INTERNATIONAL TELECOMMUNICATION UNION

FINAL ACTS

of the World Administrative Radio Conference for the Mobile Services (MOB-87) Geneva, 1987

Geneva 1988

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NOTE

The following symbols have been used to indicate the nature of the revision in each case:

ADD = addition of a new provision

MOD = modification of an existing provision

(MOD) = editorial modification of an existing provision

NOC = provision unchanged

SUP = deletion of an existing provision

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Geneva, 1987

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FINAL ACTS

of the World Administrative Radio Conference for the Mobile Services (Mob-87)

Geneva, 1987

PREAMBLE

In the light of Resolution No. 202 adopted by the World Administrative Radio Conference, Geneva, 1979 (WARC-79), the Plenipotentiary Conference of the International Telecommunication Union (Nairobi, 1982), in its Resolution No. 1, decided that a World Administrative Radio Conference for the Mobile Services be convened in Geneva in mid-August 1987 for a period of six weeks.

On the basis of this decision the Administrative Council of the Union, at its 40th Session in 1985, considered Resolution No. 202 of WARC-79 and made the necessary arrangements for such a World Administrative Radio Conference for the Mobile Services. When establishing the agenda for the Conference, the Administrative Council took full account of Resolutions Nos. 321 and 204 of the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, as well as other relevant Resolutions and Recommendations adopted by the Regional Administrative Conference for the Planning of the Maritime Radionavigation Service (Radiobeacons) in the European Maritime Area (EMA) and the Regional Administrative Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1) (MM-R1), Geneva, 1985. In its Resolution No. 933, the Administrative Council decided that the duration of the Conference would be six weeks. At its 41st Session in 1986, considering the results of prior consultations, the Administrative Council amended its Resolution No. 933 and resolved that the Conference be convened in Geneva for five weeks commencing on Monday, 14 September 1987.

The World Administrative Radio Conference for the Mobile Services, accordingly convened on the appointed date, considered and adopted a partial revision of the Radio Regulations in accordance with its Agenda. Details of this partial revision and of the related action taken by the Conference are given in the Annex hereto.

In accordance with its Agenda, the Conference also reviewed existing Resolutions and Recommendations and adopted a number of new Resolutions and Recommendations relating to the mobile services.

The partial revision of the Radio Regulations, as adopted by the Conference, shall form an integral part of those Regulations and shall enter into force on **3 October 1989 at 0001 hours UTC**, except for such elements of the partial revision for which a different date of entry into force is specifically stipulated therein.

The delegates signing this partial revision of the Radio Regulations hereby declare that, should a Member of the Union make reservations concerning the application of one or more of the provisions of the revised Radio Regulations contained in the present Final Acts, no other Member shall be obliged to observe that provision or those provisions in its relations with that particular Member.

Members of the Union shall inform the Secretary-General of their approval of the partial revision of the Radio Regulations by the World Administrative Radio Conference for Mobile Services (Geneva, 1987). The Secretary-General shall inform Members promptly of the receipt of such notifications of approval.

IN WITNESS WHEREOF, the delegates of the Members of the International Telecommunication Union named below have, on behalf of their respective competent authorities, signed one copy of the present Final Acts in the Arabic, Chinese, English, French, Russian and Spanish languages. This copy shall remain in the archives of the Union. The Secretary-General shall forward one certified copy to each Member of the International Telecommunication Union.

Done at Geneva, 17 October 1987.

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ANNEX

Partial Revision of the Radio Regulations and of the Appendices to these Regulations

ARTICLE 1

Terms and Definitions

NOC **Section III. Radio Services**

ADD **34A** **Mob-87** 3.15A *Aeronautical mobile (R)*[1] *service:* An *aeronautical mobile service* reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.

ADD **34B** **Mob-87** 3.15B *Aeronautical mobile (OR)*[2] *service:* An *aeronautical mobile service* intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes.

ADD **35A** **Mob-87** 3.16A *Aeronautical mobile-satellite (R)*[1] *service:* An *aeronautical mobile-satellite service* reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.

ADD **35B** **Mob-87** 3.16B *Aeronautical mobile-satellite (OR)*[2] *service:* An *aeronautical mobile-satellite service* intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

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[1] (R): route

[2] (OR): off-route

MOD **39** **Mob-87** 3.20 *Radiodetermination-Satellite Service:* A *radiocommunication service* for the purpose of *radiodetermination* involving the use of one of more *space stations.*

This service may also include *feeder links* necessary for its own operation.

NOC **Section IV. Radio Stations and Systems**

ADD **67A** **Mob-87** 4.10A *Land earth station:* An *earth station* in the *fixed-satellite service* or, in some cases, in the *mobile-satellite service,* located at a specified fixed point or within a specified area on land to provide a *feeder link* for the *mobile-satellite service.*

ADD **68A** **Mob-87** 4.11A *Base earth station:* An *earth station* in the *fixed-satellite service* or, in some cases, in the *land mobile-satellite service,* located at a specified fixed point or within a specified area on land to provide a *feeder link* for the *land mobile-satellite service.*

ADD **69A** **Mob-87** 4.12A *Land mobile earth station:* A *mobile earth station* in *the land mobile-satellite service* capable of surface movement within the geographical limits of a country or continent.

ARTICLE 8

Frequency Allocations

MOD **405** **Mob-87** § 5. The "European Maritime Area" is bounded to the north by a line extending along parallel 72° North from its intersection with meridian 55° East of Greenwich to its intersection with meridian 5° West, then along meridian 5° West to its intersection with parallel 67° North, thence along parallel 67° North to its intersection with meridian 32° West; to the west by a line extending along meridian 32° West to its intersection with parallel 30° North; to the south by a line extending along parallel 30° North to its intersection with meridian 43° East; to the east by a line extending along meridian 43° East to its intersection with parallel 60° North, thence along parallel 60° North to its intersection with meridian 55° East and thence along meridian 55° East to its intersection with parallel 72° North.

MOD **448** The use of the bands 14 - 19.95 kHz, 20.05 - 70 kHz and 70 - 90 kHz (72 - 84
Mob-87 kHz and 86 - 90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

MOD **451** In the bands 70 - 90 kHz (70 - 86 kHz in Region 1) and 110 - 130 kHz
Mob-87 (112 - 130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.

kHz
90 – 110

MOD

Allocation to Services		
Region 1	Region 2	Region 3
90 – 110	RADIONAVIGATION 453 Fixed 453A 454	

ADD

453A Mob-87 In the band 90 - 110 kHz, the United Kingdom may continue to use its coast radiotelegraph stations in operation on 14 September 1987, on a secondary basis.

kHz

130 – 285

	Allocation to Services		
	Region 1	Region 2	Region 3
	130 – 148.5 MARITIME MOBILE /FIXED/	**130 – 160** FIXED MARITIME MOBILE	**130 – 160** FIXED MARITIME MOBILE RADIONAVIGATION
MOD	454 457	454	454
	148.5 – 255 BROADCASTING	**160 – 190** FIXED	**160 – 190** FIXED Aeronautical Radionavigation
		459	
		190 – 200 AERONAUTICAL RADIONAVIGATION	
MOD	460 461 462		
MOD	**255 – 283.5** BROADCASTING /AERONAUTICAL RADIONAVIGATION/	**200 – 275** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	**200 – 285** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
MOD	463	**275 – 285** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	
MOD	462 464 464A	Maritime radionavigation (radiobeacons)	

* SUP **458**
Mob-87

ADD **464A** In Region 1, the change of the band limit from 285 kHz to 283.5 kHz shall
Mob-87 take place on 1 February 1990 (see Resolution **500**).

* *Note by the General Secretariat:* This note has been renumbered **464A**, to preserve the chronological order.

kHz
283.5 – 405

MOD

Allocation to Services		
Region 1	Region 2	Region 3
283.5 – 315 MARITIME RADIONAVIGATION (radiobeacons) 466 /AERONAUTICAL RADIONAVIGATION/ 464A 465 466A	**285 – 315** MARITIME RADIONAVIGATION (radiobeacons) 466 /AERONAUTICAL RADIONAVIGATION/	
315 – 325 AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 466 465 467	**315 – 325** MARITIME RADIONAVIGATION (radiobeacons) 466 Aeronautical Radionavigation	**315 – 325** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 466
325 – 405 AERONAUTICAL RADIONAVIGATION 465	**325 – 335** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) **335 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	**325 – 405** AERONAUTICAL RADIONAVIGATION Aeronautical Mobile

ADD

466A (Mob-87) *Additional Allocation:* in Region 1, the frequency band 285.3 - 285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a permitted basis.

kHz
415 – 1 606.5

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	**415 – 435** AERONAUTICAL RADIONAVIGATION /MARITIME MOBILE/ 470 465	**415 – 495** MARITIME MOBILE 470 Aeronautical Radionavigation 470A	
MOD	**435 – 495** MARITIME MOBILE 470 Aeronautical Radionavigation 465 471 472A	469 469A 471 472A	
	495 – 505	MOBILE (distress and calling) 472	
MOD	**505 – 526.5** MARITIME MOBILE 470 /AERONAUTICAL RADIONAVIGATION/ 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

MOD **469** Mob-87 *Different category of service:* in Afghanistan, Australia, China, the Overseas French Territories of Region 3, India, Indonesia, the Islamic Republic of Iran, Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415 - 495 kHz to the aeronautical radionavigation service is on a permitted basis. Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435 - 495 kHz do not cause interference to reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a world-wide basis (see No. **4237**).

ADD **469A** Mob-87 *Different category of service:* in Cuba, the United States of America, and Mexico the allocation of the band 415 - 435 kHz to the aeronautical radionavigation service is on a primary basis.

ADD **470A** Mob-87 In Region 2, the use of the band 435 - 495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

* MOD **471** Mob-87 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 **210 (Mob-87)**.

MOD **472** Mob-87 The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles **37**, **38**, **N 38** and **60**.

MOD **472A** Mob-87 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution **331 (Mob-87)**), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles **N 38** and **60**, and Resolution **329 (Mob-87)**. In using the band 415 - 495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz.

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* See *Note by the General Secretariat*, page 481.

SUP **473**
Mob-87

MOD **474** The conditions for the use of frequency 518 kHz by the maritime mobile
Mob-87 service are prescribed in Articles **38**, **N 38** and **60** (see Resolution **324 (Mob-87)** and Article **14A**).

kHz

1 605 – 1 800

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

ADD **480A** (Mob-87) In the band 1 605 - 1 705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.

kHz
1 800 – 2 000

Allocation to Services		
Region 1	Region 2	Region 3
1 800 – 1 810 RADIOLOCATION 487 485 486	**1 800 – 1 850** AMATEUR	**1 800 – 2 000** AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation
1 810 – 1 850 AMATEUR MOD 490 491 492 493		
1 850 – 2 000 FIXED MOBILE except aeronautical mobile MOD 484 488 495	**1 850 – 2 000** AMATEUR FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION 494	489

MOD **489** Mob-87 In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825 - 1 875 kHz and 1 925 - 1 975 kHz respectively. Other services to which the band 1 800 - 2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 kHz or 1 950 kHz.

* (MOD) **497** Mob-87 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. **4323 BD**.

MOD **500** Mob-87 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.5 - 2 190.5 kHz are prescribed in Articles **37**, **38**, **N 38** and **60**.

MOD **500A** Mob-87 The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article **N 38**.

MOD **500B** Mob-87 The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 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 **N 38**.

MOD **501** Mob-87 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and 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 conditions for the use of the frequencies are prescribed in Articles **38** and **N 38**.

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.

MOD **505** Mob-87 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Articles **38** and **N 38** by stations of the maritime mobile service engaged in coordinated search and rescue operations.

MOD **517** Mob-87 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** and Appendix **16**).

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* See *Note by the General Secretariat*, page 481.

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 520A 520B 518 519	
4 438 – 4 650 FIXED MOBILE except aeronautical mobile (R)		**4 438 – 4 650** FIXED MOBILE except aeronautical mobile

MOD

MOD **520** The conditions for the use of the carrier frequencies 4 125 kHz and
Mob-87 6 215 kHz are prescribed in Articles **37**, **38**, **N 38** and **60**.

ADD **520A** The frequency 4 209.5 kHz is used exclusively for the transmission by coast
Mob-87 stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct printing techniques (see Resolution **332 (Mob-87)**).

ADD **520B** The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz,
Mob-87 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the international frequencies for the transmission of Maritime Safety Information (MSI) (see Resolution **333 (Mob-87)** and Appendix **31**).

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	
MOD **6 200 – 6 525**	MARITIME MOBILE 500A 500B 520 520B 522	
6 525 – 6 685	AERONAUTICAL MOBILE (R)	
6 685 – 6 765	AERONAUTICAL MOBILE (OR)	

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	
MOD **8 195 – 8 815**	MARITIME MOBILE 500A 500B 520B 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	

MOD **529A** The conditions for the use of the carrier frequency 8 291 kHz, 12 290 kHz Mob-87 and 16 420 kHz are prescribed in Articles **38**, **N 38** and **60**.

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	
MOD **12 230 – 13 200**	MARITIME MOBILE 500A 500B 520B 529A 532	

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	
MOD **16 360 – 17 410**	MARITIME MOBILE 500A 500B 520B 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)	

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	
MOD **18 168 – 18 780**	FIXED Mobile except aeronautical mobile	
18 780 – 18 900	MARITIME MOBILE 532	
18 900 – 19 680	FIXED	
MOD **19 680 – 19 800**	MARITIME MOBILE 520B 532	
19 800 – 19 990	FIXED	

kHz
19 990 – 23 350

Allocation to Services		
Region 1	Region 2	Region 3
19 990 – 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space Research 501	
19 995 – 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 501	
20 010 – 21 000	FIXED Mobile	
21 000 – 21 450	AMATEUR 510 AMATEUR-SATELLITE	
21 450 – 21 850	BROADCASTING 531	
21 850 – 21 870	FIXED 539	
21 870 – 21 924	AERONAUTICAL FIXED	
21 924 – 22 000	AERONAUTICAL MOBILE (R)	
MOD **22 000 – 22 855**	MARITIME MOBILE 520B 532 540	
22 855 – 23 000	FIXED 540	
23 000 – 23 200	FIXED Mobile except aeronautical mobile (R) 540	
23 200 – 23 350	AERONAUTICAL FIXED AERONAUTICAL MOBILE (OR)	

kHz

25 070 – 27 500

Allocation to Services		
Region 1	Region 2	Region 3
25 070 – 25 210	MARITIME MOBILE 544	
25 210 – 25 550	FIXED MOBILE except aeronautical mobile	
25 550 – 25 670	RADIO ASTRONOMY 545	
25 670 – 26 100	BROADCASTING	
26 100 – 26 175	MARITIME MOBILE 520B 544	
26 175 – 27 500	FIXED MOBILE except aeronautical mobile 546	

MOD

MOD **554** *Additional allocation:* in Albania, the Federal Republic of Germany,
Mob-87 Austria, Belgium, Bulgaria, Côte d'Ivoire, Denmark, Spain, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Lybia, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, the German Democratic Republic, the United Kingdom, Senegal, Sweden, Switzerland, Swaziland, Syria, Togo, Tunisia, Turkey and Yugoslavia, the band 47 - 68 MHz and in Romania, the band 47 - 58 MHz, are also allocated to the land mobile service on a permitted basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band.

MHz
68 – 75.2

Allocation to Services		
Region 1	Region 2	Region 3
68 – 74.8 FIXED MOBILE except aeronautical mobile	**68 – 72** BROADCASTING Fixed Mobile 563	**68 – 74.8** FIXED MOBILE
	72 – 73 FIXED MOBILE	
	73 – 74.6 RADIO ASTRONOMY 569 570	
	74.6 – 74.8 FIXED MOBILE	
564 565 567 568 571 572	572	566 568 571 572
74.8 – 75.2	AERONAUTICAL RADIONAVIGATION	
MOD	572 572A	

ADD **572A** *Additional allocation:* in Afghanistan, the Federal Republic of Germany,
Mob-87 Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Turkey, the band 74.8 - 75.2 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article **14**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of Article **14**.

MHz
87 – 108

Allocation to Services		
Region 1	Region 2	Region 3
		87 – 100
87.5 – 100		FIXED
BROADCASTING	**88 – 100**	MOBILE
	BROADCASTING	BROADCASTING
581 582		580
100 – 108	BROADCASTING	
MOD	582 584 585	
MOD	586 587 588 589	

SUP **583**
Mob-87

MOD **587** *Additional allocation:* in Austria, Bulgaria, Hungary, Israel, Kenya, Mon-
Mob-87 golia, Poland, Syria, the German Democratic Republic, the United Kingdom, Somalia, Czechoslovakia, Turkey and the USSR, 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.

MOD **589** *Additional allocation:* in France, Romania, Sweden and Yugoslavia, the
Mob-87 band 104 - 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995.

SUP **590**
Mob-87

MHz
108 – 138

Allocation to Services		
Region 1	Region 2	Region 3
108 – 117.975	AERONAUTICAL RADIONAVIGATION	
MOD	590A	
117.975 – 136	AERONAUTICAL MOBILE (R)	
	501 591 592 593 594	
136 – 137	AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R)	
MOD	591 594A 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	

ADD **590A** *Additional allocation:* in Afghanistan, the Federal Republic of Germany, Mob-87 Austria, Cyprus, Denmark, Egypt, Spain, France, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, Pakistan, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Turkey, the band 108 - 111.975 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article **14**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administrations which may be identified in the application of Article **14**.

MOD **593** Mob-87 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 Articles **38** and **N 38** for distress and safety purposes with stations of the aeronautical mobile service.

ADD **594A** Mob-87 *Different category of service:* as from 1 January 1990, in Bulgaria, Poland, German Democratic Republic, Romania, Czechoslovakia, Turkey and the USSR, the allocation of the band 136 - 137 MHz to the aeronautical mobile (OR) service is on a permitted basis.

MOD **595** Mob-87 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. 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 Resolution **408 (Mob-87)**).

MHz
144 – 150.05

MOD

Allocation to Services		
Region 1	Region 2	Region 3
144 – 146	AMATEUR 510 AMATEUR-SATELLITE 605 606	
146 – 149.9 FIXED MOBILE except aeronautical mobile (R)	**146 – 148** AMATEUR 607	**146 – 148** AMATEUR FIXED MOBILE 607
608	**148 – 149.9** FIXED MOBILE 608	
149.9 – 150.05	RADIONAVIGATION-SATELLITE 609 609A	

ADD

609A Mob-87 Recognizing that the use of the band 149.9 - 150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorize such use in application of No. **342**.

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	
156.8375 – 174 FIXED MOBILE except aeronautical mobile 613 613B 614 615	**156.8375 – 174** FIXED MOBILE 613 616 617 618	

MOD

MOD

MOD **613** Mob-87 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 Articles **38** and **N 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 administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles **38**, **N 38** and **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.

MOD **613A** Mob-87 In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling (see Resolution **323 (Mob-87)**). The conditions for the use of this frequency are prescribed in Articles **38**, **N 38** and **60** and in Appendix **18**.

ADD **613B** Mob-87 *Additional allocation:* in Ireland and in the United Kingdom, the band 161.3875 - 161.4125 MHz is also allocated to the maritime radionavigation service on a primary basis, subject to agreement obtained under the procedure set forth in Article **14**.

MHz
174 – 235

MOD

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 627A	
	220 – 225 AMATEUR FIXED MOBILE Radiolocation 627	
223 – 230 BROADCASTING Fixed Mobile 622 628 629 631 632 633 634 635	**225 – 235** FIXED MOBILE	**223 – 230** FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation 636 637
230 – 235 FIXED MOBILE 629 632 633 634 635 638 639		**230 – 235** FIXED MOBILE AERONAUTICAL RADIONAVIGATION 637

MOD **621** *Additional allocation:* in the Federal Republic of Germany, Austria,
Mob-87 Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Monaco, Norway, the Netherlands, the United Kingdom, Sweden, Switzerland and Yemen (P.D.R. of), the band 174 - 223 MHz is also allocated to the land mobile service on a permitted basis. However, the stations of the land mobile service shall not cause harmful interference to, nor claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.

ADD **627A** *Additional allocation:* in Canada, the band 216 - 220 MHz is also allocated
Mob-87 to the land mobile service on a primary basis.

MHz
235 – 335.4

Allocation to Services		
Region 1	Region 2	Region 3
235 – 267	FIXED MOBILE 501 592 635 640 641 642	
267 – 272	FIXED MOBILE Space Operation (space-to-Earth) 641 643	
272 – 273	SPACE OPERATION (space-to-Earth) FIXED MOBILE 641	
273 – 322	FIXED MOBILE 641	
322 – 328.6	FIXED MOBILE RADIO ASTRONOMY 644	
328.6 – 335.4	AERONAUTICAL RADIONAVIGATION 645 645A	

MOD

MOD **642** The frequency 243 MHz is the frequency in this band for use by survival Mob-87 craft stations and equipment used for survival purposes (see Article **38**).

ADD **645A** *Additional allocation:* in Afghanistan, the Federal Republic of Germany,
Mob-87 Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Turkey, the band 328.6 - 335.4 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article **14**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of Article **14**.

MHz
335.4 – 401

Allocation to Services		
Region 1	Region 2	Region 3
335.4 – 399.9	FIXED MOBILE 641	
399.9 – 400.05	RADIONAVIGATION-SATELLITE 609 645B	
400.05 – 400.15	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 646 647	
400.15 – 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Space Operation (space-to-Earth) 647	

MOD

ADD **645B** Mob-87 Recognizing that the use of the band 399.9 - 400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation satellite service, administrations are urged not to authorize such use in application of No. **342**.

MHz
401 – 420

Allocation to Services		
Region 1	Region 2	Region 3
401 – 402	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) Earth Exploration-satellite (Earth-to-space) Fixed Meteorological-Satellite (Earth-to-space) Mobile except aeronautical mobile	
402 – 403	METEOROLOGICAL AIDS Earth Exploration-satellite (Earth-to-space) Fixed Meteorological-Satellite (Earth-to-space) Mobile except aeronautical mobile	
403 – 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile 648	
406 – 406.1	MOBILE-SATELLITE (Earth-to-space) 649 649A	
406.1 – 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 648 650	
410 – 420	FIXED MOBILE except aeronautical mobile	

MOD

MOD **649** The use of the band 406 - 406.1 MHz by the mobile-satellite service is **Mob-87** limited to low power satellite emergency position-indicating radiobeacons (see also Articles **38** and **N 38**).

ADD **649A** Any emission capable of causing harmful interference to the authorized **Mob-87** uses of the band 406 - 406.1 MHz is prohibited.

MHz
420 – 470

MOD

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 660A 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	

ADD **660A** *Additional allocation:* in Mexico, the bands 430 - 435 MHz and
Mob-87 438 - 440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under the procedure set forth in Article **14**.

MHz
470 – 890

	Allocation to Services		
	Region 1	Region 2	Region 3
	470 – 790 BROADCASTING	**470 – 512** BROADCASTING Fixed Mobile 674 675	**470 – 585** FIXED MOBILE BROADCASTING 673 677 679
		512 – 608 BROADCASTING 678	**585 – 610** FIXED MOBILE BROADCASTING RADIONAVIGATION 688 689 690
		608 – 614 RADIO ASTRONOMY Mobile-Satellite except aeronautical mobile-satellite (Earth-to-space)	
MOD	676 677A 682 683 684 685 686 686A 687 689 693 694	**614 – 806** BROADCASTING Fixed Mobile 675 692 692A 693	**610 – 890** FIXED MOBILE BROADCASTING
	790 – 862 FIXED		
MOD	BROADCASTING		
MOD MOD	694 695 695A 696 697 702	**806 – 890** FIXED MOBILE BROADCASTING	
	862 – 890 FIXED MOBILE except aeronautical mobile BROADCASTING 703		
MOD	704	692A 700	677 688 689 690 691 693 701

MOD **674** *Different category of service:* in Mexico and Venezuela, the allocation of the
Mob-87 band 470 - 512 MHz to the fixed and mobile services, and in Argentina and Uruguay to the mobile service, is on a primary basis (see No. **425**), subject to agreement obtained under the procedure set forth in Article **14**.

ADD **677A** *Additional allocation:* in the Federal Republic of Germany, Austria,
Mob-87 Belgium, Cyprus, Denmark, Spain, Finland, France, Ireland, Israel, Italy, Libya, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Swaziland, Syria, Tunisia and Turkey, the band 470 - 790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries mentioned in this footnote, shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote.

* SUP **680**
Mob-87

SUP **681**
Mob-87

ADD **686A** *Additional allocation:* in the United Kingdom, the band 598 - 606 MHz is
Mob-87 also allocated to the aeronautical radionavigation service on a primary basis until 31 December 1994. All new assignments to stations in the aeronautical radionavigation service in this band are subject to the agreement of the Administrations of the following countries: the Federal Republic of Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands.

ADD **692A** *Additional allocation:* in Cuba, the band 614 - 890 MHz is also allocated to
Mob-87 the radionavigation service on a primary basis, subject to agreement obtained under the procedure set forth in Article **14**.

ADD **695A** *Additional allocation:* in Austria, Italy, the United Kingdom and Swazi-
Mob-87 land, the band 790 - 862 MHz is also allocated to the land mobile service on a secondary basis.

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* *Note by the General Secretariat:* This note has been renumbered **686A**, to preserve the chronological order.

MOD **697** *Additional allocation:* in the Federal Republic of Germany, Denmark,
Mob-87 Egypt, Finland, Israel, Kenya, Libya, Liechtenstein, Monaco, Norway, the Netherlands, Sweden, Switzerland and Yugoslavia, the band 790 - 830 MHz, and in these same countries and in Spain, France, Malta and Syria, the band 830 - 862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band.

SUP **698**
Mob-87

SUP **699**
Mob-87

MOD **700** *Additional allocation:* in Region 2, the band 806 - 890 MHz is also allo-
Mob-87 cated to the mobile-satellite service on a primary basis. The use of this service is intended for operation within national boundaries and subject to agreement obtained under the procedure set forth in Article **14**.

MOD **701** *Additional allocation:* in Region 3, the bands 806 - 890 MHz and
Mob-87 942 - 960 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service on a primary basis. The use of this service is limited to operation within national boundaries and subject to agreement obtained under the procedure set forth in Article **14**. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table, to ensure that no harmful interference is caused to such services.

MHz
890 – 960

Allocation to Services		
Region 1	Region 2	Region 3
890 – 942 FIXED MOBILE except aeronautical mobile BROADCASTING 703 MOD Radiolocation	**890 – 902** FIXED MOBILE except aeronautical mobile Radiolocation 704A 705	**890 – 942** FIXED MOBILE BROADCASTING Radiolocation
	902 – 928 FIXED Amateur Mobile except aeronautical mobile Radiolocation MOD 705 707 707A	
	928 – 942 FIXED MOBILE except aeronautical mobile Radiolocation	
704	705	706
942 – 960 FIXED MOBILE except aeronautical mobile BROADCASTING 703	**942 – 960** FIXED Mobile	**942 – 960** FIXED MOBILE BROADCASTING
MOD 704	708	701

ADD **704A** *Additional allocation:* in Brazil, Canada and the United States of America,
Mob-87 the band 890 - 896 MHz is also allocated to the mobile-satellite service on a primary basis. The use of this service is intended for operation within national boundaries and subject to agreement obtained under the procedure set forth in Article **14**. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table.

ADD **707A** *Different category of service:* in Chile, the band 903 - 905 MHz is allocated
Mob-87 to the mobile, except aeronautical mobile, service on a primary basis and is subject to agreement obtained under the procedure set forth in Article **14**.

MHz

1 215 – 1 240

Allocation to Services		
Region 1	Region 2	Region 3
1 215 – 1 240	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 710	
MOD	711 712 712A 713	

ADD **712A** *Additional allocation:* in Cuba, the band 1 215 - 1 300 MHz is also allo-
Mob-87 cated to the radionavigation service on a primary basis subject to the agreement obtained under the procedure set forth in Article **14**.

MHz
1 240 – 1 300

Allocation to Services		
Region 1	Region 2	Region 3
1 240 – 1 260	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 710 Amateur	
MOD	711 712 712A 713 714	
1 260 – 1 300	RADIOLOCATION Amateur	
MOD	664 711 712 712A 713 714	

MHz

1 525 – 1 530

Allocation to Services		
Region 1	Region 2	Region 3
1 525 – 1 530 SPACE OPERATION (space-to-Earth) FIXED Earth Exploration-Satellite Mobile except aeronautical mobile 724	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite Fixed Mobile 723	**1 525 – 1 530** SPACE OPERATION (space-to-Earth) FIXED Earth Exploration-Satellite Mobile 723 724
MOD 722 725	722 723A	722

ADD **723A** *Different category of service:* in Cuba, the band 1 525 - 1 530 MHz is **Mob-87** allocated to the aeronautical mobile service on a primary basis, under the conditions specified in No. **723**.

MHz

1 530 – 1 535

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	**1 530 – 1 533** SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed MOD Mobile except aeronautical mobile MOD LAND MOBILE-SATELLITE (space-to-Earth) MOD 722 726 726A	**1 530 – 1 533** SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile 723 LAND MOBILE-SATELLITE (space-to-Earth) 722 726 726A	
MOD	**1 533 – 1 535** SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration satellite Fixed MOD Mobile except aeronautical mobile MOD Land mobile-satellite (space-to-Earth) 726B MOD 722 726 726A	**1 533 – 1 535** SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration satellite Fixed Mobile 723 Land Mobile-satellite (space-to-Earth) 726B 722 726 726A	

ADD **726A** The bands 1 530 - 1 544 MHz, 1 545 - 1 559 MHz, 1 626.5 - 1 645.5 MHz and
Mob-87 1 646.5 - 1 660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.

ADD **726B** The use of the bands 1 533 - 1 544 MHz, 1 626.5 - 1 631.5 MHz and
Mob-87 1 634.5 - 1 645.5 MHz by the land mobile-satellite service is limited to non-speech low bit-rate data transmissions.

MHz
1 535 – 1 559

	Allocation to Services		
	Region 1	Region 2	Region 3
	1 535 – 1 544	MARITIME MOBILE-SATELLITE (space-to-Earth) Land Mobile-satellite 726B (space-to-Earth)	
MOD		722 726A 727	
	1 544 – 1 545	MOBILE-SATELLITE (space-to-Earth)	
MOD		722 727 727A	
MOD	**1 545 – 1 555**	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth)	
MOD		722 726A 727 729 729A 730	
MOD	**1 555 – 1 559**	LAND MOBILE-SATELLITE (space-to-Earth)	
MOD		722 726A 727 730 730A	

ADD **727A** The use of the band 1 544 - 1 545 MHz by the mobile-satellite service
Mob-87 (space-to-Earth) is limited to distress and safety communications (see Article **N 38**).

* SUP **728**
Mob-87

* *Note by the General Secretariat:* This note has been renumbered **734B**, to preserve the chronological order.

(MOD) **729** Mob-87 Transmissions in the band 1 545 - 1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

ADD **729A** Mob-87 Notwithstanding any other provisions of the Radio Regulations relating to restrictions in the use of the bands allocated to the aeronautical mobile-satellite (R) service for public correspondence, the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz may be authorized by administrations for public correspondence with aircraft earth stations. Such communications must cease immediately, if necessary, to permit transmission of messages with priority 1 to 6 in Article **51**.

ADD **730A** Mob-87 In the bands 1 555 - 1 559 MHz and 1 656.5 - 1 660.5 MHz administrations may also authorize aircraft earth stations and ship earth stations to communicate with space stations in the land mobile-satellite service (see Resolution **208 (Mob-87)**).

MHz

1 559 – 1 626.5

	Allocation to Services		
	Region 1	Region 2	Region 3
	1 559 – 1 610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth)	
MOD		722 727 730 731 731A 731B 731C 731D	
	1 610 – 1 626.5	**1 610 – 1 626.5**	**1 610 – 1 626.5**
	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION
MOD		RADIODETERMINATION-SATELLITE (Earth-to-space) 734A 734E	Radiodetermination-satellite (Earth-to-space) 734A 734E
MOD MOD MOD MOD	722 727 730 731 731A 731B 731D 732 733 733A 733B 733E 733F 734	722 731B 731C 732 733 733C 733D 734	722 727 730 731B 731C 732 733 733B 734

MOD **731** *Alternative allocation:* in Sweden, the band 1 590 - 1 626.5 MHz is allocated Mob-87 to the aeronautical radionavigation service on a primary basis.

ADD **731A** In Region 1, stations of the aeronautical mobile service using the bands Mob-87 1 593 - 1 594 MHz and 1 625.5 - 1 626.5 MHz shall not claim protection from, or cause harmful interference to, stations of the aeronautical radionavigation and radionavigation services, as applicable.

