

3. to refrain from authorizing transmissions on the frequency 518 kHz which could cause harmful interference to the reception of navigational and meteorological warnings and urgent information;

4. to refrain from authorizing transmissions on the frequency 518 kHz which could cause harmful interference to the services to which the band is allocated;

requests the CCIR

to study as a matter of urgency the sharing of frequencies in the band 510 - 526.5 kHz (510 - 525 kHz in Region 2), and in particular in the vicinity of 518 kHz, and indicate the criteria of such sharing which will ensure the satisfactory operation of the services concerned;

requests the IMO and the IHO

to consider appropriate action for any operational coordination that may be necessary for certain areas on the basis of the information referred to in *resolves* 2.1 above;

invites the Administrative Council

to include this Resolution in the agenda of the World Administrative Radio Conference for the Mobile Services planned for 1987;

requests the Secretary-General

to communicate this Resolution to the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), the World Meteorological Organization (WMO) and the International Civil Aviation Organization (ICAO) for consideration and comments.

ANNEX TO RESOLUTION No. 318 (Mob-83)

Provisional Procedure to be Applied by Administrations and the IFRB for the Coordination of the Planned Use of the Frequency 518 kHz for the Transmission by Coast Stations of Navigational and Meteorological Warnings and Urgent Information to Ships by Means of Automatic Narrow-band Direct-printing Telegraphy (NAVTEX)

1. Before an administration notifies the Board of a frequency assignment to a coast station for the transmission of navigational and meteorological warnings and urgent information to ships by means of automatic narrow-band direct-printing telegraphy, it shall coordinate this frequency assignment:

1.1 with respect to similar usages recorded in the Master Register or under coordination in accordance with the present procedure;

1.2 with respect to assignments to stations of other services to which the band 517.5 - 518.5 kHz is allocated.

2. To effect this coordination, administrations and the IFRB shall apply the procedure of Article **14** of the Radio Regulations modified as follows:

2.1 the information to be communicated by administrations to the IFRB shall be as specified in *resolves* 2.1 of this Resolution;

2.2 the procedure shall be initiated not earlier than one year and not later than six months before the proposed date of putting the assignment into use;

2.3 the IFRB shall publish this information within 45 days of its receipt in a special section of its weekly circular and shall communicate a copy of this publication to IMO, IHO and WMO requesting them to communicate to the administration concerned, with a copy to the IFRB, any information which may assist in reaching agreement on coordination;

2.4 at the expiry of a period of four months from the date of publication of the information in the special section, the administration responsible for the assignment may notify the IFRB in accordance with No. **1214** of the Radio Regulations indicating the names of administrations with which agreement was reached and those which have expressly communicated their disagreement;

2.5 on receipt of the notice of the frequency assignment the Board shall take into account the results of the application of the procedure and examine it in accordance with the provisions of Nos. **1241** and **1245** and the related provisions of Article **12** of the Radio Regulations;

2.6 the Board shall update and publish at appropriate intervals the list referred to in *resolves* 2.4 of this Resolution.

RESOLUTION No. 319 (Mob-83)

Relating to a General Review of the HF Bands Allocated on an Exclusive or Shared Basis to the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

noting

a) that this Conference has established channelling plans for maritime mobile radiotelephony in the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz on the basis of 3.0 kHz channel spacing and with carrier frequencies on integer multiples of 1 kHz;

b) that this Conference has provided frequencies in the HF maritime mobile bands for use in the future global maritime distress and safety system (FGMDSS) being developed by the International Maritime Organization (IMO);

c) that it was not within the competence of this Conference to carry out a general review of the sub-allocations and channelling plans in the HF maritime mobile bands;

recognizing

a) that some radiotelephone channels are shared by upwards of twenty-five countries or geographical areas, which is not a satisfactory situation and reflects the shortage of radiotelephone channels available to meet the requirements submitted to the World Maritime Administrative Radio Conference, Geneva, 1974;

b) that the CCIR has concluded that the frequency spacing between adjacent single-sideband radiotelephone channels in the HF band could be 3.0 kHz and nominal carrier frequencies should be integer multiples of 1 kHz;

c) that narrow-band direct-printing telegraphy channel users are experiencing interference due to congestion, rendering channels unusable in some cases;

d) that an increase is expected in the demand for frequencies for duplex and simplex radiotelephony, narrow-band direct-printing telegraphy and digital selective calling;

e) that some wideband telegraphy requirements are currently satisfied in bands allocated for other purposes and that some ship wideband telegraphy channels are split within the same frequency band, making for inflexibility in the use of the spectrum;

f) that it is important for the successful implementation of the FGMDSS that the frequencies provided for it should, as far as practicable, remain unchanged;

considering

a) that since the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz are shared with the fixed service, there are limitations on their planning and use by the maritime mobile service;

b) that consideration should nevertheless be given to the inclusion of frequencies in the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz in the Allotment Plan of Appendix **25**;

resolves

1. that the next competent world administrative radio conference (WARC) should carry out a general review and any necessary revision of all the HF bands allocated on an exclusive or shared basis to the maritime mobile service, taking into account the requirements of each administration;

2. that in carrying out the review mentioned in *resolves* 1., the next competent WARC should consider the need for an increase in the number of duplex channels for radiotelephony and narrow-band direct-printing telegraphy, and the provision of additional international frequencies for the digital selective calling system;

3. that 3.0 kHz channel spacing should be used for the future revision of the HF maritime mobile radiotelephone channelling plans, with nominal carrier frequencies on integer multiples of 1 kHz;

4. that when the maritime mobile sub-allocations and channelling plans are revised, every effort should be made to retain unchanged the frequencies which this Conference has made available for use in the FGMDSS;

invites the Administrative Council

1. to include in the agenda of the WARC for the Mobile Services planned for 1987 the articles and appendices of the Radio Regulations relevant to the review of the HF maritime mobile bands referred to in *resolves* 1.;

2. to empower the next competent WARC to consider the problems associated with the shared use of the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz, taking into account the current requirements of and developments in the maritime mobile service and the fixed service;

requests the CCIR

to study the technical issues involved in a revision of the sub-allocations and channelling plans in the HF maritime mobile service, including the following issues:

a) the establishment of sharing criteria between the maritime mobile and fixed services in the 4 000 - 4 063 kHz and 8 100 - 8 195 kHz frequency bands;

b) radiotelegraph channel spacing based on existing and future requirements and technological advances in equipment;

c) the most effective arrangement and channelling scheme for radiotelephone channels based on 3.0 kHz channel spacing;

invites administrations

to make appropriate contributions to the studies of the CCIR, including the collection and submission of data concerning their experience of sharing arrangements in the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz.