ADD **731B** *Additional allocation:* the bands 1 593 - 1 594 MHz and 1 625.5 - 1 626.5 MHz are also allocated to the aeronautical mobile service in Region 1 (except in Syria and Tunisia) on a primary basis, and in Regions 2 and 3 (and in Syria and Tunisia) on a secondary basis. The use of these bands in the aeronautical mobile service is limited to public correspondence with aircraft (see Recommendation **408 (Mob-87)**). The use of the band 1 593 - 1 594 MHz is limited to transmissions from aeronautical stations and the use of the band 1 625.5 - 1 626.5 MHz is limited to transmissions from aircraft stations.
Mob-87

ADD **731C** *Different category of service:* the bands listed in No. **731B** are allocated, subject to agreement obtained in accordance with the procedures set forth in Article **14**, to the aeronautical mobile service on a primary basis in Greenland, the French Overseas Territories in Regions 2 and 3, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and Pitcairn Island (see Recommendation **408 (Mob-87)**).
Mob-87

ADD **731D** In Region 1, stations of the aeronautical mobile service using the bands 1 593 - 1 594 MHz and 1 625.5 - 1 626.5 MHz shall not cause harmful interference to stations of the fixed service operating in the countries listed in No. **730**.
Mob-87

ADD **733A** In respect of the radiodetermination-satellite service the provisions of No. **953** do not apply in the frequency band 1 610 - 1 626.5 MHz.
Mob-87

ADD **733B** *Different category of service:* in Angola, Australia, Burundi, Côte d'Ivoire, Ethiopia, India, Islamic Republic of Iran, Israel, Italy, Jordan, Kenya, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Senegal, Sudan, Swaziland, Syria, Tanzania, Thailand, Togo, Zaire and Zambia the allocation of the band 1 610 - 1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. **425**) subject to agreement obtained under the procedure set forth in Article **14** with other countries not listed in this provision.
Mob-87

ADD **733C** *Different category of service:* in Venezuela, the allocation to the radiodetermination-satellite service in the band 1 610 - 1 626.5 MHz (Earth-to-space) is on a secondary basis.
Mob-87

ADD **733D** *Alternative allocation:* in Cuba, the band 1 610 - 1 626.5 MHz is allocated exclusively to the aeronautical radionavigation service on a primary basis.
Mob-87

ADD **733E** In Regions 1 and 3 harmful interference shall not be caused to stations of the radioastronomy service using the band 1 610.6 - 1 613.8 MHz by stations of the radiodetermination-satellite service.
Mob-87

ADD **733F** In Region 1, the bands 1 610 - 1 626.5 MHz (Earth-to-space) and 2 483.5 - 2 500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis.
Mob-87

MHz

1 626.5 – 1 660.5

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	**1 626.5 – 1 631.5**	MARITIME MOBILE-SATELLITE (Earth-to-space)	
MOD		Land mobile-satellite 726B (Earth-to-space)	
MOD		722 726A 727 730	
MOD	**1 631.5 – 1 634.5**	MARITIME MOBILE-SATELLITE (Earth-to-space)	
MOD		LAND MOBILE-SATELLITE (Earth-to-space)	
MOD		722 726A 727 730 734A	
MOD	**1 634.5 – 1 645.5**	MARITIME MOBILE-SATELLITE (Earth-to-space)	
MOD		Land mobile-satellite 726B (Earth-to-space)	
MOD		722 726A 727 730	
	1 645.5 – 1 646.5	MOBILE-SATELLITE (Earth-to-space)	
MOD		722 734B	
MOD	**1 646.5 – 1 656.5**	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space)	
MOD		722 726A 727 729A 730 735	
MOD	**1 656.5 – 1 660**	LAND MOBILE-SATELLITE (Earth-to-space)	
MOD		722 726A 727 730 730A 734A	
	1 660 – 1 660.5	RADIO ASTRONOMY	
MOD		LAND MOBILE-SATELLITE (Earth-to-space)	
MOD		722 726A 730A 736	

ADD **734A** Land earth stations and ship earth stations in the mobile-satellite services
Mob-87 operating in the bands 1 631.5 - 1 634.5 MHz and 1 656.5 - 1 660 MHz shall not cause harmful interference to the stations in the fixed service operating in the countries listed in No. **730**.

ADD **734B** The use of the band 1 645.5 - 1 646.5 MHz by the mobile-satellite service
Mob-87 (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article **N 38**).

MOD **735** Transmissions in the band 1 646.5 - 1 656.5 MHz from aircraft stations in
Mob-87 the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

MHz
1 700 – 1 710

Allocation to Services		
Region 1	Region 2	Region 3
1 700 – 1 710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) Mobile except aeronautical mobile	**1 700 – 1 710** FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	
MOD 671 722 743A	671 722 743	

ADD **743A** *Different category of service:* in the Federal Republic of Germany, Austria,
Mob-87 Denmark, Finland, Israel, Norway, the Netherlands, the United Kingdom, Switzerland and Syria, in the band 1 700 - 2 450 MHz, in Sweden in the bands 1 700 - 1 710 MHz and 2 290 - 2 450 MHz and in Yugoslavia in the band 2 300 - 2 450 MHz, the allocation to the land mobile service is on a primary basis (see No. **425**), subject to agreement obtained under the procedure set forth in Article **14**.

MHz
1 710 – 2 290

Allocation to Services		
Region 1	Region 2	Region 3
1 710 – 2 290 FIXED Mobile	**1 710 – 2 290** FIXED MOBILE	
MOD 722 743A 744 746 747 748 750	722 744 745 746 747 748 749 750	

MHz
2 290 – 2 450

	Allocation to Services		
	Region 1	Region 2	Region 3
	2 290 – 2 300 FIXED SPACE RESEARCH (deep space) (space-to-Earth) Mobile except aeronautical mobile	**2 290 – 2 300** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	
MOD	743A		
	2 300 – 2 450 FIXED Amateur Mobile Radiolocation	**2 300 – 2 450** FIXED MOBILE RADIOLOCATION Amateur	
MOD	664 743A 752	664 751 752	

MHz
2 450 – 2 500

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	**2 450 – 2 483.5** FIXED MOBILE Radiolocation 752 753	**2 450 – 2 483.5** FIXED MOBILE RADIOLOCATION 752	
	2 483.5 – 2 500 FIXED MOBILE Radiolocation	**2 483.5 – 2 500** FIXED MOBILE RADIODETERMINATION-SATELLITE (space-to-Earth) 753A RADIOLOCATION	**2 483.5 – 2 500** FIXED MOBILE RADIOLOCATION Radiodetermination-satellite (space-to-Earth) 753A
MOD MOD	733F 752 753A 753B 753C 753E	752 753D	752 753C

MOD **753** *Alternative allocation:* in France, the bands 2 450 - 2 483.5 MHz and
Mob-87 2 500 - 2 550 MHz are allocated on a primary basis to the radiolocation service and on a secondary basis to the fixed and mobile services (see Nos. **424** and **425**). Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.

ADD **753A** In respect of the radiodetermination-satellite service in the band
Mob-87 2 483.5 - 2 500 MHz, the provisions of No. **953** do not apply.

ADD **753B** In Region 1, in countries other than those listed in No. **753C**, harmful
Mob-87 interference shall not be caused to, or protection shall not be claimed from, stations of the radiolocation service by stations of the radiodetermination-satellite service.

ADD **753C** *Different category of service:* in Angola, Australia, Burundi, Côte d'Ivoire,
Mob-87 Ethiopia, India, Islamic Republic of Iran, Israel, Italy, Jordan, Kenya, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Senegal, Sudan, Swaziland, Syria, Tanzania, Thailand, Togo, Zaire and Zambia, the allocation of the band 2 483.5 - 2 500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. **425**) subject to agreement obtained under the procedure of Article **14** with other countries not listed in this provision.

ADD **753D** *Alternative allocation:* in Cuba, the band 2 483.5 - 2 500 MHz is allocated
Mob-87 only to the fixed, mobile and radiolocation services on a primary basis.

ADD **753E** *Alternative allocation:* in France, the band 2 483.5 - 2 500 MHz is allocated
Mob-87 on a primary basis to the radiolocation service and on a secondary basis to the mobile service (see Nos. **424** and **425**). Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.

MHz

2 500 – 2 655

MOD

Allocation to Services		
Region 1	Region 2	Region 3
2 500 – 2 655 FIXED 762 763 764 MOBILE except aeronautical mobile BROADCASTING-SATELLITE 757 760	**2 500 – 2 655** FIXED 762 764 FIXED-SATELLITE (space-to-Earth) 761 MOBILE except aeronautical mobile BROADCASTING-SATELLITE 757 760	**2 500 – 2 535** FIXED 762 764 FIXED-SATELLITE (space-to-Earth) 761 MOBILE except aeronautical mobile BROADCASTING-SATELLITE 757 760 754 754A
		2 535 – 2 655 FIXED 762 764 MOBILE except aeronautical mobile BROADCASTING-SATELLITE 757 760
720 753 756 758 759	720 755	720

ADD

754A *Additional allocation:* subject to agreement obtained under the procedure
Mob-87 set forth in Article **14**, the band 2 500 - 2 516.5 MHz may also be used in India, the Islamic Republic of Iran, Papua New Guinea and Thailand for the radiodetermination-satellite service (space-to-Earth) for operation limited to within national boundaries.

MHz
2 700 – 3 100

MOD

Allocation to Services		
Region 1	Region 2	Region 3
2 700 – 2 900	AERONAUTICAL RADIONAVIGATION 717 Radiolocation 770 771	
2 900 – 3 100	RADIONAVIGATION 773 Radiolocation 772 775A	

MOD **772** Mob-87 In the band 2 900 - 3 100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2 930 - 2 950 MHz.

SUP **774** Mob-87

SUP **775** Mob-87

ADD **775A** Mob-87 In the bands 2 900 - 3 100 MHz and 9 300 - 9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. **347** of these Regulations.

MHz
3 100 – 3 300

Allocation to Services		
Region 1	Region 2	Region 3
3 100 – 3 300	RADIOLOCATION	
MOD	713 777 778	

SUP **776**
Mob-87

MHz
5 000 – 5 470

MOD

Allocation to Services		
Region 1	Region 2	Region 3
5 000 – 5 250	AERONAUTICAL RADIONAVIGATION 733 796 797 797A 797B	
5 250 – 5 255	RADIOLOCATION Space Research 713 798	
5 255 – 5 350	RADIOLOCATION 713 798	
5 350 – 5 460	AERONAUTICAL RADIONAVIGATION 799 Radiolocation	
5 460 – 5 470	RADIONAVIGATION 799 Radiolocation	

ADD **797A** *Additional allocation:* in the countries listed in Nos. **733B** and **753C**, and
Mob-87 subject to agreement obtained under the procedure set forth in Article **14**, the band 5 150 - 5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. **733B** and **753C**, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1 610 - 1 626.5 MHz and/or 2 483.5 - 2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dBW/m^2 in any 4 kHz band for all angles of arrival.

ADD **797B** *Additional allocation:* in the Federal Republic of Germany, Austria,
Mob-87 Denmark, Spain, France, Finland, Israel, Italy, Jordan, Morocco, Norway, the Netherlands, Pakistan, the United Kingdom, Sweden, Switzerland, Syria and Tunisia, the band 5 150 - 5 250 MHz is also allocated to the mobile service, on a primary basis, subject to the agreement obtained under the procedure set forth in Article **14**.

MHz
5 470 – 5 650

MOD

Allocation to Services		
Region 1	Region 2	Region 3
5 470 – 5 650	MARITIME RADIONAVIGATION Radiolocation 800 801 802	

MHz

8 850 – 9 300

Allocation to Services		
Region 1	Region 2	Region 3
8 850 – 9 000	RADIOLOCATION MARITIME RADIONAVIGATION 823 824	
9 000 – 9 200	AERONAUTICAL RADIONAVIGATION 717 Radiolocation 822	
9 200 – 9 300	RADIOLOCATION MARITIME RADIONAVIGATION 823 824 824A	

MOD

MOD

ADD **824A** In the band 9 200 - 9 500 MHz, search and rescue transponders (SART) Mob-87 may be used, having due regard to the appropriate CCIR Recommendation (see also Article **N 38**).

MHz
9 300 – 10 000

Allocation to Services		
Region 1	Region 2	Region 3
9 300 – 9 500	RADIONAVIGATION 825A Radiolocation	
	775A 824A 825	
9 500 – 9 800	RADIOLOCATION RADIONAVIGATION	
	713	
9 800 – 10 000	RADIOLOCATION Fixed	
	826 827 828	

MOD

MOD

ADD **825A** In the band 9 300 - 9 320 MHz in the radionavigation service, the use of
Mob-87 shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

ARTICLE 9

Special Rules for the Assignment and Use of Frequencies

MOD **962** **Mob-87** § 6. In certain cases provided for in Articles **38**, **N 38** and **59**, aircraft stations are authorized to use frequencies in the bands allocated to the maritime mobile service for the purpose of communicating with stations of that service (see No. **4148**).

ARTICLE 11

Coordination of Frequency Assignments to Stations in a Space Radiocommunication Service Except Stations in the Broadcasting-Satellite Service and to Appropriate Terrestrial Stations [1]

(MOD) **1107** **Mob-87** § 16. (1) Before an administration notifies to the Board or brings into use any frequency assignment to an earth station [2], whether for transmitting or receiving, in a particular band allocated with equal rights to space and terrestrial radiocommunication services in the frequency spectrum above 1 GHz, it shall, except in the cases described in Nos. **1108** to **1111**, effect coordination of the assignment with each administration whose territory lies wholly or partly within the coordination area [1] of the planned earth station. The request for coordination concerning an earth station may specify all or some of the frequency assignments of the associated space station, but thereafter each assignment shall be dealt with individually.

ADD **1107.2** **Mob-87** [2] For the application of this procedure to earth stations in the radiodetermination-satellite service Appendix **28**, paragraph 7 shall be applied using a uniform coordination distance in the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and 2 500 - 2 516.5 MHz of 400 km, corresponding to an airborne radiodetermination satellite service (RDSS) earth station. In cases where the RDSS system is limited to ground based earth stations, the IFRB shall use a coordination distance of 100 km.

ARTICLE 12

Notification and Recording in the Master International Frequency Register of frequency Assignments [1] to Terrestrial Radiocommunication Stations [2, 3, 4]

(MOD) **1314** **Mob-87** 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** and **27 Aer2** to these Regulations; such frequency assignments shall be entered in the Master Register on receipt of the notice by the Board.

SUP * *Note by the General Secretariat.*

MOD **Mob-87**

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 27 500 kHz

MOD **1315** **Mob-87** § 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 27 500 kHz for Coast Radiotelephone Stations (see No.* **1239***).*

MOD **1326** **Mob-87** § 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 27 500 kHz for Ship Radiotelephone Stations (see* Nos. **1219** and **1239***).*

MOD **1332** **Mob-87** (5) Any notice which has received a favourable finding with respect to No. **1328** but an unfavourable finding with respect to No. **1329** shall be returned to the notifying administration unless the administration has initiated the procedure of Article **16** in accordance with No. **1719**.

ADD **1332A** **Mob-87**

(6) Any notice which makes reference to No. **1719** shall be recorded provisionally in the Master Register, if the finding with respect to No. **1328** is favourable. In this case the Board shall review the recording after the notifying administration has applied the procedure of Article **16**.

(MOD) **1336** **Mob-87**

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 permitted change of class of emission and the necessary bandwidth of the new emission is within the channelling arrangement provided for in Appendix **27 Aer2**;

(MOD) **1338** **Mob-87**

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

(MOD) **1341** **Mob-87**

(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 present 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).

SUP * *Note by the General Secretariat.*

ADD **1344A** Mob-87 *aa)* the notice is in conformity with the provisions of No. **1240**;

ADD **1348A** Mob-87 (3A) A notice which is not in conformity with the provisions of No. **1344A** 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.

MOD **1349** Mob-87 (4) Except for cases where No. **1268** applies, 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 in accordance with the relevant provisions of Section III of this Article.

Section III. Recording of Dates and Findings in the Master Register

MOD **1388** Mob-87 § 40. (1) *Frequency Bands:*

9	*2 850 kHz*	
3 155	*3 400 kHz*	
3 500	*3 900 kHz*	*in Region 1*
3 500	*4 000 kHz*	*in Region 2*
3 500	*3 950 kHz*	*in Region 3*
4 221	*4 351 kHz*	
6 332.5	*6 501 kHz*	
8 438	*8 707 kHz*	
12 658.5	*13 077 kHz*	
16 904.5	*17 242 kHz*	
19 705	*19 755 kHz*	
22 445.5	*22 696 kHz*	
26 122.5	*26 145 kHz*	

MOD **1391** Mob-87 § 41. (1) *Frequency Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 27 500 kHz for Coast Radiotelephone Stations.*

MOD **1392** Mob-87 (2) If the finding is favourable with respect to Nos. **1317** and **1318**, the date of 1 July 1989 shall be entered in Column 2a.

MOD **1393** **Mob-87** (3) For all other cases referred to in No. **1315**, the date of receipt of the notice by the Board shall be entered in Column 2b.

MOD **1395** **Mob-87** § 42. (1) *Frequency Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 27 500 kHz for Ship Radiotelephone Stations.*

MOD **1396** **Mob-87** (2) If the finding is favourable with respect to Nos. **1328** and **1329**, the date of 1 July 1989 shall be entered in Column 2a.

MOD **1399** **Mob-87** § 43. (1) *Frequency Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 kHz and 27 500 kHz for Radiotelegraph Ship Stations (see No.* **1220***).*

(MOD) **1451** **Mob-87** The provisions of Sections V, VI (except No. **1430**) and VII of this Article shall not be applied to frequency assignments which are in conformity with the Allotment Plans contained in Appendices **25**, **26** and **27** **Aer2** to these Regulations.

SUP * *Note by the General Secretariat.*

ADD Mob-87

ARTICLE 14A

ADD Mob-87

Procedure to be Applied by Administrations and the IFRB to Coordinate 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 (International NAVTEX System)

ADD **1631** Mob-87 § 1. (1) Before an administration notifies to the Board 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 the assignment with any other administration with an assignment in the same frequency band which might be affected.

ADD **1632** Mob-87 (2) To this effect, the administration shall communicate to the Board, not earlier than one year before the proposed date of bringing the assignment into use, the information listed in Section A of Appendix **1** together with the following additional characteristics:

1) the B1 character (transmitter coverage area identifier) to be used by the coast station;

2) the regular transmission schedule assigned to the station;

3) the duration of transmissions;

4) the ground-wave coverage area of the transmission.

(3) The administration shall also indicate the results of any coordination [1] already effected in relation with the projected use.

ADD **1632.1** Mob-87 [1] Administrations are strongly recommended to coordinate the above characteristics in accordance with the procedures of the International Maritime Organization (IMO).

ADD **1633** **Mob-87** (4) In order to enable the procedure to be completed in good time before notification under No. **1214**, the administrations should communicate the above information not later than six months before the proposed date of bringing the assignment into use.

ADD **1634** **Mob-87** § 2. In cases where the Board finds that a basic characteristic or any of the additional characteristics is missing, it shall return the request by airmail, stating the reason, unless the information not provided is immediately forthcoming in response to an enquiry of the Board.

ADD **1635** **Mob-87** § 3. The Board shall examine the proposed use with respect to assignments to stations of other services to which the band 517.5 - 518.5 kHz is allocated, notified under No. **1214** at an earlier date, and shall identify the administrations whose assignments are likely to be affected.

ADD **1636** **Mob-87** § 4. The Board shall, within 45 days of the receipt of the complete information, publish it in a special section of its weekly circular indicating any coordination already effected and the names of administrations identified in application of No. **1635**. The Board shall communicate a copy of this publication to the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), and the World Meteorological Organization (WMO), requesting them to communicate to the administrations concerned, with a copy to the Board, any information which may assist in reaching agreement on coordination.

ADD **1637** **Mob-87** § 5. On 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 should notify it to the Board in accordance with No. **1214**, indicating the names of administrations with which agreement has been reached and those which have signified their disagreement.

ADD **1638** **Mob-87** § 6. Upon receipt of the notice, the Board shall request those administrations named in the special section which have not communicated their agreement or disagreement with respect to the proposed use to signify within a period of 30 days their decision on the matter.

ADD **1639** **Mob-87** § 7. An administration which does not reply to the Board's request made under No. **1638** or fails to signify a decision on the matter shall be deemed to have undertaken:

ADD **1640** **Mob-87** *a)* that no complaint will be made in respect of any harmful interference which may be caused to its stations by the proposed use;

ADD **1641** **Mob-87** *b)* that its stations will not cause harmful interference to the proposed use.

ADD **1642** **Mob-87** § 8. When examining the proposed use in accordance with Article **12**, the Board shall apply the provisions of No. **1245**, except with respect to those assignments for which the administration responsible has signified its disagreement with respect to the proposed use.

ADD **1643** **Mob-87** § 9. The Board shall examine the notified assignments in accordance with No. **1241** on the basis of its technical standards and shall record them in accordance with the pertinent provisions of Article **12**. The recording shall contain symbols reflecting the result of the application of this procedure.

ADD **1644** **Mob-87** § 10. The Board shall, at appropriate intervals, update and publish the data referred to in No. **1637** in a special list in an appropriate format.

1645 to **1655** NOT allocated.

ARTICLE 19

Tests

*(MOD) **1846** **Mob-87** (5) For testing stations in the mobile service see Nos. **3663A** and **5058** to **5060**.

ARTICLE 24

Licences

MOD **2024** **Mob-87** § 3. To facilitate the verification of licences issued to mobile stations and mobile earth stations, a translation of the text in one of the working languages of the Union shall be added, when necessary, to the text written in the national language.

MOD **2025** **Mob-87** § 4. (1) The government which issues a licence to a mobile station or a mobile earth station shall indicate therein in clear form the particulars of the station, including its name, call sign and, where appropriate, the public correspondence category, as well as the general characteristics of the installation.

MOD **2027** **Mob-87** § 5. (1) In the case of a new registration of a ship or aircraft in circumstances where delay is likely to occur in the issue of a licence by the country in which it is to be registered, the administration of the country from which the mobile station or mobile earth station wishes to make its voyage or flight may, at the request of the operating company, issue a certificate to the effect that the station complies with these Regulations. This certificate, drawn up in a form determined by the issuing administration, shall give the particulars mentioned in No. **2025** and shall be valid only for the duration of the voyage or flight to the country in which the registration of the ship or aircraft will be effected, or for a period of three months, whichever is less.

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* See Note by the General Secretariat, page 481.

ARTICLE 25

Identification of Stations

ADD **2064A** **Mob-87** (4A) All transmissions by satellite emergency position-indicating radiobeacons (EPIRBs) operating in the band 406-406.1 MHz or the band 1 645.5 - 1 646.5 MHz, or by EPIRBs using digital selective calling techniques, shall carry identification signals.

MOD **2068** **Mob-87** *b)* emergency position-indicating radiobeacons (except for those in No. **2064A**).

(MOD) **2069** **Mob-87** § 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** 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.

SUP **2069.1** **Mob-87**

* (MOD) **2083** **Mob-87** (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**.

*SUP **2083.1** **Mob-87**

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* See Note by the General Secretariat, page 481.

* (MOD) **2087** **Mob-87** § 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**).

* SUP **2087.1** **Mob-87**

* (MOD) **2087A** **Mob-87** § 15A. The Secretary-General shall be responsible for allocating additional maritime identification digits to countries [1].

* (MOD) **2149** **Mob-87** § 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**, taking into consideration relevant CCIR and CCITT Recommendations.

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* See Note by the General Secretariat, page 481.

MOD **2101.1** **Mob-87** [1] For call sign series beginning with B, F, G, I, K, M, N, R, U 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.

ARTICLE 26

Service Documents

*(MOD) **2185** **Mob-87**

c) the allotments in the Allotment Plans included in Appendices **25** (see No. **4212**), **26** and **27** **Aer2**.

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*(MOD) * *Note by the General Secretariat:* See No. **5189**.

ADD **2201A** **Mob-87**

1) This list shall contain particulars of coast stations and coast earth stations providing a public correspondence service, and

MOD **2202** **Mob-87**

a) an annex containing a table of inland telegraph rates, rates for telegrams destined for adjacent countries, etc., taking into account the relevant CCITT Recommendations;

ADD **2202A** **Mob-87**

b) an annex giving important information concerning the operation of maritime mobile-satellite systems which may be forwarded to the Secretary-General by participating administrations;

ADD **2202B** **Mob-87**

c) an annex [1] giving in tabulated form the following particulars of coast stations and coast earth stations participating in the Global Maritime Distress and Safety System (GMDSS):

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* See Note by the General Secretariat, page 481.

ADD **2202B.1** **Mob-87**

[1] The annex shall be first published following entry into force of Chapter **N IX** (see Resolution **331 (Mob-87)**), and updated as necessary.

ADD **2202C** **Mob-87**

i) coast stations participating in VHF, MF and HF watchkeeping using digital selective calling techniques;

ADD **2202D** **Mob-87**

ii) coast earth stations operating in the geostationary satellite system and capable of providing distress and safety communications with ship earth stations including distress alerting using radiotelephony and/or direct-printing, or transmitting maritime safety information using direct-printing techniques;

ADD **2202E** **Mob-87**

iii) coast stations transmitting navigational and meteorological warnings and urgent information to ships using narrow-band direct-printing techniques.

MOD **2215** **Mob-87**

§ 8. *List VIIA. List of Call Signs and Numerical Identities of Stations Used by the Maritime Mobile and Maritime Mobile-Satellite Services.*

MOD **2216** **Mob-87**

(1) This list shall contain an alphabetical list of call signs and a numerical table of identities of stations used by the maritime mobile service and maritime mobile-satellite service (coast, coast earth, ship, ship earth, radiodetermination and special service stations), maritime mobile service identities and selective call numbers or signals of ship and ship earth stations, and maritime mobile service identities and identification numbers or signals of coast and coast earth stations.

(MOD) **2217** **Mob-87**

(2) This list shall be preceded by the Table of Allocation of International Call Sign Series and the Table of Maritime identification Digits Series given in Appendices **42** and **43** respectively and a table of signals characterizing the emissions of radiobeacons used in the maritime mobile service.

(MOD) **2218** **Mob-87** (3) List VIIA shall be republished every two years and kept up to date by recapitulative supplements every three months.

(MOD) **2219** **Mob-87** § 8.A *List VIIB. Alphabetical List of Call Signs of Stations Other than Amateur Stations, Experimental Stations and Stations of the Maritime Mobile Service.*

(MOD) **2220** **Mob-87** (1) This list shall be preceded by the Table of Allocation of International Call Sign Series given in Appendix **42** and by a table indicating the form of call signs assigned by each administration to its amateur and experimental stations.

(MOD) **2221** **Mob-87** (2) List VIIB shall be republished at intervals determined by the Secretary-General, and kept up to date by recapitulative supplements issued every three months.

MOD **2228** **Mob-87** § 11. *Map of Coast Stations Open to Public Correspondence.*

The Map shall be republished in a form and at intervals to be determined by the Secretary-General.

ARTICLE 28

**Space Radiocommunication Services
Sharing Frequency Bands with
Terrestrial Radiocommunication Services above 1 GHz**

ADD **2548A** **Mob-87** (10) The equivalent isotropically radiated power (e.i.r.p.) transmitted in any direction by an earth station in the radiodetermination-satellite service in the band 1 610 - 1626.5 MHz shall not exceed −3 dBW in any 4 kHz band.

MOD **2558** **Mob-87** *b)* The limits given in No. **2557** apply in the frequency bands listed in No. **2559** which are allocated to the following space radiocommunication services:

– meteorological-satellite service (space-to-Earth);

– space research service (space-to-Earth);

– space operation service (space-to-Earth);

for transmission by space stations where these bands are shared with equal rights with the fixed or mobile service, and to the

– radiodetermination-satellite service (space-to-Earth).

MOD **2559** **Mob-87**

1 525 - 1 530 MHz [1]		(for Regions 1 and 3)
1 530 - 1 535 MHz [1]		(for Regions 1 and 3, up to 1st January 1990)
1 670 - 1 690 MHz		
1 690 - 1 700 MHz		(on the territory of the countries mentioned in Nos. **740** and **741**)
1 700 - 1 710 MHz		
2 290 - 2 300 MHz		
2 483.5 - 2 500 MHz		

MOD **2562** **Mob-87** *a)* The power flux-density at the Earth's surface produced by emissions from a space station in the broadcasting-satellite service or, the fixed-satellite service or the radiodetermination-satellite service for all conditions and for all methods of modulation shall not exceed the following values:

-152 dB(W/m^2) in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

$-152 + 0.75(\delta - 5)$ dB(W/m^2) in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane;

-137 dB(W/m^2) in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions.

MOD **2563** **Mob-87** *b)* The limits given in No. **2562** apply in the frequency band:

2 500 - 2 690 MHz

which is shared by the broadcasting-satellite service or the fixed-satellite service with the fixed or mobile service; and in the frequency band 2 500 - 2 516.5 MHz (in the countries mentioned in No. **754A**) allocated to the radiodetermination-satellite service.

ARTICLE 35

Radiodetermination Service
and Radiodetermination-Satellite Service

ADD **2840A** **Mob-87** (3) The provisions of Nos. **2831** to **2838**, excluding Nos. **2832** and **2833**, shall be applied to the radiodetermination-satellite service.

ADD **2842A** **Mob-87** (2A) Where a radio direction-finding station as defined in No. **13**, operates in the bands between 156 MHz and 174 MHz, it should be able to take bearings on the VHF distress and calling frequency 156.8 MHz and on the VHF digital selective calling frequency 156.525 MHz.

MOD **2854** **Mob-87** § 14. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 kHz and 535 kHz shall be based on a protection ratio against interference of at least 15 dB for each beacon throughout its service area.

CHAPTER IX

Mob-83

Distress and Safety Communications [1]

ARTICLE 37

General Provisions

MOD 2930 Mob-87 § 1. The provisions specified in this Chapter are obligatory (see Resolution **331(Mob-87)**) in the maritime mobile service for stations using the frequencies and techniques prescribed in this Chapter and for communications between these stations and aircraft stations. However, stations of the maritime mobile service, when additionally fitted with any of the equipment used by stations operating in conformity with the provisions specified in Chapter **N IX** shall, when using that equipment, comply with the appropriate provisions of that Chapter. The provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

MOD 2934A Mob-87 § 3A. Ship earth stations located at Rescue Coordination Centres [1] may be authorized by an administration to communicate for distress and safety purposes with any other station using bands allocated to the maritime mobile-satellite service, when special circumstances make it essential, notwithstanding the methods of working provided for in these Regulations.

MOD 2934A.1 Mob-87 [1] The term "Rescue Coordination Centre" as defined in the International Convention on Maritime Search and Rescue, 1979, refers to a unit responsible for promoting the efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

MOD **2937A** **Mob-87** § 4A. Distress, urgency and safety transmissions may also be made, taking into account No. **2945**, using digital selective calling and satellite techniques and/or direct-printing telegraphy, in accordance with relevant CCIR Recommendations.

MOD **2938** **Mob-87** § 5. The abbreviations and signals of Appendix **14** and the Phonetic Alphabet and Figure Code in Appendix **24** should be used where applicable. [1]

MOD **2942** **Mob-87** § 8. Mobile stations [2] of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified, in Section I of Article **38** (see also No. **2932**).

MOD **2942A** **Mob-87** § 8A. Mobile stations of the aeronautical mobile service may communicate, for distress and safety purposes, with stations of the maritime mobile service in conformity with the provisions of this Chapter.

ADD **2938.1** **Mob-87** [1] The use of the Standard Marine Navigational Vocabulary and, where language difficulties exist, the International Code of Signals, both published by the International Maritime Organization, is also recommended.

NOC **2942.1** **Mob-83** [2] 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.

MOD **2943** **Mob-87** § 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:

ADD **2943A** **Mob-87** *a)* until the full implementation of the global maritime distress and safety system GMDSS, of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 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 and receiving J3E emissions or, on the frequency 156.8 MHz, transmitting and receiving class G3E emissions (see also Resolution **331 (Mob-87)**);

ADD **2943B** **Mob-87** *b)* after the full implementation of the GMDSS, of transmitting and receiving class J3E emissions when using the carrier frequency 2 182 kHz or the carrier frequency 4 125 kHz or class G3E emissions when using the frequency 156.8 MHz and, optionally, 156.3 MHz.

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* SUP **2943.1** **Mob-87**

* ADD **2943A.1** **Mob-87** [1] As an exception, the requirement to receive class A3E emissions on the carrier frequency 2182 kHz may be made optional when permitted by national regulations.

* *Note by the General Secretariat:* Following the modification of No. **2943**.

SUP **2944**
Mob-87

MOD **2945**
Mob-87 § 11. Until the full implementation of the GMDSS and until a competent conference decides otherwise, all provisions of the Radio Regulations pertaining to the present distress, urgency and safety communications shall be maintained in force (see Resolution **331 (Mob-87)**).

SUP **2946**
Mob-87

SUP **2947**
Mob-87

SUP **2948**
Mob-87

SUP **2949**
Mob-87

ARTICLE 38

Frequencies for Distress and Safety

SUP **2967**
Mob-87

SUP **2968**
Mob-87

(MOD) **2969**
Mob-87

A. 500 kHz

MOD **2970**
Mob-87

§ 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 which employ Morse telegraphy on 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** and Resolution **331 (Mob-87)**).

(MOD) **2971A**
Mob-87

B. 518 kHz

MOD **2971B**
Mob-87

§ 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 using the international NAVTEX system.

SUP **2971C**
Mob-87

SUP **2971D**
Mob-87

(MOD) **2972**
Mob-87

C. 2 182 kHz

MOD **2973**
Mob-87

§ 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 distress calls 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. The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be H3E. Class of emission A3E may continue to be used by apparatus intended solely for distress, 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 (see also No. **N 2974** and Resolution **331 (Mob-87)**).

MOD **2974**
Mob-87

(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 kHz, as appropriate (see Nos. **2982**, **2986** and **3054**).

MOD **2975** **Mob-87** (3) However, ship and aircraft stations which can transmit neither on the carrier frequency 2 182 kHz nor, in accordance with No. **2974**, on the carrier frequencies 4 125 kHz or 6 215 kHz, should use any other available frequency on which attention might be attracted.

SUP **2978A** **Mob-87**

SUP **2978B** **Mob-87**

(MOD) **2979** **Mob-87** *D. 3 023 kHz*

(MOD) **2981** **Mob-87** *E. 4 125 kHz*

MOD **2982** **Mob-87** § 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 also No. **N 2980** and Resolution **331 (Mob-87)**).

MOD **2982A** **Mob-87** (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, including search and rescue (see Nos. **2943**, **2943A** and **2943B**).

SUP **2982B** **Mob-87**

SUP **2982C** **Mob-87**

SUP **2982D** **Mob-87**

SUP **2982E** **Mob-87**

(MOD) **2983** **Mob-87** *F. 5 680 kHz*

MOD **2985** *G. 6 215 kHz*
Mob-87

MOD **2986** § 6. The carrier frequency 6 215 kHz is used to supplement
Mob-87 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 also No. **N 2986** and Resolution **331 (Mob-87)**).

SUP **2986A**
Mob-87

SUP **2986B**
Mob-87

SUP **2986C**
Mob-87

SUP **2986D**
Mob-87

SUP **2986E**
Mob-87

SUP **2986F**
Mob-87

SUP **2986G**
Mob-87

SUP **2986H**
Mob-87

(MOD) **2987** *H. 8 364 kHz*
Mob-87

MOD **2988** § 7. The frequency 8 364 kHz is designated for used by
Mob-87 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 wish to establish communications relating to search and rescue operations with stations of the maritime and aeronautical mobile services (see also No. **501** and Resolution **331 (Mob-87)**).

SUP **2988A**
Mob-87

SUP **2988B**
Mob-87

SUP **2988C**
Mob-87

SUP **2988D**
Mob-87

SUP **2988E**
Mob-87

SUP **2988F**
Mob-87

SUP **2988G**
Mob-87

SUP **2988H**
Mob-87

SUP **2988I**
Mob-87

SUP **2988J**
Mob-87

SUP **2988K**
Mob-87

SUP **2988L**
Mob-87

SUP **2988M**
Mob-87

SUP **2988N**
Mob-87

(MOD) **2989** *I. 121.5 MHz and 123.1 MHz*
Mob-87

(MOD) **2992** *J. 156.3 MHz*
Mob-87

SUP **2993A**
Mob-87

SUP **2993B**
Mob-87

(MOD) **2993C**
Mob-87

K. 156.650 MHz

MOD **2993D**
Mob-87

§ 9B. The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with note *q)* of Appendix **18**.

(MOD) **2993E**
Mob-87

L. 156.8 MHz

MOD **2994**
Mob-87

§ 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 (see No. **N 3041**, Appendix **19** and also Resolution **331 (Mob-87)**).

SUP **2995B**
Mob-87

SUP **2995C**
Mob-87

(MOD) **2996**
Mob-87

M. 243 MHz

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

(MOD) **2997**
Mob-87

N. 406 - 406.1 MHz Band

(MOD) **2998** **Mob-87**

O. 1 544 - 1 545 MHz Band

(MOD) **2998A** **Mob-87** § 10C. Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. **727A**); including:

NOC **2998B** **Mob-83** *a)* feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;

NOC **2998C** **Mob-83** *b)* narrow-band (space-to-Earth) links from space stations to mobile stations.

(MOD) **2998D** **Mob-87**

P. 1 645.5 - 1 646.5 MHz Band

(MOD) **2998E** **Mob-87** § 10D. Use of the band 1 645.5 - 1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. **734H**); including:

ADD **2998EA** **Mob-87** *a)* transmissions from satellite EPIRBs;

ADD **2998EB** **Mob-87** *b)* relay of distress alerts received by satellites in low polar earth orbits to geostationary satellites.

(MOD) **2999** **Mob-87**

Q. Aircraft in Distress

(MOD) **3001** **Mob-87**

R. Survival Craft Stations

SUP **3008A** **Mob-87**

SUP **3008B** **Mob-87**

SUP **3008C**
Mob-87

SUP **3008D**
Mob-87

MOD **3010**
Mob-87

§ 13. Except as provided for in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies 500 kHz, 2 174.5 kHz, 2 182 kHz, 2 187.5 kHz, 4 125 kHz, 4 177.5 kHz, 4 207.5 kHz, 6 215 kHz, 6 268 kHz, 6 312 kHz, 8 291 kHz, 8 376.5 kHz, 8 414.5 kHz 12 290 kHz, 12 520 kHz, 12 577 kHz, 16 420 kHz, 16 695 kHz, 16 804.5 kHz, 121.5 MHz, 156.525 MHz, 156.8 MHz or in the frequency bands 406 - 406.1 MHz, 1 544 - 1 545 MHz and 1 645.5 - 1 646.5 MHz (see also No. **N 3067**) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the other discrete frequencies identified in Section I of this Article and in Section I of Article **N 38** is prohibited.

MOD **3016**
Mob-87

(2) It is not permitted to transmit complete alarm signals for testing purposes on any frequency except for essential tests coordinated with the competent authorities. As an exception, such tests are permitted for radiotelephone equipment which can operate only on either of the international distress frequencies 2 182 kHz and 156.8 MHz, in which case a suitable artificial antenna shall be employed.

MOD **3018**
Mob-87

§ 15. (1) Apart from the transmissions authorized on 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 **210 (Mob-87)**).

MOD **3023**
Mob-87

§ 16. (1) Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz, 2 177 kHz, 2 187.5 kHz and 2 189.5 kHz, all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden (see also No. **N 3071**).

(MOD) **3031A** **Mob-87** *D. 121.5 MHz, 123.1 MHz and 243 MHz*

ADD **3031C** **Mob-87** § 17B. In order to avoid unjustified alerts in automatic emergency systems, transmissions of non-operational test signals on the emergency frequencies 121.5 MHz and 243 MHz should be coordinated with the competent authorities and carried out only during the first five minutes of each hour, with each test transmission lasting no longer than ten seconds (see also No. **3011**).

MOD **3032** **Mob-87** *E. 156.7625 - 156.8375 MHz Band*

MOD **3033** **Mob-87** § 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.

MOD **3038** **Mob-87** § 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 MHz and 526.5 kHz which employ Morse telegraphy 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 (see also Resolution **331 (Mob-87)**).

ADD **3038A** **Mob-87** (1A) No. **3038** does not apply to a coast station open to public correspondence when its operational area for distress purposes is covered by one or more coast stations keeping watch on 500 kHz in accordance with an agreement between the administrations concerned. These administrations shall inform the Secretary-General of the details of such agreements for publication in the List of Coast Stations (see Article **26** and Appendix **9**).

MOD **3040** **Mob-87** *a)* transmissions shall cease in the band between 490 kHz and 510 kHz (see also Resolution **210 (Mob-87)**);

MOD **3041** **Mob-87**

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** (see also Resolution **331 (Mob-87)**).

MOD **3042** **Mob-87**

§ 20. (1) Stations of the maritime mobile service open to Morse telegraphy 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 except in the situation referred to in No. **3038A**. This watch is obligatory only for class A2A and H2A emissions (see also Resolution **331 (Mob-87)**).

MOD **3043** **Mob-87**

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

(MOD) **3046A** **Mob-87**

(4) Ship stations, while observing the provisions 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:

MOD **3046A.1** **Mob-87**

[1] For additional information see the relevant provisions of the International Convention for the Safety of Life at Sea (see also Resolution **331 (Mob-87)**).

MOD **3048** **Mob-87** § 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 on 2 182 kHz shall, during their hours of service, maintain a watch on 2 182 kHz (see also Resolution **331 (Mob-87)**).

MOD **3052** **Mob-87** § 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) (see also Resolution **331 (Mob-87)**).

MOD **3052A** **Mob-87** § 23A. During the periods referred to in No. **3052** all transmissions in the band 2 173.5-2 190.5 kHz shall cease, except those on 2 177 kHz and 2 189.5 kHz and those provided for in this Chapter and in Chapter **N IX**.

(MOD) **3053** **Mob-87** *C. 4 125 kHz and 6 215 kHz*

MOD **3054** **Mob-87** § 24. (1) 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 or 6 215 kHz or both (see Nos. **2982** and **2986**). Such watch should be indicated in the List of Coast Stations.

MOD **3057** **Mob-87** § 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 also Resolution **331 (Mob-87)** and Recommendation **306**).

MOD **3058** **Mob-87** (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 radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea (see also Resolution **331 (Mob-87)**).

MOD **3059** **Mob-87** (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 (see also Resolution **331 (Mob-87)**).

MOD **3060** **Mob-87** (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 the coast station (see also Resolution **331 (Mob-87)**).

ARTICLE 39

Distress Communications

MOD **3088** **Mob-87** § 3. (1) The Morse radiotelegraph distress signal consists of the group · · · – – – · · ·, symbolized herein by $\overline{\text{SOS}}$, transmitted as a single signal in which the dashes are emphasized so as to be distinguished clearly from the dots.

MOD **3090** **Mob-87** (3) These distress signals indicate that a ship, aircraft or other vehicle is threatened by grave and imminent danger and requests immediate assistance (see also No. **3279**).

MOD **3091** **Mob-87** § 4. (1) The distress call sent by Morse radiotelegraphy consists of:

- the distress signal $\overline{\text{SOS}}$, sent three times;
- the word DE;
- the call sign of the mobile station in distress, sent three times.

MOD **3093** **Mob-87** § 5. (1) The Morse radiotelegraph distress message consists of:

- the distress signal $\overline{\text{SOS}}$;
- the name, or other identification, of the mobile station in distress;
- particulars of its position;
- the nature of the distress and the kind of assistance desired;
- any other information which might facilitate the rescue.

MOD **3095** **Mob-87** § 6. (1) As a general rule, a ship shall signal its position in latitude and longitude (Greenwich), using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST. In Morse radiotelegraphy, the signal · · – · – · shall be used to separate the degrees from the minutes; however, this shall not necessarily apply to the maritime mobile-satellite service. When practicable, the true bearing and distance in nautical miles from a known geographical position may be given.

MOD **3097** **Mob-87** (3) As a general rule, an aircraft in flight shall signal its position either in radiotelephony or Morse radiotelegraphy;

– by latitude and longitude (Greenwich) using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST; or

– by the name of the nearest place, and its approximate distance in relation thereto, together with one of the words NORTH, SOUTH, EAST or WEST, as the case may be, or when practicable, by words indicating intermediate directions.

MOD **3098** **Mob-87** (4) However, in Morse radiotelegraphy, the words NORTH or SOUTH and EAST or WEST, indicated in Nos. **3095** and **3097**, may be replaced by the letters N or S and E or W.

MOD **3099** **Mob-87** *A. Morse Radiotelegraphy*

MOD **3100** **Mob-87** § 7. (1) The Morse radiotelegraph distress procedure shall consist of:

MOD **3108** **Mob-87** § 8. (1) The distress message, preceded by the distress call, shall be repeated at intervals, especially during the periods of silence prescribed in No. **3038** for Morse radiotelegraphy, until an answer is received.

MOD **3130** **Mob-87** *a)* Morse Radiotelegraphy:

– the distress signal $\overline{\text{SOS}}$;

– the call sign of the station sending the distress message, sent three times;

– the word DE;

– the call sign of the station acknowledging receipt, sent three times;

– the group RRR;

– the distress signal $\overline{\text{SOS}}$.

MOD **3138** **Mob-87** *a)* in Morse radiotelegraphy, the abbreviation QRT, followed by the distress signal $\overline{\text{SOS}}$;

MOD **3141** **Mob-87** *a)* in Morse radiotelegraphy, the abbreviation QRT, followed by the word DISTRESS and its own call sign;

MOD **3143** **Mob-87** § 25. (1) In Morse radiotelegraphy, the use of the signal QRT $\overline{\text{SOS}}$ shall be reserved for the mobile station in distress and for the station controlling distress traffic.

MOD **3152** **Mob-87** (3) *a)* In Morse radiotelegraphy, the message referred to in No. **3150** consists of:

- the distress signal $\overline{\text{SOS}}$;
- the call "to all stations" (CQ) sent three times;
- the word DE;
- the call sign of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress;
- the service abbreviation QUM.

MOD **3153** **Mob-87** *b)* In Morse radiotelegraphy, the message referred to in No. **3151** consists of:

- the distress signal $\overline{\text{SOS}}$;
- the call "to all stations" (CQ) sent three times;
- the word DE;
- the call sign of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which is in distress;
- the service abbreviation QUZ.

MOD **3164** **Mob-87** *a)* Morse Radiotelegraphy:

- the signal $\overline{\text{DDD}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{DDD}}$;
- the word DE;
- the call sign of the transmitting station, sent three times.

MOD **3166** **Mob-87** § 34. When the Morse radiotelegraph alarm signal is used, an interval of two minutes shall be allowed, whenever this is considered necessary, before the transmission of the call mentioned in No. **3164**.

ARTICLE 40

Urgency and Safety Transmissions, and Medical Transports

MOD **3196** **Mob-87** § 1. (1) In Morse 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.

MOD **3197** **Mob-87** (2) In radiotelephony, the urgency signal consists of the group of words PAN PAN, each word of the group pronounced as the French word "panne". The urgency signal shall be repeated three times before the call.

MOD **3201** **Mob-87** (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 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 (see also No. **N 3204**).

MOD **3210** **Mob-87** § 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 Morse radiotelegraphy and by the addition of the single word MAY-DEE-CAL, pronounced as in French "médical", in radiotelephony.

MOD **3219A** **Mob-87** § 11A. The identification and location of medical transports at sea may be effected by means of appropriate standard maritime radar transponders (see Recommendation **14 (Mob-87)**).

MOD **3221** **Mob-87** § 13. (1) In Morse 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.

MOD **3222** **Mob-87** (2) In radiotelephony, the safety signal consists of the word SÉCURITÉ pronounced clearly as in French. The safety signal shall be repeated three times before the call.

MOD **3224** **Mob-87** (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 (see also No. **N 3227**).

ARTICLE 41

Alarm and Warning Signals

MOD **Mob-87**

Section I. Emergency Position-Indicating Radiobeacon and Satellite Emergency Position-Indicating Radiobeacon Signals

ADD **3259A** **Mob-87** *c)* for ultra-high frequencies, i.e., in the bands 406 - 406.1 MHz and 1 645.5 - 1 646.5 MHz, signals whose characteristics shall be in accordance with the relevant CCIR Recommendations.

MOD **Mob-87**

Section II. Morse Radiotelegraph and Radiotelephone Alarm Signals

MOD **3268** **Mob-87** § 5. (1) The Morse 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.

MOD **3269** **Mob-87** (2) Any ship station working in the bands between 415 kHz and 526.5 kHz which is not provided with an automatic apparatus for the transmission of the Morse 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.

MOD **3274** **Mob-87** *a)* in Morse radiotelegraphy, to activate automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency;

MOD **3279** **Mob-87** *c)* the loss of a person or persons overboard or grave and imminent danger threatening a person or persons. 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. **3090, 3196** and **3197**).

MOD **3280** **Mob-87** (2) In the cases referred to in Nos. **3278** and **3279**, an interval of two minutes should, if possible, separate the end of the Morse radiotelegraph alarm signal and the beginning of the warning or the message.

MOD **3281** **Mob-87** § 9. Automatic devices intended for the reception of the Morse radiotelegraph and radiotelephone alarm signals shall meet the requirements specified in Appendix **36**.

ADD **3285A** **Mob-87** (2A) In addition, the signal specified in No. **3284** may be transmitted on the carrier frequency 2 182 kHz by off-shore installations or structures in imminent danger of being struck, or by stations that consider a ship is in imminent danger of running aground. The power of this transmission should, where practicable, be limited to the minimum necessary for reception by ships in the immediate vicinity of the off-shore installations or structures or of the land concerned.

ADD **3285B** (2B) The transmission specified in No. **3285A** should be
Mob-87 immediately followed by a radiotelephone transmission giving the identity and position of the off-shore installation or structure. Stations that consider a ship is in imminent danger of running around should provide as much identification and position information as possible. This transmission should be followed by a vital navigational warning.

ARTICLE 42

Special Services Relating to Safety

MOD **3326** § 4. (1) Meteorological messages specially intended for all ship
Mob-87 stations shall in principle be sent in accordance with a definite timetable, and, as far as possible, at times when they can be received by ship stations with only one operator. In Morse radiotelegraphy the transmission speed shall not exceed sixteen words a minute.

*(MOD) **3339** § 11. In addition to existing methods, navigational and me-
Mob-87 teorological 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 Article **14A**.

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* See Note by the General Secretariat, page 481.

ADD Mob-87

CHAPTER N IX

ADD Mob-87

Distress and Safety Communications[1] for the GMDSS

ADD Mob-87

ARTICLE N 37

ADD Mob-87

General Provisions

ADD N 2929 Mob-87 § 1. This Chapter contains the provisions for the operational use of the Global Maritime Distress and Safety System (GMDSS).

ADD N 2930 Mob-87 § 2. The provisions specified in this Chapter are obligatory (see Resolution **331 (Mob-87)**) in the maritime mobile service for all stations using the frequencies and techniques prescribed for the functions set out herein (see also No. **N 2932**). Certain provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned. However, stations of the maritime mobile service, when fitted with equipment used by stations operating in conformity with Chapter **IX**, shall comply with the appropriate provisions of that Chapter (see No. **2945**).

ADD Mob-87 [1] For the purposes of this Chapter, distress and safety communications include distress, urgency and safety calls and messages.

ADD N 2931 Mob-87 § 3. 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, wherever this service or stations of this service are specifically mentioned.

ADD N 2932 Mob-87 § 4. The International Convention for the Safety of Life at Sea, SOLAS, 1974, prescribes which ships and which of their survival craft shall be provided with radio equipment, and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be met by such equipment.

ADD N 2933 Mob-87 § 5. Stations of the land mobile service in uninhabited, sparsely populated or remote areas may, for distress and safety purposes, use the frequencies provided for in this Chapter.

ADD N 2934 Mob-87 § 6. The procedure specified in this Chapter is obligatory for stations of the land mobile service when using frequencies provided in these Regulations for distress and safety communications.

ADD N 2935 Mob-87 § 7. (1) No provision of these Regulations prevents the use by a mobile station or a mobile earth station in distress of any means at its disposal to attract attention, make known its position, and obtain help.

ADD N 2936 Mob-87 (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 a mobile earth station in distress.

ADD N 2937 Mob-87 (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 a mobile earth station in distress (see also No. **959**).

ADD N 2938 Mob-87 § 8. Ship earth stations located at Rescue Coordination Centres [1] may be authorized by an administration to communicate for distress and safety purposes with any other station using bands allocated to the maritime mobile-satellite service, when special circumstances make it essential, notwithstanding the methods of working provided for in these Regulations.

ADD N 2939 Mob-87 § 9. Transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

ADD N 2940 Mob-87 § 10. Distress, urgency and safety transmissions may also be made, using Morse telegraphy and radiotelephony techniques, in accordance with the provisions of Chapter **IX** and relevant CCIR Recommendations.

ADD N 2941 Mob-87 § 11. The abbreviations and signals of Appendix **14** and the Phonetic Alphabet and Figure Code in Appendix **24** should be used where applicable [2].

ADD N 2938.1 Mob-87 [1] The term «Rescue Coordination Centre», as defined in the International Convention on Maritime Search and Rescue, 1979, refers to a unit responsible for promoting the efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

ADD N 2941.1 Mob-87 [2] The use of the Standard Marine Navigational Vocabulary and, where language difficulties exist, the International Code of Signals, both published by the International Maritime Organization (IMO), is also recommended.

ADD N **2942** **Mob-87** § 12. (1) Mobile stations [1] of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified in Section I of Article **N 38** (see also No. **N 2935**).

ADD N **2943** **Mob-87** (2) Mobile stations of the aeronautical mobile service may communicate, for distress and safety purposes, with stations of the maritime mobile service in conformity with the provisions of this Chapter.

ADD N **2944** **Mob-87** § 13. Any station on board an aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of the maritime mobile service that comply with the provisions of this Chapter, shall be capable of transmitting and receiving class J3E emissions when using the carrier frequency 2 182 kHz, or class J3E emissions when using the carrier frequency 4 125 kHz, or class G3E emissions when using the frequency 156.8 MHz and, optionally, the frequency 156.3 MHz.

ADD N **2945** to N **2966** Not allocated.

ADD N **2942.1** **Mob-87** [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, to any special arrangements between the governments concerned by which the aeronautical mobile (R) service is regulated.

ADD Mob-87

ARTICLE N 38

ADD Mob-87

Frequencies for Distress and Safety Communications for the Global Maritime Distress and Safety System (GMDSS)

ADD Mob-87

Section I. Availability of Frequencies

ADD N 2967 Mob-87

A. 490 kHz

ADD N 2968 Mob-87

§ 1. In the maritime mobile service, after full implementation of the GMDSS the frequency 490 kHz will be 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 Resolution **210 (Mob-87)**).

ADD N 2969 Mob-87

B. 518 kHz

ADD N 2970 Mob-87

§ 2. 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 (international NAVTEX system) (see Article **14A**).

ADD N 2971 Mob-87

C. 2 174.5 kHz

ADD N 2972 Mob-87

§ 3. The frequency 2 174.5 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2973
Mob-87

D. 2 182 kHz

ADD N 2974
Mob-87

§ 4. The carrier frequency 2 182 kHz is used for distress and safety traffic by radiotelephony, using class of emission J3E (see also Nos. **2973**, **3026** and **4343**).

ADD N 2975
Mob-87

E. 2 187.5 kHz

ADD N 2976
Mob-87

§ 5. The frequency 2 187.5 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112**, **N 3206** and **N 3229**).

ADD N 2977
Mob-87

F. 3 023 kHz

ADD N 2978
Mob-87

§ 6. 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**).

ADD N 2979
Mob-87

G. 4 125 kHz

ADD N 2980
Mob-87

§ 7. (1) The carrier frequency 4 125 kHz is used for distress and safety traffic by radiotelephony (see also Nos. **2982** and **4375**).

ADD N 2981
Mob-87

(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, including search and rescue (see No. **N 2944**).

ADD **N 2982** *H. 4 177.5 kHz*
Mob-87

ADD **N 2983** § 8. The frequency 4 177.5 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.
Mob-87

ADD **N 2984** *I. 4 207.5 kHz*
Mob-87

ADD **N 2985** § 9. The frequency 4 207.5 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112, N 3206** and **N 3229**).
Mob-87

ADD **N 2986** *J. 4 209.5 kHz*
Mob-87

ADD **N 2987** § 10. In the maritime mobile service, the frequency 4 209.5 kHz is used exclusively for NAVTEX-type transmissions by coast stations of meteorological and navigational warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy (see Resolution **332 (Mob-87)**).
Mob-87

ADD **N 2988** *K. 4 210 kHz*
Mob-87

ADD **N 2989** § 11. The frequency 4 210 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).
Mob-87

ADD **N 2990** *L. 5 680 kHz*
Mob-87

ADD **N 2991** § 12. 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**).
Mob-87

ADD **N 2992** *M. 6 215 kHz*
Mob-87

ADD **N 2993** § 13. The carrier frequency 6 215 kHz is used for distress and
Mob-87 safety traffic by radiotelephony (see also Nos. **2986** and **4375**).

ADD **N 2994** *N. 6 268 kHz*
Mob-87

ADD **N 2995** § 14. The frequency 6 268 kHz is used exclusively for distress
Mob-87 and safety traffic using narrow-band direct-printing telegraphy.

ADD **N 2996** *O. 6 312 kHz*
Mob-87

ADD **N 2997** § 15. The frequency 6 312 kHz is used exclusively for distress
Mob-87 and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112, N 3206** and **N 3229**).

ADD **N 2998** *P. 6 314 kHz*
Mob-87

ADD **N 2999** § 16. The frequency 6 314 kHz is used exclusively for the
Mob-87 transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD **N 3000** *Q. 8 291 kHz*
Mob-87

ADD **N 3001** § 17. The carrier frequency 8 291 kHz is used exclusively for
Mob-87 distress and safety traffic by radiotelephony.

ADD **N 3002** *R. 8 376.5 kHz*
Mob-87

ADD **N 3003** § 18. The frequency 8 376.5 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.
Mob-87

ADD **N 3004** *S. 8 414.5 kHz*
Mob-87

ADD **N 3005** § 19. The frequency 8 414.5 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112, N 3206** and **N 3229**).
Mob-87

ADD **N 3006** *T. 8 416.5 kHz*
Mob-87

ADD **N 3007** § 20. The frequency 8 416.5 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).
Mob-87

ADD **N 3008** *U. 12 290 kHz*
Mob-87

ADD **N 3009** § 21. The carrier frequency 12 290 kHz is used for distress and safety traffic by radiotelephony.
Mob-87

ADD **N 3010** *V. 12 520 kHz*
Mob-87

ADD **N 3011** § 22. The frequency 12 520 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.
Mob-87

ADD **N 3012** *W. 12 577 kHz*
Mob-87

ADD **N 3013** § 23. The frequency 12 577 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112, N 3206** and **N 3229**).
Mob-87

ADD **N 3014** **Mob-87**

X. 12 579 kHz

ADD **N 3015** **Mob-87**

§ 24. The frequency 12 579 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD **N 3016** **Mob-87**

Y. 16 420 kHz

ADD **N 3017** **Mob-87**

§ 25. The carrier frequency 16 420 kHz is used for distress and safety traffic by radiotelephony.

ADD **N 3018** **Mob-87**

Z. 16 695 kHz

ADD **N 3019** **Mob-87**

§ 26. The frequency 16 695 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD **N 3020** **Mob-87**

AA. 16 804.5 kHz

ADD **N 3021** **Mob-87**

§ 27. The frequency 16 804.5 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. **N 3110** (see Nos. **N 3112, N 3206** and **N 3229**).

ADD **N 3022** **Mob-87**

AB. 16 806.5 kHz

ADD **N 3023** **Mob-87**

§ 28. The frequency 16 806.5 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD **N 3024** **Mob-87**

AC. 19 680.5 kHz

ADD **N 3025** **Mob-87**

§ 29. The frequency 19 680.5 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD N 3026 Mob-87

AD. 22 376 kHz

ADD N 3027 Mob-87

§ 30. The frequency 22 376 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD N 3028 Mob-87

AE. 26 100.5 kHz

ADD N 3029 Mob-87

§ 31. The frequency 26 100.5 kHz is used exclusively for the transmission by coast stations of maritime safety information, by narrow-band direct-printing telegraphy (see Resolution **333 (Mob-87)**).

ADD N 3030 Mob-87

AF. 121.5 MHz and 123.1 MHz

ADD N 3031 Mob-87

§ 32. (1) 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 by survival craft stations. Emergency position-indicating radiobeacons use the frequency 121.5 MHz as indicated in Appendix **37A**.

ADD N 3032 Mob-87

(2) 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**).

ADD N 3031.1 Mob-87

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

ADD N 3033 Mob-87 (3) 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.

ADD N 3034 Mob-87 *AG. 156.3 MHz*

ADD N 3035 Mob-87 § 33. The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations 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)* in Appendix **18**).

ADD N 3036 Mob-87 *AH. 156.525 MHz*

ADD N 3037 Mob-87 § 34. The frequency 156.525 MHz is used in the maritime mobile service for distress and safety calls using digital selective calling (see also Nos. **347**, **613A**, **N 2935**, **N 2936** and **N 2937**).

ADD N 3038 Mob-87 *AI. 156.650 MHz*

ADD N 3039 Mob-87 § 35. The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with note *q)* in Appendix **18**.

ADD N 3040 Mob-87 *AJ. 156.8 MHz*

ADD N 3041 Mob-87 § 36. (1) The frequency 156.8 MHz is used for distress and safety traffic by radiotelephony (see also No. **2994**).

ADD N 3042 Mob-87 (2) The frequency 156.8 MHz may be used by aircraft stations for safety purposes only.

ADD N 3043 Mob-87 *AK. 406 - 406.1 MHz Band*

ADD N 3044 Mob-87 § 37. 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**).

ADD N 3045 Mob-87 *AL. 1 530 - 1 544 MHz Band*

ADD N 3046 Mob-87 § 38. In addition to its availability for routine non-safety purposes, the band 1 530 - 1 544 MHz is used for distress and safety purposes in the space-to-Earth direction in the maritime mobile-satellite service.

ADD N 3047 Mob-87 *AM. 1 544 - 1 545 MHz Band*

ADD N 3048 Mob-87 § 39. Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. **726B**), including:

ADD N 3049 Mob-87 *a)* feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;

ADD N 3050 Mob-87 *b)* narrow-band (space-to-Earth) links from space stations to mobile stations.

ADD N 3051 Mob-87 *AN. 1 626.5 - 1 645.5 MHz Band*

ADD N 3052 Mob-87 § 40. In addition to its availability for routine non-safety purposes, the band 1 626.5 - 1 645.5 MHz is used for distress and safety purposes in the Earth-to-space direction in the maritime mobile-satellite service.

ADD N 3053 Mob-87 *AO. 1 645.5 - 1 646.5 MHz Band*

ADD N 3054 Mob-87 § 41. Use of the band 1 645.5-1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. **734B**), including:

ADD N 3055 Mob-87 *a)* transmissions from satellite EPIRBs;

ADD N 3056 Mob-87 *b)* relay of distress alerts received by satellites in low polar earth orbits to geostationary satellites.

ADD N 3057 Mob-87 *AP. 9 200 - 9 500 MHz Band*

ADD N 3058 Mob-87 § 42. The band 9 200 - 9 500 MHz is used by radar transponders to facilitate search and rescue.

ADD N 3059 Mob-87 *AQ. Survival Craft Stations*

ADD N 3060 Mob-87 § 43. (1) Equipment for radiotelephony use in survival craft stations shall, if capable of operating on any frequency in the bands between 156 MHz and 174 MHz, be able to transmit and receive on 156.8 MHz and at least one other frequency in these bands.

ADD N 3061 Mob-87 (2) Equipment for transmitting locating signals from survival craft stations shall be capable of operating in the 9 200 - 9 500 MHz band.

ADD N 3062 Mob-87 (3) Equipment with digital selective calling facilities for use in survival craft shall, if capable of operating:

ADD N 3063 Mob-87 *a)* in the bands between 1 605 kHz and 2 850 kHz, be able to transmit on 2 187.5 kHz;

ADD N **3064** Mob-87

b) in the bands between 4 000 kHz and 27 500 kHz, be able to transmit on 8 414.5 kHz;

ADD N **3065** Mob-87

c) in the bands between 156 MHz and 174 MHz, be able to transmit on 156.525 MHz.

ADD Mob-87

Section II. Protection of Frequencies for Distress and Safety Communications for the GMDSS

ADD N **3066** Mob-87

A. General

ADD N **3067** Mob-87

§ 44. Except as provided for in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies 500 kHz, 2 174.5 kHz, 2 182 kHz, 2 187.5 kHz, 4 125 kHz, 4 177.5 kHz, 4 207.5 kHz, 6 215 kHz, 6 268 kHz, 6 312 kHz, 8 291 kHz, 8 376.5 kHz, 8 414.5 kHz, 12 290 kHz, 12 520 kHz, 12 577 kHz, 16 420 kHz, 16 695 kHz, 16 804.5 kHz, 121.5 MHz, 156.525 MHz, 156.8 MHz or the frequency bands 406 - 406.1 MHz, 1 544 - 1 545 MHz and 1 645.5 - 1 646.5 MHz (see also No. **3010**) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the other discrete frequencies identified in Section I of this Article and in Section I of Article **38** is prohibited.

ADD N **3068** Mob-87

§ 45. Test transmissions shall be kept to a minimum on the frequencies identified in Section I of this Article; they should be coordinated with a competent authority, as necessary, and, wherever practicable, be carried out on artificial antennas or with reduced power. However, testing on the distress and safety calling frequencies should be avoided, but where this is unavoidable, it should be indicated that these are test transmissions.

ADD N 3069 Mob-87 § 46. Before transmitting for other than distress purposes on any of the frequencies identified in Section I for distress and safety, a station shall, where practicable, listen on the frequency concerned to make sure that no distress transmission is being sent.

ADD N 3070 Mob-87 *B. 2 173.5 - 2 190.5 kHz Band*

ADD N 3071 Mob-87 § 47. Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz, 2 177 kHz, 2 187.5 kHz and 2 189.5 kHz, all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden.

ADD N 3072 Mob-87 *C. 156.7625 - 156.8375 MHz Band*

ADD N 3073 Mob-87 § 48. 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.

ADD Mob-87 **Section III. Watch on Frequencies for Distress and Safety Communications for the GMDSS**

ADD N 3074 Mob-87 *A. Coast Stations*

ADD N 3075 Mob-87 § 49. Those coast stations assuming a watch-keeping responsibility in the GMDSS shall maintain an automatic digital selective calling watch on frequencies and for periods of time as indicated in the information published in the List of Coast Stations (see Resolution No. **322 (Rev.Mob-87)**).