RESOLUTION No. 320 (Mob-83)

Relating to the Allocation of Maritime Identification Digits (MID), and the Formation and Assignment of Identities in the Maritime Mobile and Maritime Mobile-Satellite Services (Maritime Mobile Service Identities) [1, 2]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) the provisions of Resolution **313** of the World Administrative Radio Conference, Geneva, 1979, relating to the introduction of a new system for identifying stations in the maritime mobile and maritime mobile-satellite services;

b) the need for an internationally recognized method for assigning identities to ship and coast stations in order that such stations may have a unique identity;

c) the information supplied by the Secretary-General regarding the formation and allocation of such ship station identities, as well as the constraints which apply to the preparation of a Table of Maritime Identification Digits (MID);

noting

a) that the format of maritime mobile service identities is defined in Appendix **43** to the Radio Regulations;

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[1] Replaces Resolution **313** of the World Administrative Radio Conference, Geneva, 1979.

[2] In this Resolution, a reference to a ship station or a coast station does not exclude the respective earth stations.

b) that the ship station number defines the ship station within the public switched network;

c) that a CCITT Recommendation [1] defines the relationship between the ship station number and the ship station identity;

d) that the 10-digit address/self-identity of the digital selective calling system described in the relevant CCIR Recommendations [2] may be used to convey the ship station identity;

e) that a Table of Maritime Identification Digits (MID) has been adopted for inclusion in Appendix **43** to the Radio Regulations;

f) that initially one MID has been allocated to each country [3];

g) that the first digit of the MIDs allocated to countries by this Conference normally indicates the geographical zone in which a country is located, in accordance with the relevant CCITT Recommendation [4];

h) that the initial allocation of MIDs has been distributed within the numerical range given to each geographical zone to allow for the possibility of consecutive MIDs;

i) that such a consecutive capability is considered to be only an incidental feature which should not be viewed as a basic requirement in the allocation of required MIDs;

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[1] CCITT Recommendation E.210/F.120.

[2] CCIR Recommendations 493 and 585.

[3] Throughout this Resolution, the word "country" is used with the meaning attributed to it in No. **2246** of the Radio Regulations.

[4] CCITT Recommendation E.210/F.120.

j) that No. **2087** of the Radio Regulations authorizes the Secretary-General to allocate MIDs to countries not included in this Table;

k) that No. **2087A** of the Radio Regulations authorizes the Secretary-General to allocate additional MIDs to countries included in the Table;

believing

a) that Maritime Identification Digits should be allocated in a uniform and careful manner;

b) that a ship station should have an identity formed from the MID allocated to its country of registration (flag) regardless of the part of the world in which the vessel operates;

c) that a coast station should have an identity formed from the MID allocated to the country where it is located, due regard being given to its geographical location;

d) that additional MIDs should be allocated only where essential and that the initially allocated MID is envisaged to serve each country for an extended period if ship station identities are assigned in accordance with certain guidelines;

e) that no country, in any case, can justify more MIDs than the total number of its ship stations shown in the ITU List of Ship Stations (List V) divided by 1000;

resolves to urge administrations

1. to follow the guidelines for the assignment of ship station identities annexed to this Resolution;

2. to make optimum use of the possibilities of forming identities from the single MID initially allocated to them;

3. to take particular care in assigning ship station identities with six significant digits (three-trailing-zero identities) which should only be assigned to ship stations which can be reasonably expected to require such an identity for automatic access on a worldwide basis from public switched networks;

4. to seriously examine the possibility of assigning one-trailing-zero or two-trailing-zero identities to such vessels when they require automatic access only on a national or regional level, as defined in the relevant CCITT Recommendation [1];

5. to assign ship station identities without trailing zeros to all other vessels requiring a numerical identification;

resolves to instruct the Secretary-General

1. to allocate additional MIDs within the limits specified in *believing e)*, provided he is satisfied that the possibilities offered by the MIDs allocated to an administration will soon be exhausted in spite of judicious ship station identity assignment as outlined in *resolves to urge administrations* above and conforming with the guidelines annexed to this Resolution;

2. to submit a report on the utilization of Maritime Mobile Service Identities and on the status of the Table of Maritime Identification Digits to the next competent administrative radio conference.

[1] CCITT Recommendation E.210/F.120.

ANNEX TO RESOLUTION No. 320 (Mob-83)

Guidelines for Assignment of Ship Station Identities

Introduction

The maritime mobile identification plan is based on a set of compromises intended to satisfy most of the major requirements. Its first stage requires that administrations conserve numerical capacity to limit the demand for Maritime Identification Digits (MID) and extend the life of the plan as long as needed. The following guidelines are indicated to assist administrations and conserve capacity. See also the relevant CCIR and CCITT Recommendations. [1]

Identity format

1. A ship station identity with one or more trailing zeros should be assigned only when a vessel may reasonably be expected to require it for automatic shore network-to-ship communication. Such communication may be via MF, HF, VHF, or UHF terrestrial radiocommunication or maritime satellite, but it should involve the need to receive communications from a land based network without coast station operator assistance.

2. Other vessels that require numerical identification may be assigned 9-digit ship identities without any trailing zeros.

[1] CCIR Recommendation 585 and CCITT Recommendation E.210/F.120.

National schemes

3. When it is intended that a vessel receive automatically communications in the shore-to-ship direction only from coast stations belonging to the country in which it is registered, a ship station identity with only one trailing zero should be used. It is assumed that these identities will be used in the context described in CCITT Recommendation E.210/F.120 which provides that in such cases the MID may be replaced in the ship station number by the prefix "9", thereby enabling the use of five digits within a given country.

4. When ship station identities with only one trailing zero are assigned by an administration it should in the X_8 position avoid assigning at least two digits, **e.g.** "2" or "3", so that ship station identities containing these digits in position X_8 are available for potential use in stage 2 of the plan.