ADD N 3076 Mob-87

B. Coast Earth Stations

ADD N 3077 Mob-87

§ 50. Those coast earth stations assuming a watch-keeping responsibility in the GMDSS shall maintain a continuous automatic watch for appropriate distress alerts relayed by space stations (see Resolution No. **322 (Rev.Mob-87)**).

ADD N 3078 Mob-87

C. Ship Stations

ADD N 3079 Mob-87

§ 51. (1) Ship stations complying with the provisions of this Chapter shall, while at sea, maintain an automatic digital selective calling watch on the appropriate distress and safety calling frequencies in the frequency bands in which they are operating. Ship stations, where so equipped, should also maintain watch on the appropriate frequencies for the automatic reception of transmissions of meteorological and navigational warnings and other urgent information to ships. However, ship stations shall also continue to apply the appropriate watch-keeping provisions of Chapter **IX** (see Resolution **331 (Mob-87)**).

ADD N 3080 Mob-87

(2) Ship stations complying with the provisions of this Chapter should, where practicable, maintain a watch on the frequency 156.650 MHz for communications related to the safety of navigation.

ADD N 3081 Mob-87

D. Ship Earth Stations

ADD N 3082 Mob-87

§ 52. Ship earth stations in use for the reception of shore-to-ship distress alert relays should maintain watch except when communicating on a working channel.

ADD N 3083 to N 3105

NOT allocated.

ADD Mob-87

ARTICLE N 39

ADD Mob-87

Operational Procedures for Distress and Safety Communications in the Global Maritime Distress and Safety System (GMDSS)

ADD Mob-87

Section I. General

ADD N 3106 Mob-87 § 1. Distress and safety communications rely on the use of terrestrial MF, HF and VHF radiocommunications and communications using satellite techniques.

ADD N 3107 Mob-87 § 2. (1) The distress alert (see No. **N 3112**) shall be sent through a satellite either with absolute priority in general communication channels or on exclusive distress and safety frequencies or, alternatively, on the distress and safety frequencies in the MF, HF and VHF bands using digital selective calling.

ADD N 3108 Mob-87 (2) The distress alert (see No. **N 3112**) shall be sent only on the authority of the person responsible for the ship, aircraft or other vehicle carrying the mobile station or the mobile earth station.

ADD N 3109 Mob-87 § 3. All stations which receive a distress alert transmitted by digital selective calling shall immediately cease any transmission capable of interfering with distress traffic and shall continue watch until the call has been acknowledged.

ADD N 3110 Mob-87 § 4. Digital selective calling shall be in accordance with the relevant CCIR Recommendations.

ADD Mob-87

Section II. Distress Alerting

ADD N 3111 Mob-87

A. General

ADD N 3112 Mob-87

§ 5. (1) The transmission of a distress alert indicates that a mobile unit [1] or person [2] is in distress and requires immediate assistance. The distress alert is a digital selective call using a distress call format [3] in bands used for terrestrial radiocommunication or a distress message format, in which case it is relayed through space stations.

ADD N 3113 Mob-87

(2) The distress alert shall provide [4] the identification of the station in distress and its position.

ADD N 3112.1 Mob-87

[1] Mobile unit: A ship, aircraft or other vehicle.

ADD N 3112.2 Mob-87

[2] In this Article, where the case is of a person in distress, the application of the procedures may require adaptation to meet the needs of the particular circumstances.

ADD N 3112.3 Mob-87

[3] The format of distress calls and distress messages shall be in accordance with the relevant CCIR Recommendations.

ADD N 3113.1 Mob-87

[4] The distress alert may also contain information regarding the nature of the distress, the type of assistance required, the course and speed of the mobile unit, the time that this information was recorded and any other information which might facilitate rescue.

ADD N 3114 Mob-87 *B. Transmission of a Distress Alert*

ADD Mob-87 B1. Transmission of a Distress Alert by a Ship Station or a Ship Earth Station

ADD N 3115 Mob-87 § 6. Ship-to-shore distress alerts are used to alert Rescue Coordination Centres via coast stations or coast earth stations that a ship is in distress. These alerts are based on the use of transmissions via satellites (from a ship earth station or a satellite EPIRB) and terrestrial services (from ship stations and EPIRBs).

ADD N 3116 Mob-87 § 7. Ship-to-ship distress alerts are used to alert other ships in the vicinity of the ship in distress and are based on the use of digital selective calling in the VHF and MF bands. Additionally, the HF band may be used.

ADD Mob-87 B2. Transmission of a Shore-to-Ship Distress Alert Relay

ADD N 3117 Mob-87 § 8. (1) A station or a Rescue Coordination Centre which receives a distress alert shall initiate the transmission of a shore-to-ship distress alert relay addressed, as appropriate, to all ships, to a selected group of ships or to a specific ship by satellite and/or terrestrial means.

ADD N 3118 Mob-87 (2) The distress alert relay shall contain the identification of the mobile unit in distress, its position and all other information which might facilitate rescue.

ADD **Mob-87**

B3. Transmission of a Distress Alert by a Station Not Itself in Distress

ADD **N 3119** **Mob-87**

§ 9. A station in the mobile or mobile-satellite service which learns that a mobile unit is in distress shall initiate and transmit a distress alert in any of the following cases:

ADD **N 3120** **Mob-87**

a) when the mobile unit in distress is not itself in a position to transmit the distress alert;

ADD **N 3121** **Mob-87**

b) when the master or person responsible for the mobile unit not in distress or the person responsible for the land station considers that further help is necessary.

ADD **N 3122** **Mob-87**

§ 10. A station transmitting a distress alert relay in accordance with Nos. **N 3119**, **N 3120**, **N 3121** and **N 3134** shall indicate that it is not itself in distress.

ADD **N 3123** **Mob-87**

C. Receipt and Acknowledgement of Distress Alerts

ADD **Mob-87**

C1. Procedure for Acknowledgement of Receipt of Distress Alerts

ADD **N 3124** **Mob-87**

§ 11. Acknowledgement by digital selective calling of receipt of a distress alert in the terrestrial services shall be in accordance with relevant CCIR Recommendations.

ADD **N 3125** **Mob-87**

§ 12. Acknowledgement through a satellite of receipt of a distress alert from a ship earth station shall be sent immediately (see No. **N 3129**).

ADD **N 3126** **Mob-87**

§ 13. (1) Acknowledgement by radiotelephony of receipt of a distress alert from a ship station or a ship earth station shall be given in the following form:

– the distress signal MAYDAY;

– the call sign or other identification of the station sending the distress message, spoken three times;

- the words THIS IS (or DE spoken as DELTA ECHO in case of language difficulties);
- the call sign or other identification of the station acknowledging receipt, spoken three times;
- the word RECEIVED (or RRR spoken as ROMEO ROMEO ROMEO in case of language difficulties);
- the distress signal MAYDAY.

ADD **N 3127** **Mob-87** (2) The acknowledgement by direct-printing telegraphy of receipt of a distress alert from a ship station shall be given in the following form:

- the distress signal MAYDAY;
- the call sign or other identification of the station sending the distress alert;
- the word DE;
- the call sign or other identification of the station acknowledging receipt of the distress alert;
- the signal RRR;
- the distress signal MAYDAY.

ADD **N 3128** **Mob-87** § 14. The acknowledgement by direct-printing telegraphy of receipt of a distress alert from a ship earth station shall be given by the coast earth station receiving the distress alert, by retransmitting the ship station identity of the ship transmitting the distress alert.

ADD **Mob-87**

C2. Receipt and Acknowledgement of Receipt by a Coast Station, a Coast Earth Station or a Rescue Coordination Centre

ADD **N 3129** **Mob-87** § 15. Coast stations and appropriate coast earth stations in receipt of distress alerts shall ensure that they are routed as soon as possible to a Rescue Coordination Centre. Receipt of a distress alert is to be acknowledged as soon as possible by a coast station, or by a Rescue Coordination Centre via a coast station or an appropriate coast earth station.

ADD **N 3130** **Mob-87** § 16. A coast station using digital selective calling to acknowledge a distress call shall transmit the acknowledgement on the distress calling frequency on which the call was received and should address it to all ships. The acknowledgement shall include the identification of the ship whose distress call is being acknowledged.

ADD **Mob-87** C3. Receipt and Acknowledgement of Receipt by a Ship Station or Ship Earth Station

ADD **N 3131** **Mob-87** § 17. (1) Ship or ship earth stations in receipt of a distress alert shall, as soon as possible, inform the master or person responsible for the ship of the contents of the distress alert.

ADD **N 3132** **Mob-87** (2) In areas where reliable communications with one or more coast stations are practicable, ship stations in receipt of a distress alert should defer acknowledgement for a short interval so that receipt may be acknowledged by a coast station.

ADD **N 3133** **Mob-87** § 18. (1) Ship stations operating in areas where reliable communications with a coast station are not practicable which receive a distress alert from a ship station which is, beyond doubt, in their vicinity, shall, as soon as possible and if appropriately equipped, acknowledge receipt and inform a Rescue Coordination Centre through a coast station or coast earth station (see No. **N 3121**).

ADD **N 3134** **Mob-87** (2) However, a ship station receiving an HF distress alert shall not acknowledge it but shall observe the provisions **N 3139** to **N 3141**, and shall, if the alert is not acknowledged by a coast station within 3 minutes, relay the distress alert.

ADD N 3135 Mob-87 § 19. A ship station acknowledging receipt of a distress alert in accordance with No. **N 3132** or No. **N 3133** should:

ADD N 3136 Mob-87 *a)* in the first instance, acknowledge receipt of the alert by using radiotelephony on the distress and safety traffic frequency in the band used for the alert;

ADD N 3137 Mob-87 *b)* if acknowledgement by radiotelephony of the distress alert received on the MF or VHF distress alerting frequency is unsuccessful, acknowledge receipt of the distress alert by responding with a digital selective call on the appropriate frequency.

ADD N 3138 Mob-87 § 20. A ship station in receipt of a shore-to-ship distress alert (see No. **N 3117**) should establish communication as directed and render such assistance as required and appropriate.

ADD N 3139 Mob-87 *D. Preparations for Handling of Distress Traffic*

ADD N 3140 Mob-87 § 21. On receipt of a distress alert transmitted by use of digital selective calling techniques, ship stations and coast stations shall set watch on the radiotelephone distress and safety traffic frequency associated with the distress and safety calling frequency on which the distress alert was received.

ADD N 3141 Mob-87 § 22. Coast stations and ship stations with narrow-band direct printing equipment shall set watch on the narrow-band direct-printing frequency associated with the distress alert signal if it indicates that narrow-band direct-printing is to be used for subsequent distress communications. If practicable, they should additionally set watch on the radiotelephone frequency associated with the distress alert frequency.

ADD Mob-87

Section III. Distress Traffic

ADD N 3142 Mob-87

A. General and Search and Rescue Coordinating Communications

ADD N 3143 Mob-87

§ 23. Distress traffic consists of all messages relating to the immediate assistance required by the ship in distress, including search and rescue communications and on-scene communications. The distress traffic shall as far as possible be on the frequencies contained in Article **N 38**.

ADD N 3144 Mob-87

§ 24. (1) The distress signal consists of the word MAYDAY, pronounced in radiotelephony as the French expression «m'aider».

ADD N 3145 Mob-87

(2) For distress traffic by radiotelephony, when establishing communications, calls shall be prefixed by the distress signal MAYDAY.

ADD N 3146 Mob-87

§ 25. (1) Error correction techniques in accordance with relevant CCIR Recommendations shall be used for distress traffic by direct-printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the distress signal MAYDAY.

ADD N 3147 Mob-87

(2) Distress communications by direct-printing telegraphy should normally be established by the ship in distress and should be in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

ADD N 3148 Mob-87

§ 26. (1) The Rescue Coordination Centre responsible for controlling a search and rescue operation shall also coordinate the distress traffic relating to the incident or may appoint another station to do so.

ADD N 3149 Mob-87 (2) The Rescue Coordination Centre coordinating distress traffic, the unit coordinating search and rescue operations [1] or the coast station involved may impose silence on stations which interfere with that traffic. This instruction shall be addressed to all stations or to one station only, according to circumstances. In either case, the following shall be used:

ADD N 3150 Mob-87 *a)* in radiotelephony, the signal SEELONCE MAYDAY, pronounced as the French expression «silence, m'aider»;

ADD N 3151 Mob-87 *b)* in narrow-band direct-printing telegraphy normally using forward-error correcting mode, the signal SILENCE MAYDAY. However, the ARQ mode may be used when it is advantageous to do so.

ADD N 3152 Mob-87 § 27. Until they receive the message indicating that normal working may be resumed (see No. **N 3154**), all stations which are aware of the distress traffic, and which are not taking part in it, and which are not in distress, are forbidden to transmit on the frequencies in which the distress traffic is taking place.

ADD N 3153 Mob-87 § 28. A station of the mobile service which, while following distress traffic, is able to continue its normal service, may do so when the distress traffic is well established and on condition that it observes the provisions of No. **N 3152** and that it does not interfere with distress traffic.

ADD N 3149.1 Mob-87 [1] In accordance with the International Convention on Maritime Search and Rescue, 1979, this is the on-scene commander (OSC) or the coordinator surface search (CSS).

ADD N 3154 Mob-87 § 29. When distress traffic has ceased on frequencies which have been used for distress traffic, the Rescue Coordination Centre controlling a search and rescue operation shall initiate a message for transmission on these frequencies indicating that distress traffic has finished.

ADD N 3155 Mob-87 § 30. (1) In radiotelephony, the message referred to in No. **N 3154** consists of:

- the distress signal MAYDAY;
- the call "Hello all stations" or CQ (spoken as CHARLIE QUEBEC) spoken three times;
- the words THIS IS (or DE spoken as DELTA ECHO in the case of language difficulties);
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress;
- the words SEELONCE FEENEE pronounced as the French words «silence fini».

ADD N 3156 Mob-87 (2) In direct-printing telegraphy, the message referred to in No. **N 3154** consists of:

- the distress signal MAYDAY;
- the call CQ;
- the word DE;
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress; and
- the words SILENCE FINI.

ADD N 3157 Mob-87

B. On-scene communications

ADD N 3158 Mob-87 § 31. (1) On-scene communications are those between the mobile unit in distress and assisting mobile units, and between the mobile units and the unit coordinating search and rescue operations [1].

ADD N 3159 Mob-87 (2) Control of on-scene communications is the responsibility of the unit coordinating search and rescue operations [1]. Simplex communications shall be used so that all on-scene mobile stations may share relevant information concerning the distress incident. If direct-printing telegraphy is used, it shall be in the forward error-correcting mode.

ADD N 3160 Mob-87 § 32. (1) The preferred frequencies in radiotelephony for on-scene communications are 156.8 MHz and 2 182 kHz. The frequency 2 174.5 kHz may also be used for ship-to-ship on-scene communications using narrow-band direct-printing telegraphy in the forward error correcting mode.

ADD N 3161 Mob-87 (2) In addition to 156.8 MHz and 2 182 kHz, the frequencies 3 023 kHz, 4 125 kHz, 5 680 kHz, 123.1 MHz and 156.3 MHz may be used for ship-to-aircraft on-scene communications.

ADD N 3162 Mob-87 § 33. The selection or designation of on-scene frequencies is the responsibility of the unit coordinating search and rescue operations [1]. Normally, once an on-scene frequency is established, a continuous aural or teleprinter watch is maintained by all participating on-scene mobile units on the selected frequency.

ADD N 3158.1 Mob-87

ADD N 3159.1 Mob-87

ADD N 3162.1 Mob-87

[1] In accordance with the International Convention on Maritime Search and Rescue, 1979, this is the on-scene commander (OSC) or the coordinator surface search (CSS).

ADD **N 3163** **Mob-87**

C. Locating and Homing signals

ADD **N 3164** **Mob-87**

§ 34. (1) Locating signals are radio transmissions intended to facilitate the finding of a mobile unit in distress or the location of survivors. These signals include those transmitted by searching units, and those transmitted by the mobile unit in distress, by survival craft, by float-free EPIRBs, by satellite EPIRBs and by search and rescue radar transponders to assist the searching units.

ADD **N 3165** **Mob-87**

(2) Homing signals are those locating signals which are transmitted by mobile units in distress, or by survival craft, for the purpose of providing searching units with a signal that can be used to determine the bearing to the transmitting stations.

ADD **N 3166** **Mob-87**

(3) Locating signals may be transmitted in the following frequency bands:

117.975 - 136 MHz;

156 - 174 MHz;

406 - 406.1 MHz; and

9 200 - 9 500 MHz.

ADD **N 3167** **Mob-87**

(4) Locating signals shall be in accordance with the relevant CCIR Recommendations.

ADD **N 3168** to **N 3195**

NOT allocated.

ADD Mob-87

ARTICLE N 40

ADD Mob-87

Operational Procedures for Urgency and Safety Communications in the Global Maritime Distress and Safety System (GMDSS)

ADD Mob-87

Section I. General

ADD N 3196 Mob-87 § 1. Urgency and safety communications include:

ADD N 3197 Mob-87 *a)* navigational and meteorological warnings and urgent information;

ADD N 3198 Mob-87 *b)* ship-to-ship safety of navigation communications;

ADD N 3199 Mob-87 *c)* ship reporting communications;

ADD N 3200 Mob-87 *d)* support communications for search and rescue operations;

ADD N 3201 Mob-87 *e)* other urgency and safety messages; and

ADD N 3202 Mob-87 *f)* communications relating to the navigation, movements and needs of ships and weather observation messages destined for an official meteorological service.

ADD Mob-87

Section II. Urgency communications

ADD N 3203 Mob-87 § 2. In a terrestrial system the announcement of the urgency message shall be made on one or more of the distress and safety calling frequencies specified in Section I of Article **N 38** using digital selective calling and the urgency call format. A separate announcement need not be made if the urgency message is to be transmitted through the maritime mobile-satellite service.

ADD **N 3204** **Mob-87** § 3. The urgency signal and message shall be transmitted on one or more of the distress and safety traffic frequencies specified in Section I of Article **N 38**, or via the maritime mobile-satellite service or on other frequencies used for this purpose.

ADD **N 3205** **Mob-87** § 4. The urgency signal consists of the words PAN PAN. In radiotelephony each word of the group shall be pronounced as the French word "panne".

ADD **N 3206** **Mob-87** § 5. The urgency call format and the urgency signal indicate that the calling station has a very urgent message to transmit concerning the safety of a mobile unit or a person.

ADD **N 3207** **Mob-87** § 6. (1) In radiotelephony, the urgency message shall be preceded by the urgency signal (see No. **N 3205**), repeated three times, and the identification of the transmitting station.

ADD **N 3208** **Mob-87** (2) In narrow-band direct-printing, the urgency message shall be preceded by the urgency signal (see No. **N 3205**) and the identification of the transmitting station.

ADD **N 3209** **Mob-87** § 7. (1) The urgency call format or urgency signal shall be sent only on the authority of the master or the person responsible for the mobile unit carrying the mobile station or mobile earth station.

ADD **N 3210** **Mob-87** (2) The urgency call format or the urgency signal may be transmitted by a land station or a coast earth station with the approval of the responsible authority.

ADD **N 3211** **Mob-87** § 8. When an urgency message which calls for action by the stations receiving the message has been transmitted, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary.

ADD **N 3212** **Mob-87** § 9. (1) Error correction techniques in accordance with relevant CCIR Recommendations shall be used for urgency messages by direct-printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the urgency signal PAN PAN.

ADD N 3213 Mob-87 (2) Urgency communications by direct-printing telegraphy should normally be established in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

ADD Mob-87 **Section III. Medical Transports**

ADD N 3214 Mob-87 § 10. 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.

ADD N 3215 Mob-87 § 11. For the purpose of announcing and identifying medical transports which are protected under the above-mentioned Conventions, the procedure of Section II of this Article is used. The urgency signal shall be followed by the addition of the single word MEDICAL in narrow-band direct-printing and by the addition of the single word MAY-DEE-CAL pronounced as in French "médical", in radiotelephony.

ADD N 3216 Mob-87 § 12. The use of the signals described in No. **N 3215** indicates that the message which follows concerns a protected medical transport. The message shall convey the following data:

ADD N 3217 Mob-87 *a)* call sign or other recognized means of identification of the medical transport;

ADD N 3218 Mob-87 *b)* position of the medical transport;

ADD N 3219 Mob-87 *c)* number and type of vehicles in the medical transport;

ADD N 3220 Mob-87 *d)* intended route;

ADD N 3221 Mob-87 *e)* estimated time en route and of departure and arrival, as appropriate;

ADD N 3222 Mob-87 *f)* any other information, such as flight altitude, radio frequencies guarded, languages used and secondary surveillance radar modes and codes.

ADD N 3223 Mob-87 § 13. (1) The identification and location of medical transports at sea may be conveyed by means of appropriate standard maritime radar transponders (see Recommendation **14 (Mob-87)**).

ADD N 3224 Mob-87 (2) The identification and location of aircraft medical transports may be conveyed by the use of the secondary surveillance radar (SSR) system specified in Annex 10 to the Convention on International Civil Aviation.

ADD N 3225 Mob-87 § 14. 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 **N 37** and **N 38** shall apply.

ADD Mob-87 **Section IV. Safety Communications**

ADD N 3226 Mob-87 § 15. In a terrestrial system the announcement of the safety message shall be made on one or more of the distress and safety calling frequencies specified in Section I of Article **N 38** using digital selective calling techniques. A separate announcement need not be made if the message is to be transmitted through the maritime mobile-satellite service.

ADD N 3227 Mob-87 § 16. The safety signal and message shall normally be transmitted on one or more of the distress and safety traffic frequencies specified in Section I of Article **N 38**, or via the maritime mobile-satellite service or on other frequencies used for this purpose.

ADD N 3228 Mob-87 § 17. The safety signal consists of the word SECURITE. In radiotelephony, it shall be pronounced as in French.

ADD N 3229 Mob-87 § 18. The safety call format or the safety signal indicates that the calling station has an important navigational or meteorological warning to transmit.

ADD N 3230 Mob-87 § 19. (1) In radiotelephony, the safety message shall be preceded by the safety signal (see No. **N 3228**), repeated three times, and the identification of the transmitting station.

ADD N 3231 Mob-87 (2) In narrow-band direct-printing, the safety message shall be preceded by the safety signal (see No. **N 3228**), and the identification of the transmitting station.

ADD N 3232 Mob-87 § 20. (1) Error correction techniques in accordance with relevant CCIR Recommendations shall be used for safety messages by direct-printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the safety signal SECURITE.

ADD N 3233 Mob-87 (2) Safety communications by direct-printing telegraphy should normally be established in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

ADD Mob-87 **Section V. Transmission of Maritime Safety Information**

ADD N 3234 Mob-87 *A. General*

ADD N 3235 Mob-87 § 21. The operational details of the stations transmitting maritime safety information in accordance with Nos. **N 3238**, **N 3240**, **N 3241**, **N 3243** and **N 3245** shall be indicated in the List of Radiodetermination and Special Service Stations (see Nos. **3323**, **3326** and **3334**).

ADD N 3236 Mob-87 § 22. The mode and format of the transmissions mentioned in Nos. **N 3238**, **N 3240**, **N 3241** and **N 3243** shall be in accordance with the relevant CCIR Recommendations.

ADD N 3237 Mob-87

B. International NAVTEX System

ADD N 3238 Mob-87

§ 23. Maritime safety information shall be transmitted by means of narrow-band direct-printing telegraphy with forward error correction using the frequency 518 kHz in accordance with the international NAVTEX system (see Nos. **1632**, **N 2969** and **N 2970**).

ADD N 3239 Mob-87

C. 490 kHz and 4 209.5 kHz

ADD N 3240 Mob-87

§ 24. (1) The frequency 490 kHz may be used, after full implementation of the GMDSS, for the transmission of maritime safety information by means of narrow-band direct-printing telegraphy with forward error correction (see No. **N 2968** and Resolution **210 (Mob-87)**).

ADD N 3241 Mob-87

(2) The frequency 4 209.5 kHz is used exclusively for NAVTEX-type transmission by means of narrow-band direct-printing telegraphy with forward error correction (see Resolution **332 (Mob-87)**).

ADD N 3242 Mob-87

D. High Seas
Maritime Safety Information

ADD N 3243 Mob-87

§ 25. Maritime safety information is transmitted by means of narrow-band direct-printing telegraphy with forward error correction using the frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz (see Resolution **333 (Mob-87)**).

ADD N 3244 Mob-87

E. Maritime Safety Information via Satellite

ADD N 3245 Mob-87

§ 26. Maritime safety information may be transmitted via satellite in the maritime mobile-satellite service using the band 1 530 - 1 545 MHz (see Nos. **726**, **N 3049** and **N 3050**).

ADD **Mob-87**

Section VI. Intership Navigation Safety Communications

ADD **N 3246** **Mob-87**

§ 27. (1) Intership navigation safety communications are those VHF radiotelephone communications conducted between ships for the purpose of contributing to the safe movement of ships.

ADD **N 3247** **Mob-87**

(2) The frequency 156.650 MHz is used for intership navigation safety communications (see also No. **N 3039** and note *q)* in Appendix **18**).

ADD **Mob-87**

Section VII. Use of Other Frequencies for Distress and Safety

ADD **N 3248** **Mob-87**

§ 28. Radiocommunications for distress and safety purposes may be conducted on any appropriate communications frequency, including those used for public correspondence. In the maritime mobile-satellite service, frequencies in the bands 1 530 - 1 544 MHz and 1 626.5 - 1 645.5 MHz are used for this function as well as for distress alerting purposes (see No. **N 3107**).

ADD **N 3249** to **N 3275**

NOT allocated

ADD **Mob-87**

ARTICLE N 41

ADD **Mob-87**

Alerting Signals

ADD **Mob-87**

Section I. Emergency Position-Indicating Radiobeacon (EPIRB) and Satellite EPIRB Signals

ADD **N 3276** **Mob-87** § 1. The emergency position-indicating radiobeacon signal transmitted on 156.525 MHz and satellite EPIRB signals in the band 406 - 406.1 MHz or 1 645.5 - 1 646.5 MHz shall be in accordance with relevant CCIR Recommendations.

ADD **Mob-87**

Section II. Digital Selective Calling

ADD **N 3277** **Mob-87** § 2. The characteristics of the "distress call" (see No. **N 3112**) in the digital selective calling system shall be in accordance with relevant CCIR Recommendations.

ADD **N 3278** to **N 3305** NOT allocated.

CHAPTER X

Aeronautical Mobile Service and Aeronautical Mobile-Satellite Service

ARTICLE 42A

Introduction

MOD **3362 Mob-87** § 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, Nairobi, 1982, or by intergovernmental agreements [1] provided their implementation does not cause harmful interference to the radio services of other countries.

SUP **3363 Mob-87**

SUP **Mob-87** * *Note by the General Secretariat.*

ARTICLE 43

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

NOC **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.

NOC **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.

MOD **3366** **Mob-87** § 3. Except as otherwise provided for in these Regulations, the person responsible, as well as all the persons who may have knowledge of any information whatever obtained by means of the radiocommunication service, are placed under the obligation of observing and ensuring the secrecy of correspondence.

ADD **3367** **Mob-87** § 4. The provisions of Nos. **3364, 3365** and **3366** shall also apply to personnel of aircraft earth stations.

(MOD) **3368** to **3391** NOT allocated.

ARTICLE 44

Operators' Certificates for Aircraft Stations and for Aircraft Earth Stations

SUP **3392**
Mob-87

MOD **3393**
Mob-87 (2) The service of every aircraft station and every aircraft earth 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.

MOD **3393A**
Mob-87 (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 aircraft radiotelephone stations and aircraft earth 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.

MOD **3394**
Mob-87 (3) The service of automatic communication devices [1] installed in an aircraft station or aircraft earth 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.

MOD **3395** **Mob-87** (4) Nevertheless, in the service of aircraft stations and aircraft earth stations operating radiotelephony 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.

MOD **3396** **Mob-87** (5) The provisions of No. **3395** shall not, however, apply to any aircraft station or aircraft earth station working on frequencies assigned for international use.

MOD **3403** **Mob-87** § 5. (1) There are two classes of certificates for radiotelegraph operators, as well as a special certificate.

SUP **3403.1** **Mob-87**

MOD **3404** **Mob-87** (2) There are two categories of radiotelephone operators' certificates, general and restricted.

SUP **3404.1** **Mob-87**

MOD **3405** **Mob-87** § 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 or aircraft earth station.

MOD **3406** **Mob-87** (2) The holder of a radiotelephone operator's general certificate may carry out the radiotelephone service of any aircraft station or of any aircraft earth station.

SUP **3407** to **3409** **Mob-87**

MOD **3410** **Mob-87** (4) The holder of a radiotelephone operator's restricted certificate may carry out the radiotelephone service of any aircraft station or aircraft earth station operating on frequencies allocated exclusively to the aeronautical mobile service or the aeronautical mobile-satellite service, provided that the operation of the transmitter requires only the use of simple external switching devices.

MOD **3411** **Mob-87** (5) The radiotelephone service of aircraft stations or aircraft earth 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.

MOD **3420** **Mob-87**

a) knowledge both of the general principles and theory of radio;

MOD **3421** **Mob-87**

b) theoretical and practical knowledge of the operation, maintenance and adjustment of radiotelegraph and radiotelephone apparatus;

SUP **3422** **Mob-87**

MOD **3423** **Mob-87**

d) ability to send correctly by hand and receive correctly by ear, in the Morse code, code groups (mixed letters, figures and punctuation marks) [1] at a speed of twenty groups a minute, and a plain language text at a speed of twenty-five words [2] a minute. The duration of each test of sending and of receiving shall be, as a rule, five minutes;

MOD **3424** **Mob-87**

e) ability to send correctly and to receive correctly by radiotelephone in one of the working languages of the Union;

MOD **3425** **Mob-87**

f) detailed knowledge of the Regulations applying to radiocommunications, knowledge of the provisions of the International 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;

ADD **3423.1** **Mob-87**

[1] Each code group shall comprise five caracters, each figure or punctuation counting as two characters.

ADD **3423.2** **Mob-87**

[2] The average word of the text in plain language shall contain five characters.

SUP **3426**
Mob-87

SUP **3427**
Mob-87

MOD **3430**
Mob-87

a) elementary theoretical and practical knowledge of basic radiocommunications;

MOD **3431**
Mob-87

b) elementary theoretical and practical knowledge of the operation, maintenance and adjustment of radiotelegraph and radiotelephone apparatus;

SUP **3432**
Mob-87

MOD **3433**
Mob-87

c) 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. The duration of each test of sending and of receiving shall, as a rule, be five minutes (the provisions of Nos. **3423.1** and **3423.2** also apply);

MOD **3434**
Mob-87

d) ability to send correctly and to receive correctly by radiotelephone, in one of the working languages of the Union [1];

ADD **3434.1**
Mob-87

[1] This provision need not apply in the case provided for in No. **3412**.

MOD **3435** **Mob-87**

e) knowledge of the Regulations applying to radiocommunications, knowledge of the provisions of the International 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.

SUP **3436** **Mob-87**

SUP **3437** **Mob-87**

MOD **3440** **Mob-87**

a) knowledge of the practical operation and adjustment of radiotelegraph and radiotelephone apparatus [1];

MOD **3441** **Mob-87**

b) 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 (the provisions of Nos. **3423.1** and **3423.2** also apply);

ADD **3441A** **Mob-87**

c) ability to send correctly and to receive correctly by radiotelephone in one of the working languages of the Union [1];

ADD **3440.1** **Mob-87**

ADD **3441A.1** **Mob-87**

[1] This provision need not apply in the case provided for in No. **3412**.

(MOD) **3442** **Mob-87**

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

MOD **3443** **Mob-87**

(2) Each administration concerned may fix the other conditions for obtaining this certificate.

MOD **3448** **Mob-87**

c) ability to send correctly and to receive correctly by radiotelephone in one of the working languages of the Union;

MOD **3452** **Mob-87**

b) ability to send correctly and to receive correctly by radiotelephone in one of the working languages of the Union;

MOD **3454** **Mob-87**

(2) For aircraft radiotelephone stations and aircraft earth stations operating on frequencies allocated exclusively to the aeronautical mobile service or the aeronautical mobile-satellite 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. The administration 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**.

ARTICLE 45

MOD **Mob-87**

Personnel of Aeronautical Stations and Aeronautical Earth Stations

MOD **3483** **Mob-87** Administrations shall ensure that the staff on duty in aeronautical stations and in aeronautical earth stations shall be adequately qualified to operate the stations efficiently.

ARTICLE 46

Inspection of Aircraft Stations and Aircraft Earth Stations

MOD **3509** **Mob-87** § 1. (1) The inspectors of governments or appropriate administrations of countries who visit an aircraft station or aircraft earth station 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.

MOD **3513** **Mob-87** § 2. (1) When a government or 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 or aircraft earth station is subject shall be so informed without delay. In addition, the procedure specified in Article **21** is followed when necessary.

MOD **3515** **Mob-87** § 3. Members undertake not to impose upon foreign aircraft stations or aircraft earth 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.

ARTICLE 47

MOD **Mob-87**

Working Hours of Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

SUP **Mob-87**

Section I. General

MOD **3541** **Mob-87** § 1. Every station of the aeronautical mobile service and the aeronautical mobile-satellite service shall have an accurate clock correctly regulated to Coordinated Universal Time (UTC).

SUP **Mob-87**

Section II. Aeronautical Stations

MOD **3542** **Mob-87** § 2. The service of an aeronautical station or an aeronautical earth station shall be continuous throughout the period during which it bears responsibility for the radiocommunication service to aircraft in flight.

SUP Mob-87

Section III. Aircraft Stations

MOD 3542A Mob-87 § 2A. Aircraft stations and aircraft earth 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 or aeronautical earth station concerned.

SUP 3543 Mob-87

ARTICLE 48

MOD Mob-87

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

MOD 3571 Mob-87 Stations on board aircraft may communicate, for purposes of distress, and for public correspondence [1], with stations of the maritime mobile or maritime mobile-satellite services. For these purposes, they shall conform to the relevant provisions of Chapter **IX** or **N IX** and Chapter **XI**, Articles **59** (Section III), **61, 62, 63, 65** and **66** (see also Nos. **962, 963** and **3633**).

MOD 3571.1 Mob-87 [1] Stations on board aircraft may communicate for public correspondence purposes as long as watch is maintained on the frequencies provided for safety and regularity of flight.

ARTICLE 49

MOD Mob-87

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

ADD Mob-87

Section I. Aeronautical Mobile Service

NOC **3597** to **3600**

SUP **3601** and **3602** **Mob-87**

NOC **3603** and **3604**

ADD Mob-87

Section II. Aeronautical Mobile-Satellite Service

ADD **3605** **Mob-87** § 8. The provisions of Nos. **3597** to **3600**, **3603** and **3604** are also applicable to mobile earth stations in the aeronautical mobile-satellite service.

(MOD) **3606** to **3629** NOT allocated.

ARTICLE 50

MOD **Mob-87**

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

MOD **3630** **Mob-87** § 1. Frequencies in any band allocated to the aeronautical mobile (R) service and the aeronautical mobile-satellite (R) service are reserved for communications relating to safety and regularity of flight between any aircraft and those aeronautical stations and aeronautical earth stations primarily concerned with flight along national or international civil air routes.

MOD **3631** **Mob-87** § 2. Frequencies in any band allocated to the aeronautical mobile (OR) service and the aeronautical mobile-satellite (OR) service are reserved for communications between any aircraft and aeronautical stations and aeronautical earth stations other than those primarily concerned with flight along national or international civil air routes.

MOD **3632** **Mob-87** § 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** and **27 Aer2** and the other relevant provisions of these Regulations.

SUP **Mob-87** * *Note by the General Secretariat.*

MOD **3633** **Mob-87** § 4. Administrations shall not permit public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service or to the aeronautical mobile-satellite service.

MOD **3635** **Mob-87** § 6. Governments may, by agreement, decide the frequencies to be used for call and reply in the aeronautical mobile service and the aeronautical mobile-satellite service.

ARTICLE 51

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

MOD **3651** **Mob-87** § 1. The order of priority for communications [1] in the aeronautical mobile service and the aeronautical mobile-satellite service shall be as follows, except where impracticable in a fully automated system in which, nevertheless, Category 1 shall receive priority:

NOC 1. Distress calls, distress messages and distress traffic.

NOC 2. Communications preceded by the urgency signal.

MOD **Mob-87** 3. Communications relating to radio direction-finding.

MOD **Mob-87** 4. Flight safety messages.

MOD **Mob-87** 5. Meteorological messages.

MOD **Mob-87** 6. Flight regularity messages.

MOD **Mob-87** 7. Messages relating to the application of the United Nations Charter.

MOD **Mob-87** 8. Government messages for which priority has been expressly requested.

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

MOD **Mob-87** 10. Other aeronautical communications.

SUP **3653** to **3676** NOT allocated.

SUP **3651.2** **Mob-87**

ADD Mob-87

ARTICLE 51A

ADD Mob-87

General Communication Procedure in the Aeronautical Mobile Service

ADD Mob-87

Section I. General Provisions

ADD 3653 Mob-87 § 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 designated operational coverage [1] area of the latter.

ADD 3654 Mob-87 § 2. 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 designated operational coverage area (see No. **3653.1**) of the aeronautical station.

ADD 3655 Mob-87 § 3. When an aeronautical station receives calls in close succession from several aircraft stations, it decides on the order in which these stations may transmit their traffic. Its decision shall be based on the priority in Article **51**.

ADD 3656 Mob-87 § 4. If an aeronautical station finds it necessary to intervene in communications between aircraft stations, these stations shall comply with the instructions given by the aeronautical station.

ADD 3657 Mob-87 § 5. Before transmitting, a station shall take precautions to ensure that it will not interfere with a communication already in progress and that the station called is not in communication with another station.

ADD 3658 Mob-87 § 6. When a radiotelephone call has been made to an aeronautical station, but no answer has been received, a period of at least ten seconds should elapse before a subsequent call is made to that station.

ADD 3653.1 Mob-87 [1] Designated operational coverage is that volume of airspace needed operationally in order to provide a particular service and within which the facility is afforded frequency protection.

ADD **3659 Mob-87** § 7. When a station called fails to reply to a Morse radiotelegraph call sent three times at two-minute intervals, the call may not be repeated until after an interval of three minutes.

ADD **3660 Mob-87** § 8. Aircraft stations shall not radiate carrier waves between calls.

ADD **Mob-87**

Section II. Morse Radiotelegraph Procedure

ADD **3661 Mob-87**

A. General

ADD **3662 Mob-87** § 9. The use of Morse code signals for radiotelegraphy shall be obligatory in the aeronautical mobile service. However, for radiocommunication of a special character, the use of other signals is not precluded.

ADD **3663 Mob-87** § 10. In order to facilitate radiocommunications, stations shall use the service abbreviations given in Appendix **13**.

ADD **3663A Mob-87** § 11. When it is necessary for a station in the aeronautical mobile service to send 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 consist of a series of VVV followed by the call sign of the station emitting the test signals.

ADD **3664 Mob-87**

B. Method of Calling

ADD **3665 Mob-87** § 12. The call consists of:

- the call sign of the station called, not more than three times;
- the word DE;
- the call sign of the calling station, not more than three times;
- the letter K.

ADD **3666 Mob-87** § 13. The call "to all stations" CQ is used before the transmission of information of any kind intended to be read or used by anyone who may intercept it.

ADD **3667** **Mob-87**

C. Form of Reply to Calls

ADD **3668** **Mob-87**

§ 14. The reply to calls consists of:

– the call sign of the calling station, not more than three times;
– the word DE;
– the call sign of the station called, once only;
– the letter K.

ADD **3669** **Mob-87**

D. Difficulties in Reception

ADD **3670** **Mob-87**

§ 15. If the station called is unable to accept traffic immediately it shall reply to the call as indicated in Nos. **3667** and **3668** but it shall replace the letter K by the signal · — · · · (wait) followed by a number indicating in minutes the probable duration of the waiting time.

ADD **3671** **Mob-87**

E. Signal for the End of Transmission

ADD **3672** **Mob-87**

§ 16. The transmission of a radiotelegram shall be terminated by the signal · — · — · (end of transmission) followed by the letter K.

ADD **3673** **Mob-87**

F. Acknowledgement of Receipt

ADD **3674** **Mob-87**

§ 17. The receipt of a radiotelegram shall be acknowledged by the receiving station in the following manner:

– the call sign of the transmitting station;
– the word DE;
– the call sign of the receiving station;
– the abbreviation QSL.

ADD **3675** **Mob-87**

G. End of Work

ADD **3676** **Mob-87**

§ 18. The end of work between stations shall be indicated by each of them by means of the signal · · · — · — (end of work).

* SUP **Mob-87**

ARTICLE 52

SUP **Mob-87**

General Radiotelegraph Procedure in the Aeronautical Mobile Service

SUP **3677** to **3767** **Mob-87**

* SUP **Mob-87**

ARTICLE 53

SUP **Mob-87**

Radiotelephone Procedure in the Aeronautical Mobile Service – Calls

SUP **3793** to **3805** **Mob-87**

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* See Note by the General Secretariat, page 481.

ARTICLE 55

MOD **Mob-87**

Certificates for Personnel of Ship Stations and Ship Earth Stations

MOD **3860** **Mob-87** § 1. (1) The service of every ship Morse radiotelegraph station shall be performed by an operator holding a certificate issued or recognized by the government to which the station is subject.

MOD **3861** **Mob-87** (2) The service of every ship radiotelephone station, ship earth station and ship station using the frequencies and techniques prescribed in Chapter **N IX** 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 equipment.

SUP **3862** **Mob-87**

MOD **3867** **Mob-87** (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, distress alerting, 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.

ADD **3877A** **Mob-87** § 4A. Each administration may determine the conditions under which personnel holding certificates specified in Nos. **3879** to **3883** may be granted certificates under Nos. **3890B** to **3890E**.

MOD Mob-87

Section II. Categories of Certificates for Operators of Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter IX and for Public Correspondence

ADD Mob-87

Section IIA. Categories of Certificates for Personnel of Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter N IX and for Public Correspondence

ADD **3890A** Mob-87 § 7A. (1) There are four categories of certificates for personnel of ship stations and ship earth stations using the frequencies and techniques prescribed in Chapter **N IX**:

ADD **3890B** Mob-87 *a)* First-Class Radio Electronic Certificate;

ADD **3890C** Mob-87 *b)* Second-Class Radio Electronic Certificate;

ADD **3890D** Mob-87 *c)* General Operator's Certificate;

ADD **3890E** Mob-87 *d)* Restricted Operator's Certificate.

ADD **3890F** Mob-87 (2) The holder of one of the certificates specified in Nos. **3890B**, **3890C**, **3890D** and **3890E** may carry out the service of ship stations or ship earth stations using the frequencies and techniques prescribed in Chapter **N IX**.

MOD Mob-87

Section III. Conditions for the Issue of Certificates for Operators of Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter IX and for Public Correspondence

ADD **Mob-87**

Section IIIA. Conditions for the Issue of Certificates for Personnel of Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter N IX and for Public Correspondence

ADD **3949A Mob-87**

A. First-Class Radio Electronic Certificate

ADD **3949AA Mob-87** § 18A. The First-Class Radio Electronic Certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

ADD **3949AB Mob-87**

a) knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the requirements specified in Nos. **3949AC**, **3949AD** and **3949AE**;

ADD **3949AC Mob-87**

b) theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraph and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radiobeacons, marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of the principles of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service;

ADD **3949AD Mob-87**

c) practical knowledge of the operation and knowledge of the preventive maintenance of the equipment indicated in No. **3949AC**;

ADD **3949AE** **Mob-87**

d) practical knowledge necessary for the location and repair (using appropriate testing equipment and tools) of faults in the equipment mentioned in No. **3949AC** which may occur during a voyage;

ADD **3949AF** **Mob-87**

e) detailed practical knowledge of the operation of all GMDSS sub-systems and equipment;

ADD **3949AG** **Mob-87**

f) ability to send and receive correctly by radiotelephone and direct-printing telegraphy;

ADD **3949AH** **Mob-87**

g) detailed knowledge of the regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of those provisions of the International Convention for the Safety of Life at Sea which relate to radio;

ADD **3949AI** **Mob-87**

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.

ADD **3949B** **Mob-87**

B. Second-Class Radio Electronic Certificate

ADD **3949BA** **Mob-87**

§ 18B. The Second-Class Radio Electronic Certificate is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

ADD **3949BB** **Mob-87**

a) knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the requirements specified in Nos. **3949BC**, **3949BD** and **3949BE**;

ADD **3949BC** **Mob-87**

b) general theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraph and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radiobeacons, marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service;

ADD **3949BD** **Mob-87**

c) practical knowledge of the operation and knowledge of the preventive maintenance of the equipment indicated in No. **3949BC**;

ADD **3949BE** **Mob-87**

d) practical knowledge necessary for effecting repairs in the case of faults in the equipment indicated in No. **3949BC**, using the means available on board and, if necessary, replacing modular units;

ADD **3949BF** **Mob-87**

e) detailed practical knowledge of the operation of all GMDSS sub-systems and equipment;

ADD **3949BG** **Mob-87**

f) ability to send and receive correctly by radiotelephone and direct-printing telegraphy;

ADD **3949BH** **Mob-87**

g) detailed knowledge of the regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of those provisions of the International Convention for the Safety of Life at Sea which relate to radio;

ADD **3949BI** **Mob-87** *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.

ADD **3949C** **Mob-87** *C. General Operator's Certificate*

ADD **3949CA** **Mob-87** § 18C. The General Operator's Certificate is issued to candidates who have given proof of the knowledge and qualifications enumerated below:

ADD **3949CB** **Mob-87** *a)* detailed practical knowledge of the operation of all GMDSS sub-systems and equipment;

ADD **3949CC** **Mob-87** *b)* ability to send and receive correctly by radiotelephone and direct-printing telegraphy;

ADD **3949CD** **Mob-87** *c)* detailed knowledge of the regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of those provisions of the International Convention for the Safety of Life at Sea which relate to radio;

ADD **3949CE** **Mob-87** *d)* 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.

ADD **3949D** **Mob-87** *D. Restricted Operator's Certificate*

ADD **3949DA** **Mob-87** § 18D. The Restricted Operator's Certificate is issued to candidates who have given proof of the knowledge and qualifications enumerated below:

ADD **3949DB** **Mob-87**

a) practical knowledge of the operation of the GMDSS sub-systems and equipment which is required while the ship is sailing within the range of VHF coast stations;

ADD **3949DC** **Mob-87**

b) ability to send and receive correctly by radiotelephone;

ADD **3949DD** **Mob-87**

c) knowledge of the regulations applying to radiotelephony communications and specifically of that part of those regulations relating to the safety of life;

ADD **3949DE** **Mob-87**

d) 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. Administrations may waive the above language requirements for holders of a restricted operator's certificate when the ship station is confined to a limited area specified by the administration concerned. In such cases the certificate shall be suitably endorsed.

ARTICLE 56

MOD **Mob-87**

Personnel of Stations in the Maritime Mobile and the Maritime Mobile-Satellite Service

MOD **Mob-87**

Section I. Personnel of Coast Stations and Coast Earth Stations

MOD **3979** **Mob-87** § 1. Administrations shall ensure that the staff on duty in coast stations and in coast earth stations are adequately qualified to operate the stations efficiently.

MOD **Mob-87**

Section II. Class and Minimum Number of Operators of Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter IX and for Public Correspondence

NOC **3980** to **3986**

ADD **Mob-87**

Section III. Class and Minimum Number of Personnel for Ship Stations and Ship Earth Stations Using the Frequencies and Techniques Prescribed in Chapter N IX and for Public Correspondence

ADD **3987** **Mob-87** § 4. Administrations shall ensure that the personnel of ship stations and ship earth stations are adequately qualified to enable efficient operation of the station, and shall take steps to ensure the operational availability and maintenance of equipment for distress and safety communications in accordance with the relevant international agreements.

ADD **3988** **Mob-87** § 5. An adequately qualified person shall be available to act as a dedicated communications operator in cases of distress.

ADD **3989** **Mob-87** § 6. The personnel of ship stations for which a radio installation is compulsory under international agreements and which use the frequencies and techniques prescribed in Chapter **N IX** shall, with respect to the provisions of Article **55**, include at least:

ADD **3990** **Mob-87** *a)* for stations on board ships which sail beyond the range of MF coast stations: a holder of a first- or second-class radio electronic certificate;

ADD **3991** **Mob-87** *b)* for stations on board ships which sail within the range of MF coast stations: a holder of a first- or second-class radio electronic certificate or a general operator's certificate;

ADD **3992** **Mob-87** *c)* for ship stations on board ships which sail within the range of VHF coast stations: a holder of a first- or second-class radio electronic certificate or a general operator's certificate or a restricted operator's certificate.

ADD **3993** **Mob-87** § 7. The personnel of ship stations for which a radio installation is not compulsory under international agreements and which use the frequencies and techniques prescribed in Chapter **N IX** shall be adequately qualified and certificated in accordance with the administration's requirements.

(MOD) **3994** to **4011** NOT allocated.

ARTICLE 58

MOD **Mob-87**

Working Hours of Stations in the Maritime Mobile Service and Maritime Mobile-Satellite Service

MOD **4044** **Mob-87**

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

MOD **Mob-87**

Section II. Coast Stations and Coast Earth Stations

MOD **4046** **Mob-87**

§ 3. (1) The services of coast stations and coast earth stations are, as far as possible, continuous (day and night). Certain coast stations, however, may have a service of limited duration. Each administration or recognized private operating agency duly authorized to that effect fixes the hours of service for coast stations under its jurisdiction.

ARTICLE 59

Conditions to be Observed in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

MOD **4104** **Mob-87** § 7. Ship stations and ship earth stations other than survival craft stations shall be provided with the documents enumerated in the appropriate section of Appendix **11**.

MOD **4106** **Mob-87** *B. Ship Stations Using Morse Radiotelegraphy*

MOD **4110** **Mob-87** § 11. All ship stations equipped with Morse radiotelegraph apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

MOD **4116** **Mob-87** § 13. In Region 2, any Morse 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.

MOD **4118** **Mob-87** § 14. In ship stations, all apparatus using class A1A emissions for Morse telegraphy on frequencies in the authorized bands between 4 000 kHz and 27 500 kHz shall satisfy the following conditions:

MOD **4122** **Mob-87** *C. Ship Stations Using Digital Selective Calling*

SUP **4123** **Mob-87**

(MOD) **4123A** **Mob-87** § 15. The characteristics of the digital selective calling equipment shall be in accordance with the Recommendations of the CCIR.

ADD **4123B** **Mob-87**

C1. Bands Between 415 kHz and 535 kHz

ADD **4123C** **Mob-87**

§ 15A. All ship stations equipped with apparatus for digital selective calling 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 digital selective calling channels necessary for their service.

ADD **4123D** **Mob-87**

C2. Bands Between 1 605 kHz and 4 000 kHz

ADD **4123E** **Mob-87**

§ 15B. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to:

ADD **4123F** **Mob-87**

a) send and receive class F1B or J2B emissions on the frequency 2 187.5 kHz;

ADD **4123G** **Mob-87**

b) in addition, send and receive class F1B or J2B emissions on other digital selective calling frequencies in this band necessary to carry out their service.

ADD **4123H** **Mob-87**

C3. Bands Between 4 000 kHz and 27 500 kHz

ADD **4123I** **Mob-87**

§ 15C. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 4 000 kHz and 27 500 kHz shall be able to:

ADD **4123J** **Mob-87**

a) send and receive class F1B or J2B emissions on the frequencies designated for digital selective distress calling in each of the maritime HF bands in which they are operating (see also **No. N 3112**);

ADD **4123K** Mob-87

b) send and receive class F1B or J2B emissions on an international calling channel (see Nos. **4683** and **4684**) in each of the HF maritime mobile bands necessary for their service;

ADD **4123L** Mob-87

c) send and receive class F1B or J2B emissions on other digital selective calling channels in each of the HF maritime mobile bands necessary for their service.

ADD **4123M** Mob-87

C4. Bands Between 156 MHz and 174 MHz

ADD **4123N** Mob-87

§ 15D. All ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 156 MHz and 174 MHz shall be able to send and receive class G2B emissions on the frequency 156.525 MHz.

ADD **4123O** Mob-87

CA. Ship Stations Using Narrow-Band Direct-Printing Telegraphy

ADD **4123P** Mob-87

§ 15E. (1) All ship stations using narrow-band direct-printing telegraphy equipment shall be able to send and receive on the frequency designated for distress traffic by narrow-band direct-printing telegraphy in the frequency bands in which they are operating.

ADD **4123Q** Mob-87

(2) The characteristics of the narrow-band direct-printing equipment shall be in accordance with Appendix **38**.

ADD **4123R** **Mob-87**

CA1. Bands Between 415 kHz and 535 kHz

ADD **4123S** **Mob-87**

§ 15F. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

ADD **4123T** **Mob-87**

a) send and receive class F1B or J2B emissions on the working frequencies necessary to carry out their service;

ADD **4123U** **Mob-87**

b) receive class F1B emissions on 518 kHz, if complying with the provisions of Chapter **N IX.**

ADD **4123V** **Mob-87**

CA2. Bands Between 1 605 kHz and 4 000 kHz

ADD **4123W** **Mob-87**

§ 15G. All ship stations equipped with narrow-band direct-printing telegraphy 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 working frequencies necessary to carry out their service.

ADD **4123X** **Mob-87**

CA3. Bands Between 4 000 kHz and 27 500 kHz

ADD **4123Y** **Mob-87**

§ 15H. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 4 000 and 27 500 kHz shall be able to send and receive class F1B or J2B emissions on working frequencies in each of the HF maritime mobile bands necessary to carry out their service.

MOD **4127** **Mob-87**

a) send class J3E or H3E emissions on a carrier frequency of 2 182 kHz and receive class J3E or H3E emissions on a carrier frequency of 2 182 kHz, except for such apparatus as is referred to in No. **4130** (see also Nos. **2945** and **2973**).

MOD **4131** **Mob-87**

D2. Bands Between 4 000 kHz and 27 500 kHz

MOD **4132** **Mob-87**

§ 18. All ship stations equipped with radiotelephony to work in the authorized bands between 4 000 kHz and 27 500 kHz and which do not comply with the provisions of Chapter **N IX** should be able to send and receive on the carrier frequencies 4 125 kHz and 6 215 kHz (see Nos. **2982** and **2986**). However, all ship stations which comply with the provisions of Chapter **N IX** shall be able to send and receive on the carrier frequencies designated in Article **N 38** for distress and safety traffic by radiotelephony for the frequency bands in which they are operating.

MOD **4134** **Mob-87**

§ 19. All ship stations equipped with radiotelephony to work in the authorized bands between 156 MHz and 174 MHz (see No. **613** and Appendix **18**) shall be able to send and receive class G3E emissions on:

ADD **4136A** **Mob-87**

c) the intership navigation safety frequency 156.65 MHz;

(MOD) **4137** **Mob-87**

d) all the frequencies necessary for their service.

MOD **Mob-87** **Section II. Maritime Mobile-Satellite Service**

SUP **4139**
Mob-87

MOD **Mob-87** **Section III. Stations on Board Aircraft Communicating with Stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service**

MOD **4146**
Mob-87 § 25. In the case of communication between stations on board aircraft and stations of the maritime mobile service, radiotelephone calling may be renewed as specified in Nos. **4933** and **4934** and radiotelegraph calling may be renewed after an interval of five minutes, notwithstanding No. **4735**.

MOD **4154**
Mob-87 (2) The frequency 156.3 MHz may be used by stations on board aircraft for safety purposes. It may also be used for communication between ship stations and stations on board aircraft engaged in coordinated search and rescue operations (see Nos. **2993** and **N 3035**).

ADD **4155**
Mob-87 (3) The frequency 156.8 MHz may be used by stations on board aircraft for safety purposes only (see Nos. **2995A** and **N 3042**).

(MOD) **4156**
to
4179 NOT allocated.

ARTICLE 60

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

MOD **4180** **Mob-87**

A. Single-Sideband Radiotelegraph Transmissions

SUP **4181** **Mob-87**

ADD **4181A** **Mob-87** Where these provisions specify A1A emission, class A1B or J2A emissions shall be considered equivalent.

ADD **4181B** **Mob-87** Where these provisions specify class F1B emission, class J2B emission shall be considered equivalent.

MOD **4183** **Mob-87** § 2. 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**).

MOD **4184A** **Mob-87** § 3A. In the maritime mobile service, no assignments shall be made on the frequency 518 kHz other than for transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of automatic narrow-band direct-printing telegraphy (International NAVTEX System) (see Article **14A**).

MOD **4184B** **Mob-87** § 3B. In the maritime mobile service, after full implementation of the GMDSS, the frequency 490 kHz will be 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 Resolution **210 (Mob-87)**).

SUP **4189** **Mob-87**

MOD **4197** **Mob-87**

a) *Ship stations,* telephony, duplex operation (two-frequency channels) [1]

4 065 - 4 146 kHz
6 200 - 6 224 kHz
8 195 - 8 294 kHz
12 230 - 12 353 kHz
16 360 - 16 528 kHz
18 780 - 18 825 kHz
22 000 - 22 159 kHz
25 070 - 25 100 kHz

MOD **4198** **Mob-87**

b) *Coast stations,* telephony, duplex operation (two-frequency channels)

4 351 - 4 438 kHz
6 501 - 6 525 kHz
8 707 - 8 815 kHz
13 077 - 13 200 kHz
17 242 - 17 410 kHz
19 755 - 19 800 kHz
22 696 - 22 855 kHz
26 145 - 26 175 kHz

MOD **4199** **Mob-87**

c) *Ship stations and coast stations,* telephony, simplex operation (single-frequency channels) and intership cross-band operation (two frequencies)

4 146 - 4 152 kHz
6 224 - 6 233 kHz
8 294 - 8 300 kHz
12 353 - 12 368 kHz
16 528 - 16 549 kHz
18 825 - 18 846 kHz
22 159 - 22 180 kHz
25 100 - 25 121 kHz

MOD **4197.1** **Mob-87**

[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** and Article **N 38**.

MOD **4200** **Mob-87**

d) *Ship stations,* wide-band telegraphy, facsimile and special transmission systems

4 152 - 4 172 kHz
6 233 - 6 261 kHz
8 300 - 8 340 kHz
12 368 - 12 420 kHz
16 549 - 16 617 kHz
18 846 - 18 870 kHz
22 180 - 22 240 kHz
25 121 - 25 161.25 kHz

MOD **4201** **Mob-87**

e) *Ship stations,* oceanographic data transmission (see note *c)* in Appendix **31**)

4 063 - 4 065 kHz
6 261 - 6 262.75 kHz
8 340 - 8 341.75 kHz
12 420 - 12 421.75 kHz
16 617 - 16 618.75 kHz
22 240 - 22 241.75 kHz

MOD **4202** **Mob-87**

f) *Ship stations,* narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (frequencies paired with those in No. **4207**)

4 172 - 4 181.75 kHz
6 262.75 - 6 275.75 kHz
6 280.75 - 6 284.75 kHz
8 376.25 - 8 396.25 kHz
12 476.75 - 12 549.75 kHz
12 554.75 - 12 559.75 kHz
16 683.25 - 16 733.75 kHz
16 738.75 - 16 784.75 kHz
18 870 - 18 892.75 kHz
22 284.25 - 22 351.75 kHz
25 172.75 - 25 192.75 kHz

MOD **4203** **Mob-87**

g) *Ship stations,* narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (non-paired frequencies), and A1A Morse telegraphy (working) [1]

4 202.25 - 4 207.25 kHz
6 300.25 - 6 311.75 kHz
8 396.25 - 8 414.25 kHz
12 559.75 - 12 576.75 kHz
16 784.75 - 16 804.25 kHz
18 892.75 - 18 898.25 kHz
22 351.75 - 22 374.25 kHz
25 192.75 - 25 208.25 kHz

MOD **4204** **Mob-87**

h) *Ship stations,* A1A Morse telegraphy, calling

4 181.75 - 4 186.75 kHz
6 275.75 - 6 280.75 kHz
8 365.75 - 8 370.75 kHz
12 549.75 - 12 554.75 kHz
16 733.75 - 16 738.75 kHz
22 279.25 - 22 284.25 kHz
25 171.25 - 25 172.75 kHz

MOD **4205** **Mob-87**

i) *Ship stations,* digital selective calling [1]

4 207.25 - 4 209.25 kHz
6 311.75 - 6 313.75 kHz
8 414.25 - 8 416.25 kHz
12 576.75 - 12 578.75 kHz
16 804.25 - 16 806.25 kHz
18 898.25 - 18 899.75 kHz
22 374.25 - 22 375.75 kHz
25 208.25 - 25 210 kHz

MOD **4203.1** **Mob-87**
MOD **4205.1** **Mob-87**

[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** and Article N **38**.

MOD **4206** *j)* *Ship stations,* A1A Morse telegraphy, working
Mob-87

4 186.75 - 4 202.25 kHz
6 284.75 - 6 300.25 kHz
8 341.75 - 8 365.75 kHz
8 370.75 - 8 376.25 kHz
12 421.75 - 12 476.75 kHz
16 618.75 - 16 683.25 kHz
22 241.75 - 22 279.25 kHz
25 161.25 - 25 171.25 kHz

MOD **4207** *k)* *Coast stations,* narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (frequencies paired with those in No. **4202**)
Mob-87

4 209.25 - 4 219.25 kHz
6 313.75 - 6 330.75 kHz
8 416.25 - 8 436.25 kHz
12 578.75 - 12 656.75 kHz
16 806.25 - 16 902.75 kHz
19 680.25 - 19 703.25 kHz
22 375.75 - 22 443.75 kHz
26 100.25 - 26 120.75 kHz

MOD **4208** *l)* *Coast stations,* digital selective calling
Mob-87

4 219.25 - 4 221 kHz
6 330.75 - 6 332.5 kHz
8 436.25 - 8 438 kHz
12 656.75 - 12 658.5 kHz
16 902.75 - 16 904.5 kHz
19 703.25 - 19 705 kHz
22 443.75 - 22 445.5 kHz
26 120.75 - 26 122.5 kHz

MOD **4209** *m) Coast stations,* wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems
Mob-87

4 221 - 4 351 kHz
6 332.5 - 6 501 kHz
8 438 - 8 707 kHz
12 658.5 - 13 077 kHz
16 904.5 - 17 242 kHz
19 705 - 19 755 kHz
22 445.5 - 22 696 kHz
26 122.5 - 26 145 kHz

MOD **4210** (2) Frequencies in the bands 25 010 - 25 070 kHz, 25 210 - 25 550 kHz and 26 175 - 27 500 kHz may be assigned to coast stations.
Mob-87

MOD **4212A** (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**) should be used in accordance with Sections C-1 and C-2 of Appendix **16** when used for radiotelephony.
Mob-87

ADD **4215A** § 11A. 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.
Mob-87

MOD **4218** § 13. (1) The frequency 500 kHz is the international distress frequency for Morse radiotelegraphy (see No. **2970** for details of its use for distress, urgency and safety purposes).
Mob-87

MOD **4237** **Mob-87** § 20. (1) Ship stations operating in the authorized bands between 415 kHz and 535 kHz shall use working frequencies chosen from the following: 425 kHz [1], 454 kHz, 468 kHz, 480 kHz and 512 kHz, except as permitted by No. **961**. However, when a regional administrative radio conference has established a frequency plan, the frequencies specified in that plan may be used in the Region concerned.

MOD **4244** **Mob-87**

C. Bands Between 1 605 kHz and 4 000 kHz
Additional Provisions Applicable in Region 3 Areas North of the Equator Only

SUP **Mob-87**

C1. Region 2

SUP **4245** **Mob-87**

SUP **Mob-87**

C2. Additional Provisions Applicable in Region 3 Areas North of the Equator Only

MOD **4246** **Mob-87** § 22. (1) The band 2 089.5 - 2 092.5 kHz is the calling and safety band for Morse radiotelegraphy in those parts of the band between 1 605 kHz and 2 850 kHz in which Morse radiotelegraphy is authorized.

MOD **4249** **Mob-87** (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 band between 1 605 kHz and 2 850 kHz in which Morse radiotelegraphy is authorized.

ADD **4237.1** **Mob-87** [1] In Region 1, the frequency 458 kHz will replace 425 kHz on 1 April 1992.

MOD **4253** **Mob-87** § 23. (1) Ship Morse radiotelegraph stations equipped to operate in the bands specified in Nos. **4204** and **4206** shall employ only the classes of emission mentioned in No. **4181A** for Morse telegraphy at speeds not exceeding 40 bauds. Survival craft stations may use class A2A or H2A emissions in these bands (see Nos. **3002** and **3005**).

SUP **4254** **Mob-87**

MOD **4255** **Mob-87** (3) Except as provided for in No. **4376.1**, coast Morse radiotelegraph stations operating in the bands exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz shall not use Type 2 emissions (see No. **4216**).

MOD **4256** **Mob-87** (4) Coast Morse radiotelegraph stations employing single-channel class A1A emissions and operating in the bands exclusively allocated to the maritime mobile service 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
18/19 MHz	15 kW
22 MHz	15 kW
25/26 MHz	15 kW

SUP **4257** **Mob-87**

MOD **4258** **Mob-87** § 24. Nos. **4200**, **4203**, **4204**, **4206** and **4209** and the corresponding columns of Appendix **31** show those parts of the band exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz which are to be used by coast stations and ship stations for Morse radiotelegraphy.

MOD **4259** **Mob-87** § 25. (1) In order to establish communication with a coast station, each ship station shall use an appropriate Morse radiotelegraphy calling frequency in one of the bands listed in No. **4204**.

MOD **4263** **Mob-87** § 28. (1) The calling frequency to be used for Morse radiotelegraphy 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.

SUP **4265** **Mob-87**

MOD **4271** **Mob-87** § 33. In order to reduce interference on Morse radiotelegraphy calling frequencies, a coast station shall take adequate steps to ensure, under normal conditions, the prompt receipt of Morse radiotelegraphy calls (see No. **4755**).