Regional schemes

5. Ship station identities with two trailing zeros should be assigned to ships whose need for automatic shore-to-ship communications is confined to those through coast stations in a limited number of countries each of which agrees to convert a given "8Y" dialling prefix to the same primary (first assigned) MID when calling in the shore-to-ship direction. If several administrations whose terrestrial networks can handle "8Y" ship station number prefixes agree, for example, to convert the "8Y" prefix "83" to the MID "214", then the country whose MID is "214" can assign ship station identities with two trailing zeros (starting with 214) to ship stations which need to be called automatically only through the coast stations of the countries having decided to effect the above-mentioned "8Y" to "MID" conversion.

6. It is important to note that network subscribers in all these countries will use the same 83 $X_4X_5X_6X_7$ ship station number to address a given vessel. Combinations of countries may be developed to embrace communities of interest as automatic network calling from shore to ship develops.

7. When ship station identities with two trailing zeros are assigned by an administration it should in the X_7 position avoid assigning at least two digits, e.g. "2" or "3", so that ship station identities containing these digits in the position X_7 are available for potential use in stage 2 of the plan.

World-wide scheme

8. If national or regional coding cannot be applied, the vessel must be assigned an identity with three trailing zeros assuming the need to receive automatic shore network-to-ship communications is present.

9. Any vessel fitted with a ship earth station or anticipated to be so equipped in the foreseeable future should be provided with an identity using three trailing zeros. A vessel equipped for communications in the HF bands and having a need in the foreseeable future for receiving automatic communications from land networks (unable to carry more than 6 digits) may also be considered a candidate for a ship identity with three trailing zeros. Administrations must, however, use discretion in this matter in order to preserve the capacity of the ship identity plan since HF capability does not, of itself, require such an identity.

General

10. A single MID has been allocated to each country. A second MID should not be requested unless the first allocated MID is more than 80% exhausted in the basic category of three trailing zeros and the rate of assignments is such that 90% exhaustion is foreseen. The same criteria should be applied to subsequent requests for MIDs.

11. These guidelines do not require an administration to assign numerical identities until it determines that the need exists for such identities. They do not address the assignment of ship station identities without trailing zeros as it is assumed that there is enough capacity inherent in the system to provide for the assignment of such identities to all ship stations which an administration may wish to identify in this manner.

RESOLUTION No. 321 (Mob-83)

Relating to the Development of Operational Provisions for the Future Global Maritime Distress and Safety System (FGMDSS) and to Their Introduction Into the Radio Regulations

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Maritime Organization (IMO) has adopted the basic requirements for the FGMDSS;

b) that this Conference has, on the basis of these requirements, made provisions in the Radio Regulations for the use of certain frequencies required for this new system;

c) that this Conference has not, however, considered it appropriate to introduce in the Radio Regulations at this time detailed regulatory and operational provisions pertaining to this system;

d) that, before a decision can be made as to the appropriate scope and detail of such provisions to be included in the Radio Regulations, an orderly testing and evaluation period must take place;

e) that the CCIR should continue its technical and operational studies;

recognizing

a) that appropriate administrative, technical and operational experience must be gained with the new system before detailed regulatory and operational provisions pertaining to this system can be incorporated into the Radio Regulations;

b) that this Conference has adopted provisions to facilitate the introduction of the FGMDSS;

c) that the IMO is responsible for the further development of the FGMDSS and for the determination of its operational requirements and characteristics;

d) that during this transition period, there is the possibility of operational use of the FGMDSS in actual incidents of distress and safety, with the understanding that the existing provisions in the Radio Regulations concerning emergency circumstances are the governing mandate;

e) that all existing provisions of the Radio Regulations pertaining to distress and safety communications shall be maintained at least until the full implementation of the FGMDSS;

resolves

1. that the World Administrative Radio Conference (WARC) for the Mobile Services planned for 1987 should be requested to make the necessary provisions in the Radio Regulations for the new system;

2. that, whilst gaining experience to provide a basis for the adoption of detailed regulations by the next appropriate administrative radio conference, administrations participating, singly or jointly, in the operation of elements of the FGMDSS should advise the Secretary-General of any temporary administrative, technical or operational provisions, for appropriate action, and inform other administrations;

invites

1. the Secretary-General to send this Resolution to the IMO with a request

- to continue its studies on the FGMDSS, taking into account experience gained during the transition period,
- to develop plans which will facilitate an orderly introduction of the system, and
- to develop operational procedures of the system required to implement these plans;

2. the CCIR to continue its studies of the FGMDSS;

3. the Administrative Council to take the necessary action to place this matter on the agenda of the next competent WARC and to take appropriate steps to assist in its preparation;

4. administrations to prepare, and as far as possible coordinate proposals on these matters taking account of developments in IMO and CCIR, for submission to the WARC for the Mobile Services planned for 1987.

RESOLUTION No. 322 (Mob-83)

Relating to the Selection of Coast Stations to Assume Watch-Keeping Responsibilities on Certain Frequencies in Connection with the Implementation of the Future Global Maritime Distress and Safety System (FGMDSS)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Maritime Organization (IMO) has submitted to this Conference a report containing the design of a future global maritime distress and safety system (FGMDSS);

b) that this Conference has made enabling provisions in the Radio Regulations to facilitate the progressive implementation of the new system while maintaining provision for continuation of the existing system during a transitional period;

c) that the new system necessitates the use or the exclusive use of a number of additional frequencies for maritime distress and safety purposes;

d) that the extra watch-keeping responsibilities associated with these additional frequencies may be too onerous to be assumed by all coast stations open to public correspondence;

e) that the additional frequencies are to be used as part of a worldwide coordinated distress system which will require selected coast stations to keep watch on specific frequencies;

recognizing

a) that for the successful implementation of the new system there must be adequate geographical distribution of coast stations keeping watch on the additional frequencies as well as those now in use;

b) that the IMO is the organization best qualified to coordinate, with the agreement of the governments, a plan for coast stations to accept watch-keeping responsibilities on the frequencies required for the new system;

resolves to invite the IMO

in cooperation with the ITU, to coordinate a plan for selected coast stations to assume additional watch-keeping responsibilities on the frequencies identified for use in the FGMDSS and to forward this plan to the Secretary-General of the ITU, who shall bring it to the attention of all administrations and shall also include the appropriate information in the List of Coast Stations;

requests the Secretary-General

to communicate this Resolution to the IMO.

RESOLUTION No. 704 (Mob-83)

Relating to the Holding of a Regional Administrative Radio Conference to Prepare Frequency Assignment Plans for the Maritime Mobile Service in the Bands Between 435 kHz and 526.5 kHz and in Parts of the Band Between 1 606.5 kHz and 3 400 kHz in Region 1 and to Plan for the Aeronautical Radionavigation Service in the Band 415 - 435 kHz in Region 1

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that Recommendation **300** of the World Administrative Radio Conference, Geneva, 1979, confirmed that the Copenhagen Plan of 1948 (which provided frequency assignments for coast stations in the European Maritime Area using telegraphy in the bands between 415 kHz and 490 kHz and between 510 kHz and 525 kHz) had become out of date and that some of the technical standards used therein had been revised;

b) that the same Conference allocated the bands 505 - 526.5 kHz in Region 1 to the maritime mobile service on a primary basis and to the aeronautical radionavigation service on a permitted basis;

c) that Resolution **38** of the same Conference stressed the need for frequency assignment plans to be drawn up for Region 1 for the band 1 606.5 - 2 850 kHz for the maritime mobile service;

d) that the present Conference was unable to prepare frequency assignment plans for these two bands but has nevertheless taken the necessary decisions upon which assignment plans could be based;

e) that there is an urgent need for frequency assignment plans to be prepared for the bands mentioned above and brought into force for the benefit of the maritime mobile service and for other services requiring early access to certain bands to be vacated by that service;

f) that objective traffic statistics would form a useful basis for the determination of requirements to be included in the planning exercise;

g) that the present Conference modified the provisions of No. **4188** of the Radio Regulations concerning the subdivisions of the bands between 1 606.5 kHz and 3 800 kHz;

considering further

h) that the World Administrative Radio Conference, Geneva, 1979, allocated the band 415 - 435 kHz in Region 1 to the aeronautical radionavigation service on a primary basis and to the maritime mobile service on a permitted basis;

i) that this allocation permits the preparation of a frequency plan for the aeronautical radionavigation service;

j) that there is an urgent need for the band 415 - 435 kHz to be made available to the aeronautical radionavigation service in Region 1;

k) that in order to use the band 415 - 435 kHz to the maximum extent, it is necessary to plan this band for the aeronautical radionavigation service and to make adequate provisions for the use of this band by the maritime mobile service;

l) that to enable a coordinated introduction of the aeronautical radionavigation service in the band 415 - 435 kHz, the planning of this band should coincide with the planning of the band 435 - 526.5 kHz for the maritime mobile service;

m) that the planning of the band 415 - 435 kHz in Region 1 for the aeronautical radionavigation service will be of benefit to aircraft of all nations flying in these areas;

resolves

1. that a regional administrative radio conference for Region 1 be convened to prepare frequency assignment plans for the maritime mobile service in the frequency bands between 435 kHz and 526.5 kHz and in parts of the band between 1 606.5 kHz and 2 850 kHz and for the aeronautical radionavigation service in the band 415 - 435 kHz;

2. that the Tables of Recommended Assignable Frequencies appearing in Appendices 1 and 2 to this Resolution be used as a basis for the planning of the bands 435 - 526.5 kHz, 1 606.5 - 1 625 kHz, 1 635 - 1 800 kHz and 2 045 - 2 160 kHz for the maritime mobile service;

3. that when planning the band 415 - 435 kHz for the aeronautical radionavigation service, provision shall be made for the use of this band also by the maritime mobile service and when planning the band 505 - 526.5 kHz for the maritime mobile service provision shall be made for the use of this band also by the aeronautical radionavigation service;

4. that, in accordance with *resolves* 2 of the aforementioned Resolution **38**, replacement frequencies for stations of the maritime mobile service shall be provided in the frequency assignment plan mentioned above, together with the arrangements for their implementation;

recommends

that the Table of Recommended Assignable Frequencies appearing in Appendix 3 to this Resolution be used by administrations when planning and assigning frequencies in the bands 1 850 - 2 045 kHz, 2 194 - 2 498 kHz, 2 502 - 2 850 kHz, 3 155 - 3 400 kHz and 3 500 - 3 800 kHz to stations of the maritime mobile service;

invites the Administrative Council

1. to take all necessary steps (including fixing the date and the agenda) to convene at an early date, if possible early in 1985, a regional administrative radio conference for Region 1 for the purpose of:

a) establishing an agreement and associated plans in the bands listed in *resolves* 2 and 3 of the present Resolution;

b) establishing the final texts of Appendices to the Radio Regulations containing the channelling arrangements in the bands referred to above;

2. include in the agenda of the World Administrative Radio Conference for the Mobile Services foreseen for 1987 an item covering the inclusion in the Radio Regulations of the Appendices mentioned in paragraph 1 *b)* above;

invites the administrations concerned

to take the appropriate steps with a view to adopting the instrument for abrogation of the European Regional Convention for the maritime mobile service, Copenhagen, 1948, and the associated Plan;

requests the IFRB

1. to give technical assistance in the preparation for and organization of the Conference;

2. to invite administrations to submit at an appropriate date their requirements using the characteristics contained in Appendix **1** to the Radio Regulations;

requests the CCIR

to establish the necessary technical basis;

requests the Secretary-General

to forward this Resolution to the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO).

(Rev. 1985)

APPENDIX 1 TO RESOLUTION No. 704 (Mob-83)

Tables of Recommended Assignable Frequencies for Planning for the Maritime Mobile Service in the Band Between 435 kHz and 526.5 kHz in Region 1

1. The Tables below show the frequencies assignable to stations of the maritime mobile service for narrow-band direct-printing telegraphy, digital selective calling and Morse telegraphy in the band between 435 kHz and 526.5 kHz in Region 1. The frequency assignment plan will be based on a 0.5 kHz spacing. Until 1 January 1990, when tighter frequency tolerances for A1A Morse telegraphy become applicable, frequencies for A1A Morse telegraphy may be assigned with a channel spacing of 1 kHz.

a) *coast stations* (29 channels)

435.5	439	442.5	446	449.5
436	439.5	443	446.5	
436.5	440	443.5	447	
437	440.5	444	447.5	
437.5	441	444.5	448	
438	441.5	445	448.5	
438.5	442	445.5	449	

b) *coast stations, ship stations, intership working* (23 channels)

450	453	456	459
450.5	453.5	456.5	459.5
451	454 *	457	460
451.5	454.5	457.5	460.5
452	455	458	461
452.5	455.5	458.5	

Note: When choosing from the above frequencies, the use of 455 kHz as an intermediate frequency in broadcast receivers should be borne in mind.