MOD **4272** **Mob-87** § 34. (1) A ship station, after establishing communication on a Morse radiotelegraphy calling frequency (see No. **4259**), shall change to a Morse radiotelegraphy working frequency for the transmission of traffic. The use of frequencies in the Morse radiotelegraphy calling bands for any purpose other than Morse radiotelegraphy calling shall be prohibited.

MOD **4273** **Mob-87** (2) Morse radiotelegraphy working frequencies shall be assigned to ship stations in accordance with the provisions of Nos. **4291** and **4306**.

MOD **4275** **Mob-87** (2) Countries which share a Morse radiotelegraphy channel in one of the bands exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz should give special consideration to the countries among them which have no other Morse radiotelegraphy channel in the same band and should endeavour to use their primary Morse radiotelegraphy channel to the greatest extent possible, in order to permit the latter countries to satisfy their minimum communication requirements.

MOD **4277** **Mob-87** § 36. Each Morse radiotelegraphy calling band between 4 000 kHz and 27 500 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**).

MOD **4278** **Mob-87** § 37. (1) When providing international service as published in the List of Coast Stations, coast stations shall keep watch on the Morse radiotelegraphy common calling channels in each band throughout their hours of service in the bands concerned, and on the appropriate Morse radiotelegraphy group channel or channels during busy periods. The times during which watch will be kept on the Morse radiotelegraphy group channel or channels shall be published for each country in the List of Coast Stations.

MOD **4279** **Mob-87** (2) If necessary, an indication of the Morse radiotelegraphy channels on which watch is kept may be included in the coast station transmissions.

MOD **4280** **Mob-87** § 38. In the bands between 4 000 kHz and 27 500 kHz, the administration to which a ship station is subject shall assign to it at least two Morse radiotelegraphy 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 listed 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.

MOD **4281** **Mob-87** § 39. A ship station should, wherever possible, be assigned additional Morse radiotelegraphy calling frequencies (see No. **4262**).

MOD **4282** **Mob-87** § 40. If it is not intended to maintain watch on all the Morse radiotelegraphy 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 (Rev.Mob-87)**).

MOD **4283** **Mob-87** § 41. Administrations which assign frequencies to their ship stations in two or more Morse radiotelegraphy calling channels within their group shall take the necessary steps to distribute such assignments uniformly throughout the channels taken into use.

MOD **4284** **Mob-87** § 42. In order to ensure an even distribution of Morse radiotelegraphy 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.

MOD **4285** **Mob-87** § 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 Morse radiotelegraphy channels (see Appendix 7).

SUP **4286** **Mob-87**

NOC **4287**

SUP **4288** to **4290** **Mob-87**

MOD **4291** **Mob-87** § 48. In all bands, the working frequencies for ship stations using A1A Morse telegraphy, at speeds not exceeding 40 bauds, are spaced 0.5 kHz apart.

SUP **4292** to **4304** **Mob-87**

NOC **4305**

MOD **4306** **Mob-87** § 56. Each administration shall assign to each ship station under its jurisdiction a sufficient number of Morse radiotelegraphy 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 Morse radiotelegraphy working frequencies should be assigned to each ship. Administrations shall ensure a uniform distribution of assignments throughout the bands.

MOD **4306A** **Mob-87** § 56A. In cases of poor receiving conditions on the Morse radiotelegraphy working frequency stated by the ship station, the coast station may request the ship station to change the transmission on any other Morse radiotelegraphy working frequency, whenever the ship is technically able to do so. Such capability is indicated by the transmission of the code QOO.

MOD **4307** **Mob-87** § 57. For the exclusive purpose of communication by Morse radiotelegraphy with stations of the maritime mobile service, an aircraft station may be assigned one or more Morse radiotelegraphy 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.

MOD **4308** **Mob-87** *g) Abbreviations for the Indication of Morse Radiotelegraphy Working Frequencies*

MOD **4309** **Mob-87** § 58. In the bands between 4 000 kHz and 27 500 kHz the following abbreviations may be used to designate a Morse radiotelegraphy working frequency:

NOC **4310** and **4311**

MOD **4313** **Mob-87** § 59. Frequencies assigned to coast stations for narrow-band direct-printing telegraphy 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.

MOD **4315** **Mob-87** § 60. (1) All ship stations equipped with narrow-band direct-printing apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to send and receive class F1B emissions as specified in No. **4123T**. Additionally, ship stations complying with the provisions of Chapter **N IX** shall be able to receive class F1B emissions on 518 kHz (see No. **4123U**).

SUP **4315A** **Mob-87**

MOD **4319** **Mob-87** (2) Narrow-band direct-printing telegraphy is forbidden in the band 2 170 - 2 194 kHz except as provided for in No. **N 2972.**

MOD **4321** **Mob-87** § 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 as specified in No. **4123Y**. The assignable frequencies are indicated in Appendices **32** and **33**.

SUP **4321A** **Mob-87**

SUP **4315.1** **Mob-87**

ADD **4321B** **Mob-87** § 62B. Coast stations employing class F1B emissions and operating in the bands exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz shall at no time use mean powers 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
18/19 MHz	15 kW
22 MHz	15 kW
25/26 MHz	15 kW

ADD **4321C** **Mob-87** (1) In all bands, the working frequencies for ship stations using narrow-band direct-printing telegraphy at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK, 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 No. **4202**. The frequencies assignable to ship stations which are not paired with those used by coast stations are shown in No. **4203**.

ADD **4321D** **Mob-87** (2) When assigning pairs of frequencies listed in Nos. **4202** and **4207** for narrow-band direct-printing telegraphy, administrations shall apply the procedure described in Resolution **300 (Rev.Mob-87)**.

ADD **4321E** **Mob-87** (3) Each administration shall if necessary, assign to each ship station under its jurisdiction and employing non-paired narrow-band direct-printing telegraphy one or more frequencies reserved for this purpose and shown in No. **4203**.

MOD **4323** **Mob-87** § 63. All ship stations equipped with 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**.

ADD **Mob-87**

Section IIIA. Use of Frequencies for Digital Selective Calling

ADD **4323A** **Mob-87**

A. General

ADD **4323B** **Mob-87** § 63A. The provisions described in this section are applicable to calling and acknowledgement, when digital selective-calling techniques are used, except in cases of distress, urgency and safety, to which the provisions of Chapter **N IX** apply.

ADD **4323C** **Mob-87** § 63B. The characteristics of the digital selective-calling equipment shall be in accordance with the relevant CCIR Recommendations.

ADD **4323D** **Mob-87** § 63C. The frequencies on which coast stations provide services using digital selective calling techniques shall be indicated in the List of Coast Stations, which shall also supply any other useful information concerning such services.

ADD **4323E** **Mob-87**

B. Bands Between 415 kHz and 526.5 kHz

ADD **Mob-87**

B1. Mode of Operation

ADD **4323F** **Mob-87** § 63D. (1) The class of emission to be used for digital selective calling and acknowledgement in the authorized bands between 415 kHz and 526.5 kHz shall be F1B.

ADD **4323G** **Mob-87** (2) When transmitting digital selective calls and acknowledgements in the bands between 415 kHz and 526.5 kHz, coast stations should use the minimum power necessary to cover their service area.

ADD **4323H** **Mob-87** § 63E. Transmissions of digital selective calls and acknowledgements by ship stations shall be limited to a mean power of 400 watts.

ADD **Mob-87** B2. Call and Acknowledgement

ADD **4323I** **Mob-87** § 63F. For call and acknowledgement by digital selective calling techniques, an appropriate channel shall be used.

ADD **4323J** **Mob-87** § 63G. The international digital selective calling frequency 455.5 kHz may be assigned to any coast station. In order to reduce interference on this frequency, it may be used as a general rule by coast stations to call ships of another nationality, or in cases where it is not known on which digital selective calling frequencies within these bands the ship station is maintaining watch.

ADD **4323K** **Mob-87** § 63H. The international digital selective calling frequency 458.5 kHz may be used by any ship station. In order to reduce interference on this frequency, it shall only be used when calling cannot be made on national frequencies assigned to the coast station.

ADD **4323L** **Mob-87** § 63I. The frequency to be used for transmission of an acknowledgement shall normally be the frequency paired with the calling frequency used.

ADD **Mob-87** B3. Watch

ADD **4323M** **Mob-87** § 63J. (1) A coast station providing international public correspondence service using digital selective calling techniques within the bands between 415 kHz and 526.5 kHz should, during its hours of service, maintain automatic digital selective calling watch on appropriate national or international calling frequencies. The hours and frequencies shall be indicated in the List of Coast Stations.

ADD **4323N** **Mob-87** (2) Ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 415 kHz and 526.5 kHz should, when within the coverage area of coast stations providing services using digital selective calling techniques in these bands, maintain an automatic digital selective calling watch on one or more appropriate digital selective calling frequencies within these bands, taking into account the digital selective calling frequencies operated by the coast stations.

ADD **4323O** **Mob-87** *C. Bands Between 1 605 kHz and 4 000 kHz*

ADD **Mob-87** C1. Mode of Operation

ADD **4323P** **Mob-87** § 63K. (1) The class of emission to be used for digital selective calling and acknowledgement in the bands between 1 605 kHz and 4 000 kHz shall be F1B.

ADD **4323Q** **Mob-87** (2) Coast stations should, when transmitting digital selective calls and acknowledgements in the bands between 1 605 kHz and 4 000 kHz, use the minimum power necessary to cover their service area.

ADD **4323R** **Mob-87** (3) In Region 1, transmissions of digital selective calls and acknowledgements by ship stations shall be limited to a mean power of 400 watts.

ADD **Mob-87** C2. Call and Acknowledgement

ADD **4323S** **Mob-87** § 63L. (1) When calling a coast station by digital selective calling techniques, ship stations should use for the call, in order of preference:

ADD **4323T** *a)* a national digital selective calling channel on which the coast station is maintaining watch;
Mob-87

ADD **4323U** *b)* subject to the provisions of No. **4323V**, the international digital selective calling frequency 2 189.5 kHz.
Mob-87

ADD **4323V** (2) The international digital selective calling frequency 2 189.5 kHz may be assigned to any ship station. In order to reduce interference on this frequency, it may be used as a general rule by ship stations to call coast stations of another nationality.
Mob-87

ADD **4323W** (3) A ship station calling another ship station by digital selective calling techniques should use the frequency 2 177 kHz for the call. Acknowledgements of such calls should also be made on this frequency.
Mob-87

ADD **4323X** § 63M. (1) When calling ship stations by digital selective calling techniques, coast stations should use for the call, in the order of preference:
Mob-87

ADD **4323Y** *a)* a national digital selective calling channel on which the coast station is maintaining watch;
Mob-87

ADD **4323Z** *b)* subject to the provisions of No. **4323AA**, the international digital selective calling frequency 2 177 kHz.
Mob-87

ADD **4323AA** (2) The international digital selective calling frequency 2 177 kHz may be assigned to any coast station. In order to reduce interference on this frequency, it may be used as a general rule by coast stations to call ships of another nationality, or in cases where it is not known on which digital selective calling frequencies within the bands between 1 605 kHz and 4 000 kHz the ship station is maintaining watch.
Mob-87

ADD **4323AB** § 63N. The frequency to be used for transmission of an acknowledgement shall normally be the frequency paired with the frequency used for the call received, as indicated in the List of Coast Stations (see also No. **4323D**).
Mob-87

ADD **Mob-87** C3. Watch

ADD **4323AC Mob-87** § 63O. (1) The provisions detailed in this sub-section are applicable to watch-keeping by digital selective calling, except for distress, urgency and safety purposes, to which the provisions of Section III of Article **N 38** apply.

ADD **4323AD Mob-87** (2) A coast station providing international public correspondence service using digital selective calling techniques within the bands between 1 605 kHz and 4 000 kHz should, during its hours of service, maintain automatic digital selective calling watch on appropriate national or international calling frequencies. The hours and frequencies shall be indicated in the List of Coast Stations.

ADD **4323AE Mob-87** (3) Ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 1 605 kHz and 4 000 kHz should, when within the coverage area of coast stations providing services using digital selective calling techniques in these bands, maintain an automatic digital selective calling watch on one or more appropriate digital selective calling frequencies within these bands, taking into account the digital selective calling frequencies operated by the coast stations.

ADD **4323AF Mob-87** *D. Bands Between 4 000 kHz and 27 500 kHz*

ADD **Mob-87** D1. Mode of Operation

ADD **4323AG Mob-87** § 63P. (1) The class of emission to be used for digital selective calling and acknowledgement in the authorized bands between 4 000 kHz and 27 500 kHz shall be F1B.

ADD **4323AH** **Mob-87** (2) When transmitting digital selective calls and acknowledgements in the bands between 4 000 kHz and 27 500 kHz, coast stations shall at no time use a mean power in excess of the following values:

Band	*Maximum mean power*
4 MHz	5 kW
6 MHz	5 kW
8 MHz	10 kW
12 MHz	15 kW
16 MHz	15 kW
18/19 MHz	15 kW
22 MHz	15 kW
25/26 MHz	15 kW

ADD **4323AI** **Mob-87** (3) Transmissions of digital selective calls and acknowledgements by ship stations in the bands between 4 000 kHz and 27 500 kHz shall be limited to a mean power of 1.5 kW.

ADD **Mob-87** D2. Call and Acknowledgement

ADD **4323AJ** **Mob-87** § 63Q. A station calling another station by digital selective calling techniques within the authorized bands between 4 000 kHz and 27 500 kHz should choose an appropriate digital selective calling frequency, taking into account propagation characteristics.

ADD **4323AK** **Mob-87** § 63R. (1) When calling a coast station by digital selective calling techniques on frequencies within the authorized bands between 4 000 kHz and 27 500 kHz, ship stations should use for the call, in order of preference:

ADD **4323AL** **Mob-87** *a)* a national digital selective calling channel on which the coast station is maintaining watch;

ADD **4323AM** **Mob-87** *b)* subject to the provisions of No. **4323AN**, one of the international digital selective calling frequencies indicated in No. **4683**.

ADD **4323AN** **Mob-87** (2) The international digital selective calling frequencies indicated in No. **4683** may be used by any ship station. In order to reduce interference on these frequencies, they shall only be used when calling cannot be made on nationally assigned frequencies.

ADD **4323AO** **Mob-87** §63S. (1) When calling ship stations by digital selective calling techniques on frequencies within the bands between 4 000 kHz and 27 500 kHz coast stations should use for the call, in order of preference:

ADD **4323AP** **Mob-87** *a)* a national digital selective calling channel on which the coast station is maintaining watch;

ADD **4323AQ** **Mob-87** *b)* subject to the provisions of No. **4323AR**, one of the international digital selective calling frequencies indicated in No. **4684**.

ADD **4323AR** **Mob-87** (2) The international digital selective calling frequencies indicated in 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 in cases where it is not known on which digital selective calling frequencies within the bands concerned the ship station is maintaining watch.

ADD **Mob-87**

D3. Watch

ADD **4323AS** **Mob-87** § 63T. (1) The provisions detailed in this sub-section are applicable to watch-keeping by digital selective calling, except for distress, urgency and safety purposes, to which the provisions of Section III of Article **N 38** apply.

ADD **4323AT** **Mob-87** (2) A coast station providing international public correspondence service using digital selective calling techniques within the bands between 4 000 kHz and 27 500 kHz should, during its hours of service, maintain automatic digital selective calling watch on the appropriate digital selective calling frequencies as indicated in the List of Coast Stations.

ADD **4323AU** **Mob-87** (3) Ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 4 000 kHz and 27 500 kHz should maintain automatic digital selective calling watch on appropriate digital selective calling frequencies within these bands, taking into account propagation characteristics and the calling frequencies for coast stations providing service using digital selective calling techniques.

ADD **4323AV** **Mob-87** *E. Bands Between 156 MHz and 174 MHz*

ADD **Mob-87** E1. Mode of Operation

ADD **4323AW** **Mob-87** § 63U. The class of emission to be used for digital selective calling and acknowledgement in the authorized bands between 156 MHz and 174 MHz shall be G2B.

ADD **Mob-87** E2. Call and Acknowledgement

ADD **4323AX** **Mob-87** § 63V. (1) The frequency 156.525 MHz is an international frequency in the maritime mobile service used for distress, urgency, safety and calling by digital selective-calling techniques (see Nos. **N 3037**, **N 3203**, **N 3226** and **4686** to **4687K**).

ADD **4323AY** **Mob-87** (2) Calling by digital selective calling techniques within the authorized bands between 156 MHz and 174 MHz, from ship to coast station, from coast station to ship and from ship to ship should, as a general rule, be made on the digital selective calling frequency 156.525 MHz.

ADD **Mob-87** E3. Watch

ADD **4323AZ** **Mob-87** § 63W. Information concerning watch-keeping by automatic digital selective calling on the frequency 156.525 MHz by coast stations shall be given in the List of Coast Stations (see also No. **N 3075**).

ADD **4323BA** **Mob-87** § 63X. Ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 156 MHz and 174 MHz should, while at sea, maintain an automatic digital selective calling watch on the frequency 156.525 MHz (see also No. **N 3079**).

ADD **Mob-87** **Section IIIB. Use of Frequencies for Wide-Band Telegraphy, Facsimile, Special Transmission Systems and Oceanographic Data Transmissions**

ADD **4323BB** **Mob-87** *A. Wide-Band Telegraphy, Facsimile and Special Transmission Systems*

ADD **4323BC** **Mob-87** A1. Bands Between 1 605 kHz and 4 000 kHz

ADD **4323BD** **Mob-87** § 63Y. 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. **4323BJ** apply.

ADD **4323BE** **Mob-87** A2. Bands Between 4 000 kHz and 27 500 kHz

ADD **4323BF** **Mob-87** § 63Z. 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 assignable frequencies are shown in No. **4200**.

ADD **4323BG** **Mob-87** § 63AA. (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 shown in No. **4200**. The total number of series assigned to each ship station shall be determined by traffic requirements.

ADD **4323BH** **Mob-87** (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.

ADD **4323BI** **Mob-87** (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 No. **4200**. Nevertheless administrations shall take into account, as far as possible, the provisions of No. **4200**, concerning channelling and the 4 kHz spacing.

ADD **4323BJ** **Mob-87** § 63AB. 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 No. **4200**. However, the use of A1A Morse telegraphy and telephony is excluded except for circuit alignment purposes.

ADD **4323BK** **Mob-87** § 63AC. Coast radiotelegraph stations employing multichannel telegraph emissions and operating in the bands allocated exclusively to the maritime mobile service 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.

ADD **4323BL** **Mob-87** *B. Oceanographic Data Transmission Systems*

ADD **4323BM** **Mob-87** § 63AD. In all bands, the assignable frequencies for oceanographic data transmissions are spaced 0.3 kHz apart. The assignable frequencies are shown in No. **4201**.

ADD **4323BN** **Mob-87** § 63AE. The frequency bands for oceanographic data transmission systems (see No. **4201**) may also be used by buoy stations for oceanographic data transmission and by stations interrogating these buoys.

ADD **4326A** **Mob-87** § 65A. However, coast stations in automatic service in the UHF band may emit marking signals. The emission power of the signals shall however be limited to the minimum value necessary for effective operation of the signalling. Such emissions shall not cause harmful interference to the maritime mobile service in other countries.

MOD **4328** **Mob-87** § 67. Single-sideband apparatus in radiotelephone stations of the maritime mobile service operating in the bands allocated to this service between 1 605 kHz and 4 000 kHz and in the bands allocated exclusively to this service between 4 000 kHz and 27 500 kHz shall satisfy the technical and operational conditions specified in Appendix **17**.

SUP **4329** **Mob-87**

SUP **4330** **Mob-87**

SUP **4332** to **4334** **Mob-87**

MOD **4335** **Mob-87** § 70A. (1A) Unless otherwise specified in the present Regulations (see Nos. **2973**, **3004**, **4127**, **4342**, **4343** and **4354**) the class of emission to be used in the bands between 1 605 kHz and 4 000 kHz shall be J3E.

SUP **4336** and **4337** **Mob-87**

MOD **4343** **Mob-87** § 71. (1) The frequency 2 182 kHz [1] is an international distress frequency for radiotelephony (see No. **2973** for details of its 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 J3E or H3E (see No. **4127**) except for such apparatus as is referred to in No. **4130**.

MOD **4348** **Mob-87** § 72. To facilitate use of the frequency 2 182 kHz for distress purposes, all transmissions on 2 182 kHz shall be kept to a minimum.

SUP **4349** **Mob-87**

MOD **4359** **Mob-87** *a)* the following ship-to-shore working frequency, if required by their service:

MOD **4360** **Mob-87** – carrier frequency 2 045 kHz (assigned frequency 2 046.4 kHz) for class J3E emissions;

MOD **4343.1** **Mob-87** [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 call those coast stations for safety purposes using class H3E or J3E emissions.

MOD **4362** **Mob-87** *b)* the following intership frequency, if required by their service:

MOD **4363** **Mob-87** – carrier frequency 2 048 kHz (assigned frequency 2 049.4 kHz) for class J3E emissions;

MOD **4365** **Mob-87** (2) This frequency may be used as an additional ship-to-shore frequency.

MOD **4366** **Mob-87** (3) This frequency shall not be used for working between stations of the same nationality.

MOD **4367** **Mob-87** § 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:

ADD **4367A** **Mob-87** – where mutually agreed by the administrations concerned; or

ADD **4367B** **Mob-87** – where the facility is open to ships of all nationalities by virtue of a note against each of the frequencies concerned in the List of Coast Stations.

ADD **4368A** **Mob-87** § 78A. The following ship-to-shore frequencies:

– carrier frequency 2 051 kHz (assigned frequency 2 052.4 kHz),

– carrier frequency 2 054 kHz (assigned frequency 2 055.4 kHz), and

– carrier frequency 2 057 kHz (assigned frequency 2 058.4 kHz),

may be assigned to coast stations as receiving frequencies.

MOD **4370** **Mob-87**

C. Bands Between 4 000 kHz and 27 500 kHz

MOD **4371** **Mob-87** § 80. (1) The class of emission to be used for radiotelephony in the bands between 4 000 kHz and 27 500 kHz shall be J3E.

MOD **4373** **Mob-87** (3) Coast radiotelephone stations employing class J3E emissions in the bands between 4 000 and 27 500 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.

MOD **4374** **Mob-87** (4) Ship radiotelephone stations employing class J3E emissions in the bands between 4 000 kHz and 27 500 kHz shall at no time use a peak envelope power in excess of 1.5 kW per channel.

MOD **4375** **Mob-87** § 81. (1) Ship stations may use the following carrier frequencies for calling in radiotelephony:

4 125 kHz [1, 2, 3]
6 215 kHz [2, 3]
8 255 kHz
12 290 kHz [3]
16 420 kHz [3]
18 795 kHz
22 060 kHz
25 097 kHz

MOD **4375.2** **Mob-87** [2] The carrier frequencies 4 125 kHz and 6 215 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 that 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**).

MOD **4375.3** **Mob-87** [3] The carrier frequencies 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 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.

MOD **4376** **Mob-87** (2) Coast stations may use the following carrier frequencies for calling in radiotelephony [1]:

4 417 kHz [2]
6 516 kHz [2]
8 779 kHz
13 137 kHz
17 302 kHz
19 770 kHz
22 756 kHz
26 172 kHz

SUP **4377** **Mob-87**

MOD **4379** **Mob-87** § 84. (1) Before transmitting on the carrier frequencies 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz or 16 420 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**).

MOD **4384** **Mob-87** (4) The technical characteristics of transmitters used for radiotelephony in the bands between 4 000 kHz and 27 500 kHz are specified in Appendix **17**.

MOD **4386** **Mob-87** § 86. (1) The frequency 156.8 MHz is the international frequency for distress traffic and for calling by radiotelephony when using frequencies in the authorized bands between 156 MHz and 174 MHz (see Nos. **2994** and **N 3041** 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**).

MOD **4376.2** **Mob-87** [2] The carrier frequencies 4 417 kHz and 6 516 kHz are also authorized for common use by coast and ship stations for single-sideband radiotelephony on a simplex basis, provided that the peak envelope power of such stations does not exceed 1 kW. The use of 6 516 kHz for this purpose should be limited to daytime operation (see also No. **4375.1**).

MOD **4390** (3) The frequency 156.8 MHz may be used by ship stations
Mob-87 and coast stations for selective calling as defined in Appendix **39**.

MOD **4393** (6) All emissions in the band 156.7625 - 156.8375 MHz cap-
Mob-87 able of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden.

MOD **4394** (7) To facilitate the reception of distress calls and distress
Mob-87 traffic, all transmissions on 156.8 MHz shall be kept to a minimum and shall not exceed one minute.

MOD **4405** (2) The method of working (single-frequency or two-fre-
Mob-87 quency) specified in Appendix **18** for each channel should be used in the international services.

MOD **4409** (2) In the band 156 - 174 MHz administrations shall, where
Mob-87 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.

MOD **4413** (6) Channels are designated by numbers in the Table of
Mob-87 Transmitting Frequencies given in Appendix **18**.

MOD **4415** (2) The use of channels for maritime mobile purposes other
Mob-87 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.

ARTICLE 62

Selective Calling Procedure in the Maritime Mobile Service

NOC **4675** and **4676**

MOD **4677** **Mob-87** *a)* Nos. **4767** and **4769** when using Morse radiotelegraphy;

NOC **4678** and **4679**

MOD **4679A** **Mob-87** § 4A. Selective calling may be carried out on the following calling frequencies:

500 kHz
2 170.5 kHz
4 125 kHz
4 417 kHz
6 516 kHz
8 779 kHz
13 137 kHz
17 302 kHz
19 770 kHz
22 756 kHz
26 172 kHz
156.8 MHz [1]

SUP **4679B** and **4679C** **Mob-87**

SUP **Mob-87** [1] For the band 1 605 - 1 625 kHz, see Nos. **480** et **481**.

NOC

Section III. Digital Selective Calling System

ADD **4680A** **Mob-87**

A. General

MOD **4681** **Mob-87** § 6. The technical characteristics of equipment used for digital selective calling shall be in conformity with the relevant CCIR Recommendations.

MOD **4681A** **Mob-87** § 6A. The frequencies used for distress and safety purposes using digital selective calling are as follows (see also Article **38**):

2 187.5 kHz
4 207.5 kHz
6 312 kHz
8 414.5 kHz
12 577 kHz
16 804.5 kHz
156.525 MHz [1]

SUP **4681A.1** **Mob-87**

ADD **4681A.2** **Mob-87** [1] The frequency 156.525 MHz may also be used for digital selective calling purposes other than distress and safety.

MOD **4682** **Mob-87** § 7. The frequencies assignable on an international basis to ship and coast stations for digital selective calling, for purposes other than distress and safety, are as follows:

MOD **4683** **Mob-87** *a) Ship stations* **

458.5			kHz
2 177 [1]	2 189.5		kHz
4 208	4 208.5	4 209	kHz
6 312.5	6 313	6 313.5	kHz
8 415	8 415.5	8 416	kHz
12 577.5	12 578	12 578.5	kHz
16 805	16 805.5	16 806	kHz
18 898.5	18 899	18 899.5	kHz
22 374.5	22 375	22 375.5	kHz
25 208.5	25 209	25 209.5	kHz
		156.525	MHz [2]

MOD **4684** **Mob-87** *b) Coast stations* **

455.5			kHz
2 177			kHz
4 219.5	4 220	4 220.5	kHz
6 331	6 331.5	6 332	kHz
8 436.5	8 437	8 437.5	kHz
12 657	12 657.5	12 658	kHz
16 903	16 903.5	16 904	kHz
19 703.5	19 704	19 704.5	kHz
22 444	22 444.5	22 445	kHz
26 121	26 121.5	26 122	kHz
		156.525	MHz [2]

ADD **Mob-87** ** The following paired frequencies (for ship/coast stations) 4 208/4 219.5 kHz, 6 312.5/6 331 kHz, 8 415/8 436.5 kHz, 12 577.5/12 657 kHz, 16 805/16 903 kHz, 18 898.5/19 703.5 kHz, 22 374.5/22 444 kHz and 25 208.5/26 121 kHz are the first choice international frequencies for digital selective calling.

ADD **4683.1** **Mob-87** [1] The frequency 2 177 kHz is available to ship stations for intership calling only.

ADD **4683.2** **4684.1** **Mob-87** [2] The frequency 156.525 MHz is also used for distress and safety purposes (see No. **4681A.2**).

MOD **4685** **Mob-87** 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)
4 000	- 27 500	kHz	
156	- 174	MHz	

ADD **4686** **Mob-87** *B. Method of Calling*

ADD **4686A** **Mob-87** § 9. (1) The procedures set out in this section are applicable to the use of digital selective calling techniques, except in cases of distress, urgency or safety, to which the provisions of Chapter **N IX** are applicable.

ADD **4686B** **Mob-87** (2) The call shall contain information indicating the station or stations to which the call is directed, and the identification of the calling station.

ADD **4686C** **Mob-87** (3) The call should also contain information indicating the type of communication to be set up and may include supplementary information such as a proposed working frequency or channel; this information shall always be included in calls from coast stations, which shall have priority for that purpose.

ADD **4686D** **Mob-87** (4) The technical format of the call sequence shall be in conformity with the relevant CCIR Recommendations.

ADD **4686E** **Mob-87** (5) The call shall be transmitted once on a single appropriate calling channel or frequency only. Only in exceptional circumstances may a call be transmitted simultaneously on more than one frequency.

ADD **4686F** **Mob-87** (6) When calling ship stations, coast stations may transmit the call sequence twice at the same calling frequency, whatever it may be, with an interval of at least 45 seconds between the two calls, provided that they receive no acknowledgement within that interval.

ADD **4686G** **Mob-87** (7) When calling on nationally assigned frequencies, coast stations may transmit a call attempt consisting of up to five calls at the same frequency.

ADD **4686H** **Mob-87** (8) If the station called does not acknowledge the call, the call may be transmitted again on the same or another calling frequency after a period of at least five minutes (five seconds in automated VHF or UHF systems) and should then normally not be repeated until after a further interval of 15 minutes.

ADD **4686I** **Mob-87** (9) When initiating a call to a coast station, a ship station should preferably use the coast station's nationally assigned calling channels, for which purpose it shall send a single calling sequence on the selected frequency.

ADD **4687** **Mob-87**

C. Acknowledgement of Calls

ADD **Mob-87**

C1. Content of acknowledgements and transmission procedure

ADD **4687A** **Mob-87** § 10. (1) The reply to a digital selective call requesting an acknowledgement shall be made by transmitting an appropriate acknowledgement using digital selective calling techniques.

ADD **4687B** **Mob-87** (2) Transmission of the calling signal shall cease as soon as an acknowledgement is received.

ADD **4687C** **Mob-87** (3) Acknowledgements may be manual or automatic. When an acknowledgement can be transmitted automatically, it shall be in conformity with the relevant CCIR Recommendations.

ADD **4687D** **Mob-87** (4) Acknowledgements shall normally be transmitted on the frequency paired with the frequency of the received call. If the same call is received on several calling channels, the most appropriate shall be chosen to transmit the acknowledgement.

ADD **4687E** **Mob-87** (5) The technical format of the acknowledgement sequence shall be in conformity with the relevant CCIR Recommendations.

ADD **4687F** **Mob-87** (6) If the call includes a proposal for a working channel or frequency which can be used immediately by the station called, the latter should transmit an acknowledgement indicating this possibility.

ADD **4687G** **Mob-87** (7) If, in the above case, the station called is unable immediately to use the working frequency or channel proposed in the received call, it should indicate this in its acknowledgement, which may also include supplementary information in that respect.

ADD **4687H** **Mob-87** (8) Coast stations unable to comply immediately on a proposed working frequency or channel may include a proposal of an alternative working frequency or channel in the acknowledgement specified in No. **4687G**.

ADD **4687I** **Mob-87** (9) If no working frequency or channel was proposed in the call, the station called should include a proposal for a working frequency or channel in its acknowledgement of the call.

ADD **Mob-87**

C2. Mode of transmission of acknowledgements

ADD **4687J** **Mob-87**

§ 11. (1) Acknowledgements may be initiated either manually or automatically. Where the transmission of acknowledgement is automatic, this should be in conformity with the relevant CCIR Recommendations.

ADD **4687K** **Mob-87**

(2) If the ship station is unable to acknowledge a received call within a time limit of five minutes, the ship station's reply to the call should be made by transmitting a call in accordance with the provisions of Nos. **4686** to **4686I** to the calling station. Where automated or semi-automated systems are used, a time limit in accordance with the relevant Recommendation of the CCIR should apply.

ADD **4688** **Mob-87**

D. Preparation for Exchange of Traffic

ADD **4688A** **Mob-87**

§ 12. (1) The procedures prescribed in this sub-section are applicable for manual operation. Where automated or semi-automated digital selective calling VHF or UHF systems are used, these should operate in conformity with relevant CCIR Recommendations.

ADD **4688B** **Mob-87**

(2) After having transmitted an acknowledgement indicating that it can use the proposed working frequency or channel, the station called transfers to the working frequency or channel and prepares to receive the traffic.

ADD **4688C** **Mob-87**

(3) The calling station shall prepare to transmit traffic on the working channel or frequency it has proposed.

ADD **4688D** **Mob-87**

(4) The calling station and the called station then exchange traffic on the appropriate working frequency or channel.