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* See Nos. **4237** and **4238**.

c) *ship stations* (57 channels)

461.5	467.5	473.5	479.5	485.5
462	468	474	480	486
462.5	468.5	474.5	480.5	486.5
463	469	475	481	487
463.5	469.5	475.5	481.5	487.5
464	470	476	482	488
464.5	470.5	476.5	482.5	488.5
465	471	477	483	489
465.5	471.5	477.5	483.5	489.5
466	472	478	484	
466.5	472.5	478.5	484.5	
467	473	479	485	

d) *coast stations* (13 channels)

510.5	512.5	514	515.5	517
511	513	514.5	516	
511.5	513.5	515	516.5	

e) *coast stations, narrow-band direct-printing telegraphy (with forward error correction)*

518 kHz (see Resolution **318 (Mob-83)**)

f) *coast stations* (15 channels)

519	520.5	522	523.5	525
519.5	521	522.5	524	525.5
520	521.5	523	524.5	526

2. The recommended assignable frequencies 435.5 - 449.5 kHz to be used by coast stations shall be paired with the frequencies 475.5 - 489.5 kHz to be used by ship stations and the recommended assignable frequencies 461.5 - 475 kHz to be used by ship stations shall be paired with the frequencies in paragraphs *d)* and *f)*.

3. Frequency 512 kHz is used as a supplementary calling frequency by ship and coast stations (see Nos. **4239** and **4241**).

APPENDIX 2 TO RESOLUTION No. 704 (Mob-83)

Tables of Recommended Assignable Frequencies for Planning for the Maritime Mobile Service in the Bands 1 606.5 - 1 625 kHz, 1 635 - 1 800 kHz and 2 045 - 2 160 kHz in Region 1

a) *Coast stations, narrow-band direct-printing telegraphy, digital selective calling*

1 607 kHz . . . 36 channels spaced 0.5 kHz . . . 1 624.5 kHz.

b) *Coast stations, single-sideband radiotelephony*

1 636.4 kHz (1 635 kHz) . . . 55 channels spaced 3 kHz . . . 1 798.4 kHz (1 797 kHz).

c) *Ship stations, single-sideband radiotelephony* *

2 046.4 kHz (2 045 kHz) . . . 32 channels spaced 3 kHz . . . 2 139.4 kHz (2 138 kHz).

d) *Ship stations, narrow-band direct-printing telegraphy, digital selective calling*

2 142 kHz . . . 36 channels spaced 0.5 kHz . . . 2 159.5 kHz.

Note 1: Frequencies listed under *a)* and *b)* to be used by coast stations shall be paired with frequencies listed under *d)* and *c)* respectively to be used by ship stations.

Note 2: The frequencies between parentheses are the carrier frequencies.

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* For the conditions of use of certain frequencies of this sub-band, see Nos. **4358** to **4360**, **4362**, **4363**, **4365** and **4366**.

APPENDIX 3 TO RESOLUTION No. 704 (Mob-83)

Tables of Recommended Assignable Frequencies to be Used by Administrations in Region 1 when Planning and Assigning Frequencies in the Bands 1 850 - 2 045 kHz, 2 194 - 2 498 kHz, 2 502 - 2 850 kHz, 3 155 - 3 400 kHz and 3 500 - 3 800 kHz

a) *Coast stations, single-sideband radiotelephony*

1 852.4 kHz (1 851 kHz) ... 33 channels spaced 3 kHz ... 1 948.4 kHz (1 947 kHz).

b) *Ship stations, single-sideband radiotelephony*

1 952.4 kHz (1 951 kHz) ... 31 channels spaced 3 kHz ... 2 042.4 kHz (2 041 kHz).

c) *Ship stations, single-sideband radiotelephony*

2 196.4 kHz (2 195 kHz) ... 22 channels spaced 3 kHz ... 2 259.4 kHz (2 258 kHz).

d) *Intership, single-sideband radiotelephony*

2 264.4 kHz (2 263 kHz) ... 78 channels spaced 3 kHz ... 2 495.4 kHz (2 494 kHz).

e) *Ship stations, narrow-band direct-printing telegraphy*

2 502.5 kHz ... 150 channels spaced 0.5 kHz ... 2 577.5 kHz.

f) *Coast stations, narrow-band direct-printing telegraphy and single-sideband radiotelephony*

2 580.4 kHz (2 579 kHz) ... 90 channels spaced 3 kHz ... 2 847.4 kHz (2 846 kHz).

or

2 578.5 kHz ... 543 channels spaced 0.5 kHz ... 2 849.5 kHz.

g) *Ship stations, narrow-band direct-printing telegraphy*

3 155.5 kHz . . . 89 channels spaced 0.5 kHz . . . 3 199.5 kHz.

h) *Ship stations, single-sideband radiotelephony*

3 202.4 kHz (3 201 kHz) . . . 46 channels spaced 3 kHz . . . 3 337.4 kHz (3 336 kHz).

i) *Intership, single-sideband radiotelephony*

3 341.4 kHz (3 340 kHz) . . . 20 channels spaced 3 kHz . . . 3 398.4 kHz (3 397 kHz).

j) *Intership, single-sideband radiotelephony*

3 501.4 kHz (3 500 kHz) . . . 33 channels spaced 3 kHz . . . 3 597.4 kHz (3 596 kHz).

k) *Coast stations, single-sideband radiotelephony*

3 602.4 kHz (3 601 kHz) . . . 66 channels spaced 3 kHz . . . 3 797.4 kHz (3 796 kHz).

Note: The frequencies between parentheses are the carrier frequencies.

Note by the General Secretariat

The Recommendations are arranged in order and numbered along the lines of the grouping and numbering system below. As some Recommendations in one group have direct relationship to Recommendations in other groups, this has been reflected, as far as possible, to facilitate consultation.

In this respect, see also the Analytical Index.

RECOMMENDATIONS

RECOMMENDATIONS

RECOMMENDATION No. 200

Relating to the Date of Entry into Force of the 10 kHz Guardband for the Frequency 500 kHz in the Mobile Service (Distress and Calling)

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 201

Relating to Distress, Urgency and Safety Traffic

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 201 (Rev.Mob-83)

Relating to Distress, Urgency and Safety Traffic

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

noting

that the International Maritime Organization (IMO):

a) has adopted a Resolution [1] on the development of the maritime distress system;

b) has under development a future global maritime distress and safety system (FGMDSS);

c) is considering transitional measures to this future system;

further noting

that the technical and operating considerations of the FGMDSS are being studied by the CCIR;

considering

a) that the IMO requirement for the possible future fitting of automatic distress alerting, followed by the automatic transmission of additional information concerning a distress incident, is of particular importance;

b) that automatic distress alerting, followed by the automatic transmission of additional information concerning the distress case, should take place on one or more frequencies reserved for this purpose;

[1] IMO Resolution A.420 (XI).

c) that this Conference has made available frequencies for automatic distress alerting using digital selective calling techniques;

d) that within the framework of the FGMDSS the transmission and the recorded reception of distress, urgency and safety messages should be able to take place with minimal interruption and irrespective of human attendance;

e) that at this time there appears to be a continuing need for non-automatic alerting for ships not required by international conventions to participate in the FGMDSS;

recommends

1. that the IMO be invited to continue its studies with a view to the introduction of the FGMDSS and, in doing so, to recognize the need for the use of automatic or non-automatic alerting by ships not subject to international conventions and for existing equipment in such ships to be able to continue in use for distress and safety purposes;

2. that the CCIR continue its studies on the FGMDSS and in particular the role of maritime-satellite radiocommunications in a coordinated distress system as well as in safety applications;

3. that, as a prerequisite to the introduction of the FGMDSS, it must be proved by field trials that it will provide an improved service;

4. that administrations consider, in the light of advancing techniques, the introduction of more automated telecommunication systems for the dissemination of distress, urgency and safety messages on a continuous basis, to replace Morse telegraphy, if possible;

5. that the introduction and operation of the FGMDSS should be complementary to and not adversely affect the existing distress and safety services;

requests the Secretary-General

to communicate this Recommendation to the IMO.

(Rev. 1985)

RECOMMENDATION No. 202

Relating to the Improvement of Protection of Distress and Safety Frequencies, and Those Related to Distress and Safety, Against Harmful Interference

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 204

Relating to the Application of Chapters NX, NXI and NXII of the Re-Arranged Radio Regulations

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 204 (Rev.Mob-83)

Relating to the Application of Chapters IX, X, XI and XII of the Radio Regulations

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the Radio Regulations provide the basic regulatory framework for all the mobile services and that the provisions of the Radio Regulations should correspond as closely as possible with the needs and operational realities of these services;

b) that the World Administrative Radio Conference, Geneva, 1979, adopted the Re-Arrangement of the Radio Regulations as proposed by the Group of Experts, taking into account proposals made by a number of administrations for further refinement of the Re-Arrangement;

c) that the separation of the previous mobile service provisions into specific chapters dealing with individual mobile services has highlighted certain anomalies in relation to each of the mobile services, and particularly in their applicability to the aeronautical mobile service and the land mobile service;

d) that certain of these anomalies raise substantive operational issues with which this Conference is not competent to deal;

e) that the aeronautical mobile service is concerned with the communications to ensure safe and regular operation of aircraft;

f) that towards this objective the International Civil Aviation Organization (ICAO) has agreed upon standards and recommended practices adapted to the needs of aircraft operation which have been proven in practice and are well established in current use;

recognizing

a) that the present Conference was primarily concerned with the revision of the provisions of the Radio Regulations from the limited aspect of distress and safety;

b) that this limited revision has still not resulted in bringing the Radio Regulations into accord with the needs and practices of the services concerned;

c) that the present Conference has adopted No. **3362** in Chapter **X**;

recommends

that the World Administrative Radio Conference planned for 1987 revise Chapters **IX, X, XI** and **XII** to bring them into accord with the current needs and practices of the services concerned;

invites the Administrative Council

to take the necessary steps to place this matter on the agenda of that World Administrative Radio Conference;

instructs the Secretary-General

to communicate the text of this Recommendation to the International Civil Aviation Organization (ICAO) and to the International Maritime Organization (IMO) and to request the attention of these organizations to a study of the material contained in Chapters **IX, X** and **XI**, with a view to assisting administrations in their preparations for that Conference.

RECOMMENDATION No. 300

Relating to Planning the Use of Frequencies by the Maritime Mobile Service in the Band 435 - 526.5 kHz in Region 1

The World Administrative Radio Conference, Geneva, 1979,

considering

a) that the allocations to the maritime mobile service in the 415 - 526.5 kHz band have been modified by this Conference;

b) that this Conference has adopted Recommendations **200** and **309** * concerning this band;

c) that certain technical standards used in the maritime mobile service have been revised by this Conference;

d) that some of the technical standards upon which the Assignment Plan for European countries contained in the Final Acts of the European Maritime Conference, Copenhagen, 1948, was based, have become out-of-date;

e) that ships using frequencies within this band travel worldwide;

f) that some countries have already assigned frequencies for other services operating in this band that may place constraints on the planning for the maritime mobile service;

g) that there is consequently a need for detailed examination regarding the use and planning of this band which takes into account the latest technical developments and standards;

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* *Note by the General Secretariat:* Recommendation **200** has been replaced by Resolution **206 (Mob-83)** and Recommendation **309** deleted by the WARC for the Mobile Services, Geneva, 1983.

noting

that this Conference has recommended the convening of an administrative radio conference for the mobile services;

recommends that the Administrative Council

ensure that the conference for mobile services is competent to take decisions regarding the planning and use of frequencies in this band in Region 1;

requests the CCIR

to undertake, as a matter of urgency, the study of the technical and operational aspects of these matters including the need for criteria for sharing with other services;

invites

1. *the Secretary-General* to send this Recommendation to the Inter-Governmental Maritime Consultative Organization (IMCO) with a request for the urgent consideration of the operational requirements for the maritime mobile service using this frequency band, and to make such recommendations as may be appropriate;

2. *administrations of Region 1* to study this matter and to submit proposals for consideration by the conference for mobile services.