ADD **4688E** **Mob-87**

(5) If it is unable to use the working frequency or channel proposed in an acknowledgement transmitted by the coast station, the ship station should then transmit a new call in accordance with the provisions of Nos. **4686H** and **4686I**, indicating that it is unable to comply.

ADD **4688F** **Mob-87** (6) The coast station shall then transmit an acknowledgement indicating an alternative working frequency or channel.

ADD **4688G** **Mob-87** (7) On reception of the acknowledgement, the operator of the ship station shall then apply the provisions of Nos. **4688C** or **4688E**, as appropriate.

ADD **4688H** **Mob-87** (8) For communication between a coast station and a ship station, the coast station shall finally decide the working frequency or channel to be used.

(MOD) **4689** to **4709** NOT allocated.

ARTICLE 63

MOD **Mob-87**

General Morse Radiotelegraph Procedure in the Maritime Mobile Service

MOD **4713** **Mob-87** § 4. (1) Before transmitting, a station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress; if such interference is likely, the station shall await an appropriate break in the communications in progress.

MOD **Mob-87**

Section III. Calls by Morse Radiotelegraphy

SUP **4719** **Mob-87**

SUP **4746** **Mob-87**

ARTICLE 64

General Procedures for Narrow-Band Direct-Printing Telegraphy in the Maritime Mobile Service [1]

ADD **4842A** **Mob-87** § 2A. Before transmitting, a station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress; if such interference is likely, the station shall await an appropriate break in the communications in progress. This obligation does not apply to stations where unattended operation is possible through automatic means (see No. **3863**).

SUP **4843** **Mob-87**

MOD **4851** **Mob-87** § 7. (1) The operator of the ship station establishes communication with the coast station by A1A Morse telegraphy, telephony or by other means using normal calling procedures. The operator then requests direct-printing communication, exchanges information regarding the frequencies to be used and, when applicable, gives the ship station the direct-printing selective call number assigned in accordance with Appendix **38**, or the ship station identity assigned in accordance with Appendix **43**.

MOD **4853** **Mob-87** § 8. (1) Alternatively the operator of the ship station, using the direct-printing equipment, calls the coast station on a predetermined coast station receive frequency using the identification of the coast station assigned in accordance with Appendix **38**, or the coast station identity assigned in accordance with Appendix **43**.

MOD **4859** **Mob-87** § 10. (1) The operator of the calling ship station establishes communication with the called ship station by A1A Morse telegraphy, telephony, or by other means, using normal calling procedures. The operator then requests direct-printing communication, exchanges information regarding the frequencies to be used and, when applicable, gives the direct-printing selective call number of the calling ship station assigned in accordance with Appendix **38**, or the ship station identity assigned in accordance with Appendix **43**.

MOD **4862** **Mob-87** § 11. (1) The ship station calls the coast station on a predetermined coast station receive frequency, using the direct-printing equipment and the identification signal of the coast station assigned in accordance with Appendix **38**, or the coast station identity assigned in accordance with Appendix **43**.

MOD **4865** **Mob-87** § 12. (1) The coast station calls the ship station on a predetermined coast station transmit frequency, using the direct-printing equipment and the ship station direct-printing selective call number assigned in accordance with Appendix **38**, or the ship station identity assigned in accordance with Appendix **43**.

MOD **4873** **Mob-87** § 15. In the ship-to-shore direction, the message format should conform to the operational procedures specified in the relevant CCIR Recommendations.

SUP **4874** and **4875** **Mob-87**

ARTICLE 65

General Radiotelephone Procedure in the Maritime Mobile Service

MOD **4904** **Mob-87** § 2. (1) The service of ship radiotelephone stations shall be performed or controlled by an operator satisfying the conditions specified in Article **55**.

MOD **4908** **Mob-87** (2) The use of devices for continuous or repetitive calling or identification in a manually operated radiotelephony service is not permitted.

MOD **4910** **Mob-87** (4) A station shall not emit any carrier wave between calls. However, stations in an automatically operated radiotelephone system may emit marking signals under the conditions provided for in No. **4326A**.

SUP **4921** **Mob-87**

MOD **Mob-87**

Section IV. Method of Calling, Reply to Calls and Signals Preparatory to Traffic when Using Calling Methods Other than Digital Selective Calling

MOD **4951** **Mob-87** When the coast station is fitted with equipment for selective calling in accordance with Section II of Article **62**, and the ship station is fitted with equipment for receiving such selective calls, the coast station shall call the ship by transmitting the appropriate code signals. The ship station shall call the coast station by speech in the manner given in No. **4947** (see also Section II of Article **62**).

ADD **4960A** **Mob-87** *d)* in Region 2 except for Greenland, the carrier frequency 2 191 kHz as a supplementary calling frequency in those areas of heavy usage of 2 182 kHz.

MOD **4968** B2 Bands Between 4 000 kHz and
Mob-87 27 500 kHz

MOD **4970** (2) A coast station calling a ship station by radiotelephony
Mob-87 shall use one of the calling frequencies mentioned in No. **4376**, one of its working frequencies shown in the List of Coast Stations, or the carrier frequency 4 125 kHz or 6 215 kHz, in accordance with the provisions of Nos. **4375.2** and **4375.3.**

MOD **4986** (2) When a ship station is called by selective calling in
Mob-87 accordance with Section II of Article **62**, it shall reply on a frequency on which the coast station keeps watch.

MOD **4994** D2 Bands Between 4 000 kHz and
Mob-87 27 500 kHz

MOD **4998** (4) When a station is called on the carrier frequency
Mob-87 6 215 kHz it should reply on the same frequency unless another frequency is indicated for that purpose by the calling station.

MOD **5002** (2) When a coast station open to public correspondence
Mob-87 calls a ship either by speech or by selective calling in accordance with Section II of Article **62**, 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.

MOD **5006** E2. Bands Between 4 000 kHz
Mob-87 and 27 500 kHz

MOD **5060** (2) Any signals sent for testing shall be kept to a minimum,
Mob-87 particularly on the frequencies identified in Articles **38** and **N 38** for the maritime mobile and maritime mobile-satellite service for distress and safety purposes.

SUP **5061**
Mob-87

ADD **Mob-87**

Section VIII. Calling, Acknowledgement of Calls, and Subsequent Exchange of Traffic when Using Digital Selective Calling Techniques

ADD **5062** **Mob-87**

A. Method of Calling and Frequencies to be used for Calling

ADD **5063** **Mob-87** § 37. (1) Calling by digital selective calling techniques shall be carried out in accordance with the provisions of Nos. **4686A** to **4686H**.

ADD **5064** **Mob-87** (2) An appropriate digital selective calling channel chosen in accordance with the provisions of Nos. **4323S** to **4323AB** or Nos. **4323AJ** to **4323AR**, as appropriate, shall be used for the call.

ADD **5065** **Mob-87**

B. Acknowledgement of Calls and Agreement on the Frequency to be Used for Traffic

ADD **5066** **Mob-87** § 38. (1) Acknowledgement of a received digital selective call and the exchange of information concerning the frequency to be used for traffic should be carried out in accordance with the provisions of Nos. **4687A** to **4688H**

ADD **5067** **Mob-87** (2) When agreement regarding the working frequency or channel to be used for the exchange of traffic has been reached in accordance with the provisions of Nos. **4687A** to **4688H**, the two stations then transfer to the working frequency or channel agreed for the exchange of traffic.

ADD **5068** **Mob-87**

C. Forwarding of Traffic and Control of Working

ADD **5069** **Mob-87** § 39. The forwarding of traffic and the control of working shall be carried out in accordance with the provisions of Nos. **5028** to **5054**, No. **5056** and No. **5057**.

(MOD) **5070** to **5084** NOT allocated.

ARTICLE 66

MOD **Mob-87**

Charging and Accounting for Maritime Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service [1, 2], except for Distress and Safety Communications

MOD **5086** **Mob-87** § 2. Charges for maritime radiocommunications from ship to shore shall, in principle, and subject to national law and practice, be collected from the maritime mobile station licensee:

SUP **5092** and **5093** **Mob-87**

MOD **5095** **Mob-87** § 8. However, any accounting authority shall have the right to question the contents of an account for a period of six months after dispatch of the account, even if the account has been paid.

(MOD) **5096** **Mob-87** § 9. All maritime radiocommunications accounts shall be paid by the accounting authority without delay and in any case within six months after dispatch of the account.

(MOD) **5097** **Mob-87** § 10. If international maritime radiocommunications accounts remain unpaid after six months, the administration that has licensed the mobile station shall, on request, take all possible steps, within the limits of applicable national law, to ensure settlement of the accounts of the licensee.

NOC **A.66** [1] See Resolution **201**.

ADD **A.66** **Mob-87** [2] See Resolution **334 (Mob-87)**.

MOD **5098** **Mob-87** § 11. In the case referred to in No. **5095**, if the period between the date of dispatch and receipt exceeds 21 days, the receiving accounting authority should at once notify the originating administration (or recognized private operating agency) that queries and payment may be delayed. The delay shall, however, not exceed three calendar months in respect of payment, or five calendar months in respect of queries, both periods commencing from the date of receipt of the account.

MOD **5099** **Mob-87** § 12. The debtor accounting authority may refuse the settlement and adjustment of accounts presented more than eighteen months after the date of the traffic to which the accounts relate.

SUP **Mob-87**

Section IV. Payment of Balances

SUP **5100** **Mob-87**

SUP **Mob-87**

Section V. Archives

SUP **5101** and **5102** **Mob-87**

CHAPTER XII

MOD Mob-87

Land Mobile Service and Land Mobile-Satellite Service

ARTICLE 67

MOD Mob-87

Conditions to Be Observed by Stations in the Land Mobile and Land Mobile-Satellite Services

ADD Mob-87

Section I. Land Mobile Stations in the Land Mobile Service

SUP 5132 and 5133 Mob-87

ADD Mob-87

Section II. Land Mobile Earth Stations in the Land Mobile-Satellite Service

ADD 5134 Mob-87 § 6. Land mobile earth stations in the land mobile-satellite service shall be established so as to conform to the provisions of Chapter III as regards frequencies and classes of emission.

ADD 5135 Mob-87 § 7. The frequencies of emissions of these earth stations shall be checked as often as practicable by the inspection service to which these stations are subject.

ADD 5136 Mob-87 § 8. The energy radiated by receiving apparatus shall be reduced to the lowest practicable value and shall not cause harmful interference to other stations.

ADD 5137 Mob-87 § 9. Administrations shall take all practicable steps necessary to ensure that the operation of any electrical apparatus installed in these 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.

ADD **5138 Mob-87** § 10. In exceptional cases, land mobile earth stations in the land mobile-satellite service may communicate with stations in the maritime mobile-satellite and aeronautical mobile-satellite services. Such operations shall comply with the relevant provisions of the Radio Regulations relating to those services and shall be subject to agreement among the administrations concerned, taking due account of No. **953**.

(MOD) **5139** to **5158** NOT allocated.

ARTICLE 69

Entry into Force of the Radio Regulations

ADD **5194 Mob-87** § 8. (1) The partial revision of the Radio Regulations contained in the Final Acts of WARC Mob-87 shall enter into force on 3 October 1989 at 0001 hours UTC, except for:

a) those provisions relating to the frequency band 4 000 - 27 500 kHz which are contained in:

- Articles **8** and **12**,
- Articles **60**, **62** and **65**, and
- Appendices **16**, **25** and **31** to **35**; and

b) Chapters **IX** and **N IX** of the Radio Regulations,

which shall enter into force on 1 July 1991 at 0001 hours UTC.

ADD **5195 Mob-87** (2) The use of the frequency bands as listed in Nos. **532** and **544** of the Radio Regulations by the maritime mobile service shall commence on 1 July 1991 at 0001 hours UTC under the conditions specified in Resolution **325 (Mob-87)**.

MOD

APPENDIX 7

Mob-87

Table of Transmitter Frequency Tolerances

(See Article **5**)

	Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Tolerances applicable until 1 January 1990 to transmitters installed before 2 January 1985	Tolerances applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1990
MOD	1	2	3
	Band: **9 kHz to 535 kHz**		
	1. *Fixed Stations:*		
	– 9 kHz to 50 kHz	1 000	100
	– 50 kHz to 535 kHz	200	50
	2. *Land Stations:*		
MOD	*a)* Coast Stations:		100 *1) 2)*
MOD	– power 200 W or less	500 *1)*	
MOD	– power above 200 W	200 *1)*	
	b) Aeronautical Stations	100	100
	3. *Mobile Stations:*		
MOD	*a)* Ship Stations	1 000 *3)*	200 *3) 4)*
	b) Ship's Emergency Transmitters	5 000	500 *5)*
	c) Survival Craft Stations	5 000	500
	d) Aircraft Stations	500	100
	4. *Radiodetermination Stations*	100	100
	5. *Broadcasting Stations*	10 Hz	10 Hz

	1	2	3
NOC	*Band:* **535 kHz to 1 606.5 kHz (1 605 kHz in Region 2)**		
	Band: **1 606.5 kHz (1 605 kHz in Region 2) to 4 000 kHz**		
	1. *Fixed Stations:*		
	– power 200 W or less	100	100 *7) 8)*
	– power above 200 W	50	50 *7) 8)*
	2. *Land Stations:*		
MOD	– power 200 W or less	100 *1) 9) 10)*	100 *1) 2) 7) 9) 10)*
MOD	– power above 200 W	50 *1) 9) 10)*	50 *1) 2) 7) 9) 10)*
	3. *Mobile Stations:*		
MOD	*a)* Ship Stations	200 *3) 11)*	40 Hz *3) 4) 12)*
	b) Survival Craft Stations	300	100
	c) Emergency Position-Indicating Radiobeacons	300	100
	d) Aircraft Stations	100 *10)*	100 *10)*
	e) Land Mobile Stations	200	50 *13)*
	4. *Radiodetermination Stations:*		
	– power 200 W or less	100	20 *14)*
	– power above 200 W	50	10 *14)*
	5. *Broadcasting Stations*	20	10 Hz *15)*
	Band: **4 MHz to 29.7 MHz**		
	1. *Fixed Stations:*		
	– power 500 W or less	50	
	– power above 500 W	15	
	a) Single-sideband and independent-sideband emissions:		
	– power 500 W or less		50 Hz
	– power above 500 W		20 Hz

	1	2	3
	b) Class F1B emissions		10 Hz
	c) Other classes of emission:		
	– power 500 W or less		20
	– power above 500 W		10
	2. *Land Stations:*		
MOD	*a)* Coast Stations:		20 Hz *1) 2) 16)*
MOD	– power 500 W or less	50 *1) 9)*	
MOD	– power above 500 W and less than or equal to 5 kW	30 *1) 9)*	
MOD	– power above 5 kW	15 *1) 9)*	
	b) Aeronautical Stations:		
	– power 500 W or less	100 *10)*	100 *10)*
	– power above 500 W	50 *10)*	50 *10)*
	c) Base Stations:		20 *7)*
	– power 500 W or less	100	
	– power above 500 W	50	
	3. *Mobile Stations:*		
	a) Ship Stations:		
	1) Class A1A emissions	50 *17) 18)*	10
MOD	2) Emissions other than Class A1A	50 *3) 11)*	50 Hz *3) 4) 19)*
	b) Survival Craft Stations	200	50
	c) Aircraft Stations	100 *10)*	100 *10)*
	d) Land Mobile Stations	200	40 *20)*

	1	2	3
	4. *Broadcasting Stations*	15	10 Hz *15) 21)*
	5. *Space Stations*		20
	6. *Earth Stations*		20
NOC	*Band:* **29.7 MHz to 100 MHz**		
	Band: **100 MHz to 470 MHz**		
	1. *Fixed Stations:*		
	– power 50 W or less	50	20 *26)*
	– power above 50 W	20	10
	2. *Land Stations:*		
MOD	*a)* Coast Stations	10	10
	b) Aeronautical Stations	50	20 *28)*
	c) Base Stations:		
	– power 5 W or less	50	
	– power above 5 W	20	
	– in the band 100-235 MHz		15 *29)*
	– in the band 235-401 MHz		7 *29)*
	– in the band 401-470 MHz		5 *29)*
	3. *Mobile Stations:*		
	a) Ship Stations and Survival Craft Stations:		
MOD	– in the band 156-174 MHz	10	10
	– outside the band 156-174 MHz	50 *30) 31)*	50 *31)*
	b) Aircraft Stations	50	30 *28)*
	c) Land Mobile Stations:		
	– power 5 W or less	50	
	– power above 5 W	20	

	1	2	3
	– in the band 100-235 MHz		15 *29)*
	– in the band 235-401 MHz		7 *29) 32)*
	– in the band 401-470 MHz		5 *29) 32)*
	4. *Radiodetermination Stations*	50 *30) 33)*	50 *33)*
	5. *Broadcasting Stations (other than television)*	20	2 000 Hz *23)*
	6. *Broadcasting Stations (television, sound and vision):*		500 Hz *24) 25)*
	– power 100 W or less	100	
	– power above 100 W	1 000 Hz	
	7. *Space Stations*		20
	8. *Earth Stations*		20
NOC	*Band:* **470 MHz to 2 450 MHz**		
NOC	*Band:* **2 450 MHz to 10 500 MHz**		
NOC	*Band:* **10,5 GHz to 40 GHz**		

Notes in the Table of Transmitter Frequency Tolerances

MOD *1)* For coast station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:

- 5 Hz for narrow-band phase-shift keying;
- 15 Hz for frequency-shift keying for transmitters in use or installed before 2 January 1992;
- 10 Hz for frequency-shift keying for transmitters installed after 1 January 1992.

MOD *2)* For coast station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after 1 January 1992 and to all transmitters after the date of full implementation of the GMDSS (see Resolution **331 (Mob-87)**).

MOD *3)* For ship station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:

- 5 Hz for narrow-band phase-shift keying;
- 40 Hz for frequency-shift keying for transmitters in use or installed before 2 January 1992;
- 10 Hz for frequency-shift keying for transmitters installed after 1 January 1992.

MOD *4)* For ship station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after 1 January 1992 and to all transmitters after the date of full implementation of the GMDSS (see Resolution **331 (Mob-87)**).

MOD *7)* For single-sideband radiotelephone transmitters except at coast stations, the tolerance is:

- 50 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers of 200 W or less and 500 W or less, respectively;
- 20 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers above 200 W and 500 W, respectively.

MOD

II) For ship station single-sideband radiotelephone transmitters, the tolerance is:

a) in the band 1 606.5 (1 605 in Region 2) - 4 000 kHz:

- 100 Hz for transmitters installed before 2 January 1982;
- 50 Hz for transmitters installed after 1 January 1982;

b) in the band 4 000 - 27 500 kHz:

- 100 Hz for transmitters installed before 2 January 1978;
- 50 Hz for transmitters installed after 1 January 1978.

MOD

APPENDIX 9

Mob-87

Service Documents

NOC

List IV. List of Coast Stations

MOD

Part IV. Inland telegraph rates and rates for telegrams destined for adjacent countries, etc.

ADD

The Annex containing a List of Coast Stations and Coast Earth Stations participating in the GMDSS (see No. **2202C**) shall be published as shown below:

Part A. Particulars of coast stations participating in MF, HF and VHF watch-keeping using digital selective calling techniques

Name of the coast station	Maritime mobile service identity	*Emission*				*Service*		Geographical coordinates of the transmitting antenna (longitude and latitude in degrees, minutes and seconds)	Remarks
		Frequencies (kHz or MHz)		Class	Power (kW)[3]	Mode of operation [4]	Hours of service (UTC)		
1	2	3a[1]	3b[2]	4	5	6	7	8	9

[1] Transmitting frequencies.

[2] Watch and/or receiving frequencies or channels.

[3] In the case of directive antennas, indicates under "power" the azimuth of the direction or directions of maximum gain, in degrees, clockwise beginning from True North.

[4] Indicate whether radiotelephony and/or a narrow-band direct-printing system is provided.

ADD

Part B. Particulars of coast earth stations

Name of the coast earth station	Ocean region [1]	Service			Geographical coordinates of the transmitting antenna (longitude and latitude in degrees, minutes and seconds)	Remarks
		Nature of service [2]	Hours of service (UTC)	Charges [3]		
1	2	3	4	5	6	7

[1] Indicate the ocean region(s) in which the service is provided.

[2] Indicate whether the station is capable of providing:

a) distress and safety communications, including distress alerting with ship earth stations capable of using direct-printing techniques only;

b) the transmission of maritime safety information.

[3] Indicate the charges, if any, applicable to subsequent distress and safety communications after the initial distress alert.

ADD

Part C. Particulars of coast stations transmitting to ships navigational and meteorological warnings and urgent information by means of narrow-band direct-printing techniques

Name of the coast station	Frequencies (kHz) [1]	Call sign/identification character [2]	Times of transmission	Nature of service [3]	Language used	Power (kW) [4]	Geographical coordinates of the transmitting antenna (longitude and latitude in degrees, minutes and seconds)	Remarks
1	2	3	4	5	6	7	8	9

[1] Indicate on which frequency(ies) information is transmitted.

[2] Indicate the maritime mobile service identity number or the identification number. In the case of the international NAVTEX service, indicate the B1 character.

[3] Indicate which kinds of information (navigational and meteorological warnings, ice reports, etc.) are provided.

[4] In the case of directive antennas, indicate under "power" the azimuth of the direction or directions of maximum gain, in degrees, clockwise beginning from True North.

NOC

List V. List of Ship Stations

MOD

Particulars of Ship Stations and Ship Earth Stations

MOD The information concerning these stations shall be published as shown below:

Name of ship	Call sign	Country	Auxiliary installations	Class of ship	Nature of service	Hours of service	Telegraph transmission frequency bands	Telephone transmission frequency bands	Accounting authority	Remarks
1	2	3	4	5	6	7	8	9	10	11

NOC *Column 1* The stations shall be arranged in alphabetical order of the names of the ships, irrespective of nationality. In the case of duplication of names, the name of the ship shall be followed by the call sign (separated from the name by a fraction bar).

MOD *Column 2* Call sign. This column also contains the maritime mobile service identity or the selective call number or both, where appropriate.

NOC *Column 3* Country having jurisdiction over the station (indicated by the appropriate symbol).

NOC *Column 4* Auxiliary installations, including information concerning:

NOC *a)* number of lifeboats fitted with radio apparatus, and

MOD *b)* optionally, types and number of emergency position-indicating radiobeacons, satellite emergency position-indicating radiobeacons and search and rescue radar transponders, the operating frequency or frequency band being indicated by one of the following letters:

A =	2 182	kHz
B =	121.5	MHz
C =	243	MHz
D =	156.525	MHz
E =	406 - 406.1	MHz
F =	1 645.5 - 1 646.5	MHz
G =	9 200 - 9 500	MHz

A figure following the letter indicates the number of radiobeacons.

MOD *Columns 5 to 7* In the form of service symbols (see Appendix **10**). In addition, the symbols used in Column 5 to designate the class of ship are given in Part I of the List.

MOD *Columns 8 and 9* Indication of the frequency bands and classes of emission by means of the following symbols:

Radiotelegraphy	*Radiotelephony*
S = Frequency bands used in the maritime mobile-satellite service	S = Frequency bands used in the maritime mobile-satellite service
W = 110 - 150 kHz	T = 1 605 - 4 000 kHz
X = 415 - 535 kHz	U = 4 000 - 27 500 kHz
Y = 1 605 - 3 800 kHz	V = 156 - 174 MHz
Z = 4 000 - 27 500 kHz	

These symbols should, where necessary, be followed by references to brief notes and indications of the frequencies for which the transmitters are adjusted, which shall appear at the end of the List.

MOD *Column 10* The accounting authority identification code (AAIC).

MOD *Column 11* When two or more ship stations of the same nationality bear the same name, and no distinguishing particulars are shown in Columns 1, 2 or 5, the name of the licensee or the owner of the ship shall be given in this column.

In addition, if there is no room in the appropriate column, further information relating to Columns 1 to 10 may be given in Column 11 by means of a note reference. This column may comprise several lines.

If narrow-band direct-printing telegraphy is provided, indicate the system employed.

SUP *Column 12*

NOC **List VI. List of Radiodetermination and Special Service Stations**

NOC *Part A. Alphabetical index of stations*

NOC *Part B. Particulars of stations*

NOC 1-11

MOD

12. Fixed earth stations in the maritime radiodetermination-satellite service

Names of the countries notifying the stations in alphabetical order of country symbols.
Names of stations in alphabetical order.

MOD Columns 3a, 3b, 3c

MOD Columns 4a, 4b

MOD Column 7

Name by which station is known	Geographical coordinates (in degrees and minutes) of the transmitter site	Transmission of radiodetermination information			Reception of radio-determination information		Identity of associated space station(s)	Operating administration or company	Remarks
		Frequency (MHz or GHz)	Class of emission, necessary bandwidth and description of transmission	Power (kW)	Frequency (MHz or GHz)	Class of emission, necessary bandwidth and description of transmission			Special methods of modulation, charges, etc. All stations listed provide a maritime radiodetermination-satellite service except where otherwise indicated, in which case a station provides only a radiolocation or radionavigation-satellite service.
1	2	3a	3b	3c	4a	4b	5	6	7

MOD

13. Space stations in the maritime radiodetermination-satellite service

Names of the countries notifying the stations in alphabetical order of country symbols.
Names of stations by alphabetical and/or numerical order of designation of stations.

MOD Columns 2a, 2b, 2c

MOD Columns 3a, 3b

MOD Column 7

Identity of the station	Frequency (MHz or GHz)	Transmission of radiodetermination information to ships			Reception of radio-determination information from ships		Name of locality and country in which the associated fixed earth station(s) is (are) located	Operating administration or company	Remarks
		Class of emission, necessary bandwidth and description of transmission	Power (W)	Frequency (MHz or GHz)	Class of emission, necessary bandwidth and description of transmission	Service area or areas on the Earth			
1	2a	2b	2c	3a	3b	4	5	6	7
									Orbital information, special channelling arrangements, special modulation methods, charges, etc. All stations listed provide a maritime radiodetermination-satellite service except where otherwise, indicated, in which case a station provides only a radiolocation-satellite service or radionavigation-satellite service.

MOD

APPENDIX 10

Mob-87

Service document symbols

ADD	EF	Space station in the radiodetermination-satellite service
ADD	EI	Space station in the mobile-satellite service
ADD	EJ	Space station in the aeronautical mobile-satellite service
MOD	EN	Space station in the radionavigation-satellite service
ADD	EO	Space station in the aeronautical radionavigation-satellite service
ADD	EQ	Space station in the maritime radionavigation-satellite service
ADD	EU	Space station in the land mobile-satellite service
ADD	FD	Aeronautical station in the aeronautical mobile (R) service
ADD	FG	Aeronautical station in the aeronautical mobile (OR) service
ADD	NR	Radionavigation mobile station
ADD	RN	Radionavigation land station
ADD	TB	Aeronautical earth station
MOD	TE	Satellite EPIRB in the mobile-satellite service
MOD	TG	Ship earth station
MOD	TI	Coast earth station
ADD	TJ	Aircraft earth station
MOD	TN	Fixed earth station in the radionavigation-satellite service

ADD	TO	Mobile earth station in the aeronautical radionavigation-satellite service
ADD	TQ	Mobile earth station in the maritime radionavigation-satellite service
ADD	TU	Land mobile earth station
ADD	TX	Fixed earth station in the maritime radionavigation-satellite service
ADD	TY	Base earth station
ADD	TZ	Fixed earth station in the aeronautical radionavigation-satellite service
ADD	UA	Mobile earth station
ADD	UM	Mobile earth station in the radionavigation-satellite service
ADD	VA	Land earth station

MOD

APPENDIX 11

Mob-87

MOD

Documents with Which Stations on Board Ships and Aircraft Shall be Provided

NOC (see Articles **24**, **26**, **44**, **46**, **49**, **55**, **57**, **59** and Appendix **9**)

MOD

Section I. Ship Stations for Which a Morse Radiotelegraph Installation is Required by International Agreement

NOC These stations shall be provided with:

NOC 1. and 2.

MOD 3. a log in which the following are recorded as they occur, together with the time of the occurrence, unless administrations have adopted other arrangements for recording all information which the log should contain:

NOC *a)* to *g)*

NOC 4. to 9.

MOD

Section II. Other Ship Stations with Morse Radiotelegraph Facilities

NOC

Section III. Ship Stations for Which a Radiotelephone Installation Is Required by International Agreement

NOC These stations shall be provided with:

NOC 1. and 2.

MOD 3. a log in which the following are recorded as they occur, together with the time of the occurrence, unless administrations have adopted other arrangements for recording all information which the log should contain:

NOC *a)*

SUP *b)*

NOC *c)* and *d)*

NOC 4. and 5.

ADD

Section VA. Stations on Board Ships for which a GMDSS Installation is Required by International Agreement

These stations shall be provided with:

1. the licence prescribed by Article **24**;

2. the certificates prescribed in Article **56**;

3. a log in which the following are recorded as they occur, together with the time of their occurrence, unless administrations have adopted other arrangements for recording all information which the log should contain;

   a) a summary of communications relating to distress, urgency and safety traffic;

   b) a reference to important service incidents;

   c) if the ship's rules permit, the position of the ship at least once a day;

4. the Alphabetical List of Call Signs and/or Numerical Table of Identities of Stations Used by the Maritime Mobile Service and Maritime Mobile-Satellite Service (Coast, Coast Earth, Ship, Ship

Earth, Radiodetermination and Special Service Stations), Ship and Ship Earth Stations, Maritime Mobile Service Identities and Selective Call Numbers or Signals, and Coast and Coast Earth Stations, Maritime Mobile Service Identities and Identification Numbers or Signals (List VIIA);

5. the annex referred to in No. **2202C** giving the particulars of coast stations and coast earth stations participating in the GMDSS (see also Nos. **N 3075** and **N 3077**); a list of coast stations and coast earth stations with which communications are likely to be established, showing watch-keeping hours, frequencies and charges; and a list of coast stations and coast earth stations providing navigational and meteorological warnings and other urgent information for ships (see Article **26** and Appendix **9**);

6. the List of Ship Stations (the carriage of the supplement is optional);

7. the Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services.

Note – Administrations may, under appropriate circumstances (for example, when ships are sailing only within range of VHF coast stations) exempt ships from the carriage of the documents mentioned in paragraphs 4 to 7 above.

MOD **Section VI. Stations on Board Aircraft**

MOD 2. a log, unless administrations have adopted other arrangements for recording all information which the log should contain;

MOD

APPENDIX 14

Mob-87

Miscellaneous Abbreviations and Signals to be Used for Radiocommunications in the Maritime Mobile service

NOC

Section II. Miscellaneous Abbreviations and Signals

ADD	DSC	Digital selective calling.
ADD	MSI	Maritime safety information.
ADD	NBDP	Narrow-band direct-printing telegraphy.
ADD	RCC	Rescue coordination centre.
ADD	SAR	Search and Rescue.

MOD

APPENDIX 16

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MOD

Channelling of the Maritime Mobile Radiotelephone Bands between 4 000 kHz and 27 500 kHz

(see Article **60**, Section IV)

NOC 1.

(MOD) *Section A* – Table of single-sideband transmitting frequencies (in kHz) for duplex (two-frequency) operation;

(MOD) *Section B* – Table of single-sideband transmitting frequencies (in kHz) for simplex (single-frequency) operation and for intership cross-band (two-frequency) operation;

MOD *Section C-1* – Table of recommended single-sideband transmitting frequencies (in kHz) for ship stations in the band 4 000 - 4 063 kHz shared with the fixed service;

MOD *Section C-2* – Table of recommended single-sideband transmitting frequencies (in kHz) for ship and coast stations in the band 8 100 - 8 195 kHz shared with the fixed service.

NOC 2.

NOC 3.

NOC 4.

MOD 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. 1806 in the 18 MHz band;
– Channel No. 2221 in the 22 MHz band;
– Channel No. 2510 in the 25 MHz band.

The remaining frequencies in Sections A, B, C-1 and C-2 are working frequencies.

MOD 5A. For the use of the carrier frequencies:

4 125 kHz (Channel No. 421)
6 215 kHz (Channel No. 606)
8 291 kHz (Channel No. 833)
12 290 kHz (Channel No. 1221)
16 420 kHz (Channel No. 1621)

in Section A, by coast and ship stations for distress and safety purposes, see Articles **38** and **N 38**.

MOD 6. *a)* Maritime radiotelephone stations using single-sideband emissions in the bands between 4 000 and 27 500 kHz exclusively allocated to the maritime mobile service shall operate only on the carrier frequencies shown in Sections A and B in conformity with the technical characteristics specified in Appendix **17**.

ADD *aa)* Ship stations, when using frequencies for single-sideband radiotelephony from the bands 4 000 - 4 063 kHz and ship and coast stations, when using frequencies for single-sideband radiotelephony in the band 8 100 - 8 195 kHz should operate on the carrier frequencies indicated in Sections C-1 and C-2 respectively. Technical characteristics of the equipment shall be those specified in Appendix **17**.

MOD *b)* Stations employing the single-sideband mode shall use only class J3E emissions.

NOC 7.