RECOMMENDATION No. 309

Relating to the Designation of a Frequency in the Band 435 - 495 kHz or 505 - 526.5 kHz (525 kHz in Region 2) on a Worldwide Basis for the Transmission by Coast Stations of Navigational and Meteorological Warnings to Ships, Using Narrow-Band Direct-Printing Telegraphy

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 313

Relating to Temporary Provisions Covering the Technical and Operational Aspects of the Maritime Mobile-Satellite Service

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 313 (Rev.Mob-83)

Relating to Temporary Provisions Covering the Technical and Operational Aspects of the Maritime Mobile-Satellite Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that a minimum number of provisions to introduce the maritime mobile-satellite service in an orderly manner has been adopted;

b) that administrations have, as yet, little or no experience in operating a maritime mobile-satellite service;

c) that the International Maritime Satellite Organization (INMARSAT) has recently commenced its activities;

d) that the CCIR is studying the technical and operating aspects of this service;

e) that, consequently, it is impossible at the present time to establish comprehensive regulatory provisions covering in detail the technical and operational aspects of such a service;

f) that, nevertheless, temporary administrative, technical and operational provisions may become necessary before the next competent administrative radio conference;

recognizing

that any CCIR or CCITT recommendations on this subject could be more readily adapted to changing techniques than could detailed regulations;

recommends

1. that, whilst gaining experience to provide a basis for the adoption of detailed regulations by the next appropriate administrative radio conference, administrations participating in the maritime mobile-satellite service should agree to temporary administrative, technical and operational provisions, notify them to the Secretary-General, and invite other administrations to adopt them, without prejudice;

2. that the CCIR and the CCITT continue their studies; and

invites the Administrative Council

to take the necessary action to place this matter on the agenda of the next competent World Administrative Radio Conference.

RECOMMENDATION No. 314 (Mob-83)

Relating to a Radiotelephone Frequency in the 8 MHz Band for Exclusive Use for Distress and Safety Traffic in the Future Global Maritime Distress and Safety System (FGMDSS)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Maritime Organization (IMO) is developing a future global maritime distress and safety system (FGMDSS);

b) that the IMO has requested this Conference to provide a radiotelephone frequency in the 8 MHz band for exclusive use for distress and safety traffic;

c) that this Conference, however, was not in a position to meet this requirement;

d) the importance of this requirement for the FGMDSS,

recommends

that the World Administrative Radio Conference for the Mobile Services due to be held in 1987 should consider this matter further and provide a radiotelephony frequency in the 8 MHz band for exclusive use for distress and safety traffic;

invites the Administrative Council

to include this Recommendation on the agenda of the World Administrative Radio Conference for the Mobile Services due to be held in 1987;

requests the Secretary-General

to transmit this Recommendation to the IMO.

(Rev. 1985)

RECOMMENDATION No. 315 (Mob-83)

Relating to Shore-Ship Digital Selective Calls in the Band around 500 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the CCIR has recommended a Digital Selective Calling (DSC) System;

b) that the International Maritime Organization (IMO) has adopted DSC as part of the future global maritime distress and safety system (FGMDSS);

c) that DSC will be used both in public correspondence and in the FGMDSS;

d) that the CCIR has foreseen the need for a considerable number of frequencies for DSC in the HF bands;

e) that IMO has proposed that a frequency in the band around 500 kHz be used for alerting in the shore-ship direction in the FGMDSS;

recognizing

a) that the exact geographical position of a ship is generally unknown to the coast station; it is thus often necessary to make digital selective calls on a number of different HF channels for alerting an individual ship;

b) that ships generally have good access to coast stations;

c) that it is feasible to call or alert on a frequency in the band around 500 kHz a major part of shipping in coastal areas by one-way digital selective calls;

d) that a ship alerted in such a manner would then call the coast station by the most appropriate means of communication;

e) that this Conference has provided the frequency 490 kHz for distress and safety calls in the shore-to-ship direction by digital selective calling techniques, subject to the conditions specified in Resolution **206 (Mob-83)**,

recommends

that the CCIR study the effective use of the band around 500 kHz for shore-to-ship digital selective calls for public correspondence and distress alerting and that the result of the study be presented to the World Administrative Radio Conference for the Mobile Services, planned for 1987,

invites

administrations to submit contributions to this study.

RECOMMENDATION No. 316 (Mob-83)

Relating to the Use of Ship Earth Stations Within Harbours and Other Waters Under National Jurisdiction

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

recognizing

that permitting the use of ship earth stations within harbours and other waters under national jurisdiction belongs to the sovereign right of countries concerned;

recalling

a) that this Conference has adopted Recommendation **313 (Rev.Mob-83)**, relating to temporary provisions covering the technical and operational aspects of the maritime mobile-satellite service;

b) that the World Administrative Radio Conference, Geneva, 1979, allocated the bands 1 535 - 1 544 MHz and 1 626.5 - 1 645.5 MHz to the maritime mobile-satellite service and the bands 1 544 - 1 545 MHz and 1 645.5 - 1 646.5 MHz to the mobile satellite service;

considering

a) that the maritime mobile-satellite service, which is at present in operation worldwide, has improved maritime communications greatly and has contributed much to the safety and efficiency of ship navigation, and that fostering and developing the use of that service in future will contribute further to their improvement;

b) that the maritime mobile-satellite service will play an important role in the future global maritime distress and safety system (FGMDSS);

c) that the use of the maritime mobile-satellite service will be beneficial not only to the countries having ship earth stations at present but also to those considering the introduction of that service;

is of the opinion

that all administrations should be invited to consider permitting to the extent possible ship earth stations to operate within harbours and other waters under national jurisdiction in the bands 1 535 - 1 545 MHz and 1 626.5 - 1 646.5 MHz;

recommends

that all administrations examine this matter further.

RECOMMENDATION No. 317 (Mob-83)

Relating to the Use of a Priority Indicator Signal for Alerting Ships to Send Overdue Position Reports and for Other Ships to Report Sightings

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Convention on Maritime Search and Rescue, 1979, provides for the establishment of ship reporting systems by States for the search and rescue regions for which they are responsible;

b) that verification of the safety of vessels, which have failed to report, is required;

c) that some administrations have already established such ship reporting systems;

d) that standard procedures need to be adopted;

recommends

1. that a priority indicator signal with the following meaning be adopted:

> "A position report to the ship reporting system of (name of administration) was expected from the vessel indicated by the call sign (...) but has not been received. This vessel or any vessel or shore station that has been in communication with, or sighted this vessel should immediately communicate with the station which has sent this signal";

2. that a suitable signal for this purpose would be the alphabetic characters "JJJ" in the Morse Code for radiotelegraphy and the spoken words "REPORT IMMEDIATE" for radiotelephony;

3. that the name and call sign of the vessel would be broadcast with ships' traffic lists followed by the above signal when an expected position report is overdue for a period specified by administrations;

invites administrations

to consider this matter and submit proposals to the next competent conference for the implementation of this signal taking into account the views of the International Maritime Organization (IMO);

requests the Secretary-General

to communicate this Recommendation to the IMO for consideration.

RECOMMENDATION No. 602

Relating to Maritime Radiobeacons

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 602 (Rev.Mob-83)

Relating to the Planning of Frequencies in the Band 283.5 - 315 kHz Used by Maritime Radiobeacons in the European Maritime Area

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the "Regional Arrangement for Maritime Radiobeacons in the European Area of Region 1, Paris, 1951", referred to hereinafter as the "Paris Arrangement, 1951" is largely based on the geographical disposition of radiobeacons existing before 1939 and on the state of maritime navigation at that time;

b) that, since the conclusion of the Paris Arrangement, 1951, the geographical disposition and certain characteristics of maritime radiobeacons have been changed by bilateral or multilateral agreements, particularly to take into account the changes which have occurred in the rules and procedures of maritime navigation;

c) that the Paris Arrangement, 1951, is based essentially on the use of aural direction-finding receivers;

d) that studies conducted by administrations, the International Association of Lighthouse Authorities (IALA) and the CCIR have demonstrated the need to review the provisions of the Paris Arrangement, 1951;

e) that the parts of those studies relating to adjacent channel spacing and modulation characteristics should be clarified;

f) that the frequency band 283.5 - 315 kHz used by maritime radiobeacons is also allocated, on a permitted basis, to the aeronautical radionavigation service;

noting

a) the existence in Chapter **VIII** of the Radio Regulations (Article **35**, Section IV, paragraph C "Maritime Radiobeacons") of provisions Nos. **2860** to **2865**;

b) the existence in Chapter **III** (Article **8**, Section I) of No. **405**, which defines the European Maritime Area;

recommends

1. that a regional administrative conference for the European Maritime Area should be convened to revise the provisions of the Paris Arrangement, 1951, and prepare a plan of maritime radiobeacons in the European Maritime Area in the band 283.5 - 315 kHz;

invites the Administrative Council

to take the necessary steps to convene a regional administrative conference on the basis of Articles 7 and 54 of the International Telecommunication Convention (Malaga-Torremolinos, 1973), at an early date, if possible early in 1985;

invites the CCIR

to establish the technical bases needed for the work of that conference;

requests the Secretary-General

to communicate this Recommendation to the International Maritime Organization (IMO), the International Association of Lighthouse Authorities (IALA) and the International Civil Aviation Organization (ICAO).

(Rev. 1985)

RECOMMENDATION No. 604

Relating to the Future Use and Characteristics of Emergency Position-Indicating Radiobeacons

(Abrogated by Resolution **90 (Mob-83)***)*

RECOMMENDATION No. 604 (Rev.Mob-83)

Relating to the Future Use and Characteristics of Emergency Position-Indicating Radiobeacons

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that according to Article **41** of the Radio Regulations, the essential purpose of the emergency position-indicating radiobeacon (EPIRB) signals is to facilitate determining the position of survivors in search and rescue operations;

b) that requirements for carriage of EPIRBs are under consideration with a view to amendments being proposed to the International Convention for the Safety of Life at Sea, 1974;

c) that requirements for carriage of EPIRBs are included in the International Convention for the Safety of Fishing Vessels, Torremolinos, 1977;

d) that the International Maritime Organization (IMO) is considering various types of EPIRBs for use in the future global maritime distress and safety system (FGMDSS), and that these EPIRBs will be an integral part of the future system;

e) that the IMO has stressed in its Resolution A.279 (VIII) the urgent need for unification of the characteristics of EPIRBs;

recognizing

a) that there are provisions in the Radio Regulations for EPIRBs on the frequencies 2 182 kHz, 121.5 MHz, 243 MHz, and in the band 406 - 406.1 MHz;

b) that significant changes in frequency allocations for satellite systems were affected by the World Administrative Radio Conference, Geneva, 1979. The band 406 - 406.1 MHz is now exclusively allocated to the mobile-satellite service (Earth-to-space) for EPIRB use and development. The band 1 645.5 - 1 646.5 MHz is allocated to the mobile-satellite service (Earth-to-space) and limited in use to distress and safety operations. The band 1 544 - 1 545 MHz is exclusively allocated to the mobile-satellite service (space-to-Earth) for distress and safety operations;

c) that in order to facilitate the application of a universal standard for EPIRBs operating on the frequencies 121.5 MHz and 243 MHz, this Conference has adopted Appendix **37A**,

recommends

1. that, in view of their mutual interest in this matter, IMO and the International Civil Aviation Organization (ICAO) be invited, as a matter of urgency, to review and align their concepts for EPIRBs in regard to search and rescue operations and the safety of life at sea;

2. that the CCIR continue to study technical and operating questions for EPIRBs, in consideration of concepts stated by the IMO and ICAO;

requests the Secretary-General

to communicate this Recommendation to the IMO and ICAO.

RECOMMENDATION No. 713 (Mob-83)

Relating to the Use of Radar Transponders for Facilitating Search and Rescue Operations at Sea

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that a search and rescue system, composed of shipborne radars operating in the 9 GHz band in combination with radar transponders which respond to radio signals transmitted by the shipborne radar, could be a practicable means of position-finding for a unit in distress at sea;

b) that this system would make use of radars operating in the 9 GHz band already installed on board ships and aircraft engaged in search and rescue operations and could contribute greatly to search and rescue operations at sea;

c) that this system would be more effective, if the small-size, lightweight and low-cost radar transponders were in conformity with internationally agreed technical and operating characteristics;

d) CCIR Questions 28/8 and 45/8, and in particular the studies on homing on emergency position-indicating radiobeacons;

requests the CCIR

to include in its studies on the future global maritime distress and safety system (FGMDSS) the technical and operating characteristics of radar transponders for facilitating search and rescue operations at sea,

recommends administrations

to study this matter and submit contributions to CCIR,

invites the Secretary-General

to bring this Recommendation to the attention of the International Maritime Organization (IMO), the International Association of Lighthouse Authorities (IALA) and the International Civil Aviation Organization (ICAO).