ADD 8. For the use and notification of channels Nos. 427, 428, 429, 607, 608, 832, 834, 835, 836, 837, 1233 up to and including 1241, 1642 up to and including 1656, 1801 up to and including 1805, 1807 up to and including 1815, 2241 up to and including 2253 and 2501 up to and including 2509, see Resolution **325 (Mob-87)**.

SECTION A

NOC

Table of Single-Sideband Transmitting Frequencies
For Duplex (Two-Frequency) Operation (in kHz)

MOD (Table)

AP16

Channel No.	4 MHz Band				Channel No.	6 MHz Band				Channel No.	8 MHz Band				Channel No.	12 MHz Band				Channel No.	16 MHz Band				Channel No.	18/19 MHz Band				Channel No.	22 MHz Band				Channel No.	25/26 MHz Band			
	Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations			Coast stations		Ship stations	
	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency		Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
401	4 357	4 358,4	4 065	4 066,4	601	6 501	6 502,4	6 200	6 201,4	801	8 719	8 720,4	8 195	8 196,4	1201	13 077	13 078,4	12 230	12 231,4	1601	17 242	17 243,4	16 360	16 361,4	1801	19 755	19 756,4	18 780	18 781,4	2201	22 696	22 697,4	22 000	22 001,4	2501	26 145	26 146,4	25 070	25 071,4
402	4 360	4 361,4	4 068	4 069,4	602	6 504	6 505,4	6 203	6 204,4	802	8 722	8 723,4	8 198	8 199,4	1202	13 080	13 081,4	12 233	12 234,4	1602	17 245	17 246,4	16 363	16 364,4	1802	19 758	19 759,4	18 783	18 784,4	2202	22 699	22 700,4	22 003	22 004,4	2502	26 148	26 149,4	25 073	25 074,4
403	4 363	4 364,4	4 071	4 072,4	603	6 507	6 508,4	6 206	6 207,4	803	8 725	8 726,4	8 201	8 202,4	1203	13 083	13 084,4	12 236	12 237,4	1603	17 248	17 249,4	16 366	16 367,4	1803	19 761	19 762,4	18 786	18 787,4	2203	22 702	22 703,4	22 006	22 007,4	2503	26 151	26 152,4	25 076	25 077,4
404	4 366	4 367,4	4 074	4 075,4	604	6 510	6 511,4	6 209	6 210,4	804	8 728	8 729,4	8 204	8 205,4	1204	13 086	13 087,4	12 239	12 240,4	1604	17 251	17 252,4	16 369	16 370,4	1804	19 764	19 765,4	18 789	18 790,4	2204	22 705	22 706,4	22 009	22 010,4	2504	26 154	26 155,4	25 079	25 080,4
405	4 369	4 370,4	4 077	4 078,4	605	6 513	6 514,4	6 212	6 213,4	805	8 731	8 732,4	8 207	8 208,4	1205	13 089	13 090,4	12 242	12 243,4	1605	17 254	17 255,4	16 372	16 373,4	1805	19 767	19 768,4	18 792	18 793,4	2205	22 708	22 709,4	22 012	22 013,4	2505	26 157	26 158,4	25 082	25 083,4
406	4 372	4 373,4	4 080	4 081,4	606	6 516*	6 517,4*	6 215* [5]	6 216,4*	806	8 734	8 735,4	8 210	8 211,4	1206	13 092	13 093,4	12 245	12 246,4	1606	17 527	17 258,4	16 375	16 376,4	1806	19 770*	19 771,4*	18 795*	18 796,4*	2206	22 711	22 712,4	22 015	22 016,4	2506	26 160	26 161,4	25 085	25 086,4
407	4 375	4 376,4	4 083	4 084,4	607 [2]	6 519	6 520,4	6 218	6 219,4	807	8 737	8 738,4	8 213	8 214,4	1207	13 095	13 096,4	12 248	12 249,4	1607	17 260	17 261,4	16 378	16 379,4	1807	19 773	19 774,4	18 798	18 798,4	2207	22 714	22 715,4	22 018	22 019,4	2507	26 163	26 164,4	25 088	25 089,4
408	4 378	4 379,4	4 086	4 087,4	608 [2]	6 522	6 523,4	6 221	6 222,4	808	8 740	8 741,4	8 216	8 217,4	1208	13 098	13 099,4	12 251	12 252,4	1608	17 263	17 264,4	16 381	16 382,4	1808	19 776	19 777,4	18 801	18 802,4	2208	22 717	22 718,4	22 021	22 022,4	2508	26 166	26 167,4	25 091	25 092,4
409	4 381	4 382,4	4 089	4 090,4						809	8 743	8 744,4	8 219	8 220,4	1209	13 101	13 102,4	12 254	12 255,4	1609	17 266	17 267,4	16 384	16 385,4	1809	19 779	19 780,4	18 804	18 805,4	2209	22 720	22 721,4	22 024	22 025,4	2509	26 169	26 170,4	25 094	25 095,4
410	4 384	4 385,4	4 092	4 093,4						810	8 746	8 747,4	8 222	8 223,4	1210	13 104	13 105,4	12 257	12 258,4	1610	17 269	17 270,4	16 387	16 388,4	1810	19 782	19 783,4	18 807	18 808,4	2210	22 723	22 724,4	22 027	22 028,4	2510	26 172*	26 173,4*	25 097*	25 098,4*
411	4 387	4 388,4	4 095	4 096,4						811	8 749	8 750,4	8 225	8 226,4	1211	13 107	13 108,4	12 260	12 261,4	1611	17 272	17 273,4	16 390	16 391,4	1811	19 785	19 786,4	18 810	18 811,4	2211	22 726	22 727,4	22 030	22 031,4					
412	4 390	4 391,4	4 098	4 099,4						812	8 752	8 753,4	8 228	8 229,4	1212	13 110	13 111,4	12 263	12 264,4	1612	17 275	17 276,4	16 393	16 394,4	1812	19 788	19 789,4	18 813	18 814,4	2212	22 729	22 730,4	22 033	22 034,4					
413	4 393	4 394,4	4 101	4 102,4						813	8 755	8 756,4	8 231	8 232,4	1213	13 113	13 114,4	12 266	12 267,4	1613	17 278	17 279,4	16 396	16 397,4	1813	19 791	19 792,4	18 816	18 817,4	2213	22 732	22 733,4	22 036	22 037,4					
414	4 396	4 397,4	4 104	4 105,4						814	8 758	8 759,4	8 234	8 235,4	1214	13 116	13 117,4	12 269	12 270,4	1614	17 281	17 282,4	16 399	16 400,4	1814	19 794	19 795,4	18 819	18 820,4	2214	22 735	22 736,4	22 039	22 040,4					
415	4 399	4 400,4	4 107							815	8 761	8 762,4	8 237	8 238,4	1215	13 119	13 120,4	12 272	12 273,4	1615	17 284	17 285,4	16 402	16 403,4	1815	19 797	19 798,4	18 822	18 823,4	2215	22 738	22 739,4	22 042	22 043,4					
416	4 402	4 403,4	4 110	4 111,4						816	8 764	8 765,4	8 240	8 241,4	1216	13 122	13 123,4	12 275	12 276,4	1616	17 287	17 288,4	16 405	16 406,4						2216	22 741	22 742,4	22 045	22 046,4					
417	4 405	4 406,4	4 113	4 114,4						817	8 767	8 768,4	8 243	8 244,4	1217	13 125	13 126,4	12 278	12 279,4	1617	17 290	17 291,4	16 408	16 409,4						2217	22 744	22 745,4	22 048	22 049,4					
418	4 408	4 409,4	4 116	4 117,4						818	8 770	8 771,4	8 246	8 247,4	1218	13 128	13 129,4	12 281	12 282,4	1618	17 293	17 294,4	16 411	16 412,4						2218	22 747	22 748,4	22 051	22 052,4					
419	4 411	4 412,4	4 119	4 120,4						819	8 773	8 774,4	8 249	8 250,4	1219	13 131	13 132,4	12 284	12 285,4	1619	17 296	17 297,4	16 414	16 415,4						2219	22 750	22 751,4	22 054	22 055,4					
420	4 414	4 415,4	4 122	4 123,4						820	8 776	8 777,4	8 252	8 253,4	1220	13 134	13 135,4	12 287	12 288,4	1620	17 299	17 300,4	16 417	16 418,4						2220	22 753	22 754,4	22 057	22 058,4					
421	4 417*	4 418,4*	4 125* [4]	4 126,4*						821	8 779*	8 780,4*	8 255*	8 256,4*	1221	13 137*	13 138,4*	12 290* [1]	12 291,4*	1621	17 302*	17 303,4*	16 420* [5]	16 421,4*						2221	22 756*	22 757,4*	22 060*	22 061,4*					
422	4 420	4 421,4	4 128	4 129,4						822	8 782	8 783,4	8 258	8 259,4	1222	13 140	13 141,4	12 293	12 294,4	1622	17 305	17 306,4	16 423	16 424,4						2222	22 759	22 760,4	22 063	22 064,4					
423	4 423	4 424,4	4 131	4 132,4						823	8 785	8 786,4	8 261	8 262,4	1223	13 143	13 144,4	12 296	12 297,4	1623	17 308	17 309,4	16 426	16 427,4						2223	22 762	22 763,4	22 066	22 067,4					
424	4 426	4 427,4	4 134	4 135,4						824	8 788	8 789,4	8 264	8 265,4	1224	13 146	13 147,4	12 299	12 300,4	1624	17 311	17 312,4	16 429	16 430,4						2224	22 765	22 766,4	22 069	22 070,4					
425	4 429	4 430,4	4 137	4 138,4						825	8 791	8 792,4	8 267	8 268,4	1225	13 149	13 150,4	12 302	12 303,4	1625	17 314	17 315,4	16 432	16 433,4						2225	22 768	22 769,4	22 072	22 073,4					
426	4 432	4 433,4	4 140	4 141,4						826	8 794	8 795,4	8 270	8 271,4	1226	13 152	13 153,4	12 305	12 306,4	1626	17 317	17 318,4	16 435	16 436,4						2226	22 771	22 772,4	22 075	22 076,4					
427 [3]	4 435	4 436,4	4 143	4 144,4						827	8 797	8 798,4	8 273	8 274,4	1227	13 155	13 156,4	12 308	12 309,4	1627	17 320	17 321,4	16 438	16 439,4						2227	22 774	22 775,4	22 078	22 079,4					
428 [1,3]	4 351	4 352,4	–	–						828	8 800	8 801,4	8 276	8 277,4	1228	13 158	13 159,4	12 311	12 312,4	1628	17 323	17 324,4	16 441	16 442,4						2228	22 777	22 778,4	22 081	22 082,4					
429 [1,3]	4 354	4 355,4	–	–						829	8 803	8 804,4	8 279	8 280,4	1229	13 161	13 162,4	12 314	12 315,4	1629	17 326	17 327,4	16 444	16 445,4						2229	22 780	22 781,4	22 084	22 085,4					
										830	8 806	8 807,4	8 282	8 283,4	1230	13 164	13 165,4	12 317	12 318,4	1630	17 329	17 330,4	16 447	16 448,4						2230	22 783	22 784,4	22 087	22 088,4					
										831	8 809	8 810,4	8 285	8 286,4	1231	13 167	13 168,4	12 320	12 321,4	1631	17 332	17 333,4	16 450	16 451,4						2231	22 786	22 787,4	22 090	22 091,4					
										832 [2]	8 812	8 813,4	8 288	8 289,4	1232	13 170	13 171,4	12 323	12 324,4	1632	17 335	17 336,4	16 453	16 454,4						2232	22 789	22 790,4	22 093	22 094,4					
										833	8 291 [7]	8 292,4	8 291 [7]	8 292,4	1233	13 173	13 174,4	12 326	12 327,4	1633	17 338	17 339,4	16 456	16 457,4						2233	22 792	22 793,4	22 096	22 097,4					
										834 [2,4]	8 707	8 708,4	–	–	1234	13 176	13 177,4	12 329	12 330,4	1634	17 341	17 342,4	16 459	16 460,4						2234	22 795	22 796,4	22 099	22 100,4					
										835 [2,4]	8 710	8 711,4	–	–	1235	13 179	13 180,4	12 332	12 333,4	1635	17 344	17 345,4	16 462	16 463,4						2235	22 798	22 799,4	22 102	22 103,4					
										836 [2,4]	8 713	8 714,4	–	–	1236	13 182	13 183,4	12 335	12 336,4	1636	17 347	17 348,4	16 465	16 466,4						2236	22 801	22 802,4	22 105	22 106,4					
										837 [2,4]	8 716	8 717,4	–	–	1237	13 185	13 186,4	12 338	12 339,4	1637	17 350	17 351,4	16 468	16 469,4						2237	22 804	22 805,4	22 108	22 109,4					
															1238	13 188	13 189,4	12 341	12 342,4	1638	17 353	17 354,4	16 471	16 472,4						2238	22 807	22 808,4	22 111	22 112,4					
															1239	13 191	13 192,4	12 344	12 345,4	1639	17 356	17 357,4	16 474	16 475,4						2239	22 810	22 811,4	22 114	22 115,4					
															1240	13 194	13 195,4	12 347	12 348,4	1640	17 359	17 360,4	16 477	16 478,4						2240	22 813	22 814,4	22 117	22 118,4					
															1241	13 197	13 198,4	12 350	12 351,4	1641	17 362	17 363,4	16 480	16 481,4						2241	22 816	22 817,4	22 120	22 121,4					
																				1642	17 365	17 366,4	16 483	16 484,4						2242	22 819	22 820,4	22 123	22 124,4					
																				1643	17 368	17 369,4	16 486	16 487,4						2243	22 822	22 823,4	22 126	22 127,4					
																				1644	17 371	17 372,4	16 489	16 490,4						2244	22 825	22 826,4	22 129	22 130,4					
																				1645	17 374	17 375,4	16 492	16 493,4						2245	22 828	22 829,4	22 132	22 133,4					
																				1646	17 377	17 378,4	16 495	16 496,4						2246	22 831	22 832,4	22 135	22 136,4					
																				1647	17 380	17 381,4	16 498	16 499,4						2247	22 834	22 835,4	22 138	22 139,4					
																				1648	17 383	17 384,4	16 501	16 502,4						2248	22 837	22 838,4	22 141	22 142,4					
																				1649	17 386	17 387,4	16 504	16 505,4						2249	22 840	22 841,4	22 144	22 145,4					
																				1650	17 389	17 390,4	16 507	16 508,4						2250	22 843	22 844,4	22 147	22 148,4					
																				1651	17 392	17 393,4	16 510	16 511,4						2251	22 846	22 847,4	22 150	22 151,4					
																				1652	17 395	17 396,4	16 513	16 514,4						2252	22 849	22 850,4	22 153	22 154,4					
																				1653	17 398	17 399,4	16 516	16 517,4						2253	22 852	22 853,4	22 156	22 157,4					
																				1654	17 401	17 402,4	16 519	16 520,4														
																				1655	17 404	17 405,4	16 522	16 523,4														
																				1656	17 407	17 408,4	16 525	16 526,4														

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NOTES TO THE TABLE

NOC * The frequencies followed by an asterisk are Calling frequencies (see Nos. **4375** and **4376**).

SUP [1] and [2].

ADD [1] These coast station frequencies may be paired with a ship station frequency from the table of simplex frequencies for ship and coast stations (see Section B) or with a frequency from the band 4 000 - 4 063 kHz (see Section C-1) to be selected by the administration concerned.

ADD [2] For the use and notification of these frequencies, see Resolution **325 (Mob-87)**.

ADD [3] These channels may also be used for simplex (single frequency) operation.

ADD [4] For the conditions of use of the carrier frequency 4 125 kHz, see Nos. **N 2980, N 2981, 2982, 4379** and **4380**.

ADD [5] For the conditions of use of the carrier frequency 6 215 kHz, see Nos. **2986** and **N 2993**.

ADD [6] These coast station frequencies may be paired with a ship station frequency from the table of simplex frequencies for ship and coast stations (see Section B) or with a frequency from the band 8 100 - 8 195 kHz (see Section C-2) to be selected by the administration concerned.

ADD [7] For the conditions of use of the carrier frequency 8 291 kHz, see No. **N 3001**.

ADD [8] For the conditions of use of the carrier frequency 12 290 kHz, see No. **N 3009**.

ADD [9] For the conditions of use of the carrier frequency 16 420 kHz, see No. **N 3017**.

SECTION B

NOC

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)

MOD

4 MHz Band [1]		6 MHz Band		8 MHz Band [2]		12 MHz Band		16 MHz Band		18/19 MHz Band		22 MHz Band		25/26 MHz Band	
Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.	Carrier freq.	Assigned freq.
4 146	4 147.4	6 224	6 225.4	8 294	8 295.4	12 353	12 354.4	16 528	16 529.4	18 825	18 826.4	22 159	22 160.4	25 100	25 101.4
4 149	4 150.4	6 227	6 228.4	8 297	8 298.4	12 356	12 357.4	16 531	16 532.4	18 828	18 829.4	22 162	22 163.4	25 103	25 104.4
		6 230	6 231.4			12 359	12 360.4	16 534	16 535.4	18 831	18 832.4	22 165	22 166.4	25 106	25 107.4
						12 362	12 363.4	16 537	16 538.4	18 834	18 835.4	22 168	22 169.4	25 109	25 110.4
						12 365	12 366.4	16 540	16 541.4	18 837	18 383.4	22 171	22 172.4	25 112	25 113.4
								16 543	16 544.4	18 840	18 841.4	22 174	22 175.4	25 115	25 116.4
								16 546	16 547.4	18 843	18 844.4	22 177	22 178.4	25 118	25 119.4

ADD [1] These frequencies may be used for duplex operation with coast stations operating on Channels 428 and 429 (see Section A).

ADD [2] These frequencies may be used for duplex operation with coast stations operating on Channels 834 up to and including 837 (see Section A).

SECTION C-1

MOD

Table of Recommended Single-Sideband Transmitting Frequencies (in kHz) for Ship Stations in the Band 4 000 - 4 063 kHz Shared with the Fixed Service

MOD

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;
- for duplex operation with Channels Nos. 428 and 429.

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			

NOC * 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

MOD

Table of Recommended 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 7 of this Appendix)

MOD

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;
- for duplex operation with Channel Nos. 834, 835, 836 and 837.

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			

MOD

APPENDIX 17
Mob-87

MOD

Technical Characteristics of Single-Sideband Transmitters Used in the Maritime Mobile Service for Radiotelephony in the Bands Between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and Between 4 000 kHz and 27 500 kHz

(See Article **60**, Section IV)

NOC 1. Carrier power:
SUP *a)*
NOC *b)*

NOC 2. and 3.

MOD 4. The carrier frequencies shall be maintained within the tolerances specified in Appendix **7**.

SUP *a)*
SUP *b)*

NOC 5.

MOD 6. When class H3E 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 tables:

MOD *a)* Transmitters installed before 2 january 1982:

(MOD)

Separation Δ in kHz between the frequency of the unwanted emission[1] and the assigned frequency[4]	Minimum attenuation below peak envelope power
$1.6 < \Delta \leq 4.8$ $4.8 < \Delta \leq 8$ $8 < \Delta$	28 dB 38 dB 43 dB without the unwanted emission power exceeding the power of 50 mW

MOD Transmitters using suppressed carrier emission may, as far as concerns out-of-band emissions[2] and those spurious emissions[3] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions[2], 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[4].

MOD *b)* Transmitters installed after 1 January 1982:

Separation Δ in kHz between the frequency of the unwanted emission[1] and the assigned frequency[4]	Minimum attenuation below peak envelope power
$1.5 < \Delta \leq 4.5$ $4.5 < \Delta \leq 7.5$ $7.5 < \Delta$	31 dB 38 dB 43 dB without the unwanted emission power exceeding 50 mW

MOD Transmitters using suppressed carrier emission may, as far as concerns out-of-band emissions[2] and those spurious emissions[3] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions[2], 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[4].

SUP [1]

(MOD) [1] *Unwanted emission:* see Article **1**, No. **140**.

(MOD) [2] *Out-of-band emission:* see Article **1**, No. **138**.

(MOD) [3] *Spurious emission:* see Article **1**, No. **139**.

ADD [4] The assigned frequency is 1 400 Hz higher than the carrier frequency (see Article **60**, No. **4325**).

MOD

APPENDIX 18
Mob-87

Table of Transmitting Frequencies in the Band 156 - 174 MHz for Stations in the Maritime Mobile Service

MOD (See Nos. **613**, **613A** and **613B** and Articles **59** and **60**)

MOD *Note 1:* For assistance in understanding the Table, see notes *a)* to *q)* below.

MOD *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.

NOC *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		
MOD	70	*p)*	156.525	156.525	Digital selective calling for distress, safety and calling					
	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					
MOD	13	*q)*	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		14		
MOD	75			Guardband 156.7625 – 156.7875 MHz						
	16		156.800	156.800	DISTRESS, SAFETY AND CALLING					
MOD	76			Guardband 156.8125 – 156.8375 MHz						
MOD	17	*j)*	156.850	156.850	12	13		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

MOD *d)* The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may also be used for highspeed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.

MOD *e)* The channels of the present Appendix, preferably two adjacent channels from the series 87, 28, 88, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations.

MOD *g)* The frequency 156.300 MHz (channel 06) (see Nos. **2993, N 3035** and **4154**) may also be used for communication between ship stations and aircraft stations engaged in co-ordinated 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.

SUP *k)*

MOD *n)* These channels (68, 69, 11, 71, 12, 14, 74, 79 and 80) are the preferred channels for the ship movement service. They may, however, be used for the port operations service until required for the ship movement service if this should prove to be necessary in any specific area.

MOD *p)* This channel (70) is to be used exclusively for digital selective calling for distress, safety and calling (see Resolution **323 (Mob-87).**

ADD *q)* Channel 13 is designated for use on a world-wide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port operations services subject to the national regulations of the administrations concerned.

MOD

APPENDIX 19

Mob-87

Technical Characteristics for Transmitters and Receivers Used in the Maritime Mobile Service in the Band 156 - 174 MHz

MOD (see Articles **59** and **60** and Appendix **18**)

NOC 1. Only frequency modulation with a pre-emphasis of 6 dB/octave (phase modulation) shall be used.

NOC 2. The frequency deviation corresponding to 100% modulation shall approach ± 5 kHz as nearly as practicable. In no event shall the frequency deviation exceed ± 5 kHz.

MOD 3. The frequency tolerance for coast and ship stations shall be 10 parts in 10^6.

MOD 4. In transmission on any of the frequencies designated in Appendix **18**, the emission of each station shall be vertically polarized at the source.

NOC 5. The audio-frequency band shall be limited to 3 000 Hz.

MOD 6. It must be possible readily to reduce the mean power of a ship station transmitter to 1 W or less, except for digital selective calling equipment operating on 156.525 MHz (channel 70) in which case the power reduction facility is optional.

ADD 7. Stations using digital selective calling shall have the following capabilities:

a) sensing to determine the presence of a signal on 156.525 MHz (channel 70), and

b) automatic prevention of the transmission of a call, except for distress and safety calls, when the channel is occupied by calls.

ADD 8. The remaining characteristics of transmitters and receivers used for digital selective calling shall comply with the relevant CCIR Recommendations.

MOD

APPENDIX 20

Mob-87

(MOD)

Characteristics of Equipment Used for On-Board Communication in the Bands Between 450 and 470 MHz

(see Nos. **669** and **670**)

(MOD) Renumber existing 9. to 11.

ADD 9. The frequencies specified in No. **669** for on-board communications may be used for single-frequency and two-frequency simplex operation.

ADD 10. For ships using these on-board communication frequencies in survival craft two-way radiotelephone stations, the survival craft equipment shall be capable of transmitting and receiving the frequency 457.525 MHz.

(MOD) 11. If the use of a repeater station is required on board a ship, the following frequency pairs shall be used (see also No. **670**):

457.525 MHz and 467.525 MHz
457.550 MHz and 467.550 MHz
457.575 MHz and 467.575 MHz

MOD

APPENDIX 25

Mob-87

MOD

Frequency Allotment Plan for Coast Radiotelephone Stations Operating in the Exclusive Maritime Mobile Bands Between 4 000 kHz and 27 500 kHz *

(See Nos. **4198** and **4212** of the Radio Regulations and Appendix **16**)

NOC Note *a)*:

MOD Note *b)*: The coast radiotelephone stations operating in the bands allocated exclusively to the maritime mobile service between 4 000 kHz and 27 500 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).

NOC Note *c)*:

NOC * *Note by the General Secretariat.*

Column 1	Column 2	Column 3
Assigned frequency (carrier frequency) (channel number)	Country * or area	Observations

MOD

Column 3
Observations

(MOD) 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 AP25-97 and following.

(The remainder of the appendix remains unchanged)

ADD * In this Appendix, the word "country" is used with the meaning attributed to it in No. **2246** of the Radio Regulations.

MOD

APPENDIX 26

Mob-87

PART IV

(MOD)

Plan for the Allotment of Frequencies for the Aeronautical Mobile (OR) Service in the Bands between 2 505 and 23 350 kHz

1. *(a) Alphabetical list of country designations*

ADD	ALG	Algeria (People's Democratic Republic of)
MOD	D	Germany (Federal Republic of)
ADD	DDR	German Democratic Republic
MOD	F	France (replacing France and Algeria)

(b) Other abbreviations

SUP	(81)	means "East Germany"

2. (OR) FREQUENCY PLAN

MOD	ALG	*replacing* F (Algeria) and F (Oran)
MOD	F	*replacing* F (except Algeria)

ADD ALG On channels allotted to F, *except for:*

5 710.5 kHz
11 218.5 kHz
13 235.5 kHz
15 076.0 kHz

MOD For the following frequencies, *replace* "D(81)" with "DDR":

3 102 kHz
3 109 kHz
3 116 kHz
4 745.5 kHz
6 685 kHz
3 932 kHz
3 939 kHz

MOD CHN *replacing* CHN (7)

MOD MRC *replacing* MRC (6)

MOD

APPENDIX 31
Mob-87

(MOD)

Table of Frequencies to Be Used in the Bands Between 4 000 kHz and 27 500 kHz Allocated Exclusively to the Maritime Mobile Service (kHz)

MOD (Table)

Band MHz	Limits kHz	Frequencies assignable to ship stations for oceanographic data transmission	Limits kHz	Frequencies assignable to ship stations for telephony, duplex operation	Limits kHz	Frequencies assignable to ship and coast stations for telephony, simplex operation	Limits kHz	Frequencies assignable to ship stations for wide-band telegraphy, facsimile and special transmission systems	Limits kHz	Frequencies assignable to ship stations for oceanographic data transmission	Limits kHz	Frequencies (paired) assignable to ship stations for NBDP telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK	Limits kHz	Calling frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits kHz	Frequencies (paired) assignable to ship stations for NBDP telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK	Limits kHz	Working frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits kHz	Calling frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits kHz
		c)		*a) i)*		*a)*				*c)*		*d) j) m)*		*g)*		*d) m)*		*e) f) h)*		*g)*	
4	4 063	**4 063.3** – **4 064.8** 6 f. 0.3 kHz	4 065	**4 066.4** – **4 144.4** 27 f. 3 kHz	4 146	**4 147.4** – **4 150.4** 2 f. 3 kHz	4 152	**4 154** – **4 170** 5 f. 4 kHz	4 172	X	4 172	**4 172.5** – **4 181.5** 18 f. 0,5 kHz	4 181.75		4 186.75	X	4 186.75	**4 187** – **4 202** 31 f. 0,5 kHz	4 202.25		4 202.25
6	6 200	X	6 200	**6 201.4** – **6 222.4** 8 f. 3 kHz	6 224	**6 225.4** – **6 231.4** 3 f. 3 kHz	6 233	**6 235** – **6 259** 7 f. 4 kHz	6 261	**6 261.3** – **6 262.5** 5 f. 0.3 kHz	6 262.75	**6 263** – **6 275.5** 25 f. 0.5 kHz	6 275.75		6 280.75	**6 281** – **6 284.5** 8 f. 0.5 kHz	6 284.75	**6 285** – **6 300** 31 f. 0.5 kHz	6 300.25	X	6 300.25
8	8 195	X	8 195	**8 196.4** – **8 292.4** 33 f. 3 kHz	8 294	**8 295.4** – **8 298.4** 2 f. 3 kHz	8 300	**8 302** – **8 338** 10 f. 4 kHz	8 340	**8 340.3** – **8 341.5** 5 f. 0.3 kHz	8 341.75	X	8 341.75	X	8 341.75	X	8 341.75	**8 342** – **8 365.5** 48 f. 0.5 kHz	8 365.75		8 370.75
12	12 230	X	12 230	**12 231.4** – **12 351.4** 41 f. 3 kHz	12 353	**12 354.4** – **12 366.4** 5 f. 3 kHz	12 368	**12 370** – **12 418** 13 f. 4 kHz	12 420	**12 420.3** – **12 421.5** 5 f. 0.3 kHz	12 421.75	X	12 421.75	X	12 421.75	X	12 421.75	**12 422** – **12 476.5** 110 f. 0.5 kHz	12 476.75	X	12 476.75
16	16 360	X	16 360	**16 361.4** – **16 526.4** 56 f. 3 kHz	16 528	**16 529.4** – **16 547.4** 7 f. 3 kHz	16 549	**16 551** – **16 615** 17 f. 4 kHz	16 617	**16 617.3** – **16 618.5** 5 f. 0.3 kHz	16 618.75	X	16 618.75	X	16 618.75	X	16 618.75	**16 619** – **16 683** 129 f. 0.5 kHz	16 683.25	X	16 683.25
18/19	18 780	X	18 780	**18 781.4** – **18 823.4** 15 f. 3 kHz	18 825	**18 826.4** – **18 844.4** 7 f. 3 kHz	18 846	**18 848** – **18 868** 6 f. 4 kHz	18 870	X	18 870	X	18 870	X	18 870	X	18 870	X	18 870	X	18 870
22	22 000	X	22 000	**22 001.4** – **22 157.4** 53 f. 3 kHz	22 159	**22 160.4** – **22 178.4** 7 f. 3 kHz	22 180	**22 182** – **22 238** 15 f. 4 kHz	22 240	**22 240.3** – **22 241.5** 5 f. 0.3 kHz	22 241.75	X	22 241.75	X	22 241.75	X	22 241.75	**22 242** – **22 279** 75 f. 0.5 kHz	22 279.25		22 284.25
25/26	25 070	X	25 070	**25 071.4** – **25 098.4** 10 f. 3 kHz	25 100	**25 101.4** – **25 119.4** 7 f. 3 kHz	25 121	**25 123** – **25 159** 10 f. 4 kHz	25 161.25	X	25 161.25	X	25 161.25	X	25 161.25	X	25 161.25	**25 161.5** – **25 171** 20 f. 0.5 kHz	25 171.25		25 172.75

f. = fréquences/frequencies/frecuencias

(continued)

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Table of Frequencies to Be Used in the Bands Between 4 000 kHz and 27 500 kHz Allocated Exclusively to the Maritime Mobile Service (kHz)

(concluded)

Bands MHz	Limits kHz	Working frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits kHz	Frequencies (paired) assignable to ship stations for NBDP telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK	Limits kHz	Calling frequencies assignable to ship stations for A1A or A1B Morse telegraphy	Limits kHz	Frequencies (paired) assignable to ship stations for NBDP telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK	Limits kHz	Frequencies (non-paired) assignable to ship stations for NBDP telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK and for A1A or A1B Morse telegraphy (working)	Limits kHz	Frequencies assignable to ship stations for Digital Selective Calling	Limits kHz	Limits kHz	Frequencies (paired) assignable to coast stations for NBDP and data transmission systems, at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK	Limits kHz	Frequencies assignable to coast stations for digital selective calling	Limits kHz	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 kHz	Frequencies assignable to coast stations for telephony, duplex operation	Limits kHz
		e) f)		*d) j) m)*		*g)*		*d) m)*		*b)*		*k) l)*			*d) n) o)*		*l)*					*a)*	
4	4 202.25	X	4 202.25	X	4 202.25	X	4 202.25	X	4 202.25	**4 202.5 – 4 207** 10 f. 0.5kHz	4 207.25	**4 207.5 – 4 209** 4 f. 0.5 kHz	4 209.25	4 209.25	**4 209.5 – 4 219** 20 f. 0.5 kHz	4 219.25	**4 219.5 – 4 220.5** 3 f. 0.5 kHz	4 221		4 351	**4 352.4 – 4 436.4** 29 f. 3 kHz	4 438
6	6 300.25	X	6 300.25	X	6 300.25	X	6 300.25	X	6 300.25	**6 300.5 – 6 311.5** 23 f. 0.5 kHz	6 311.75	**6 312 – 6 313.5** 4 f. 0.5 kHz	6 313.75	6 313.75	**6 314 – 6 330.5** 34 f. 0.5 kHz	6 330.75	**6 331 – 6 332** 3 f. 0.5 kHz	6 332.5		6 501	**6 502.4 – 6 523.4** 8 f. 3 kHz	6 525
8	8 370.75	**8 371 – 8 376** 11 f. 0.5 kHz	8 376.25	**8 376.5 – 8 396** 40 f. 0.5 kHz	8 396.25	X	8 396.25	X	8 396.25	**8 396.5 – 8 414** 36 f. 0.5 kHz	8 414,25	**8 414.5 – 8 416** 4 f. 0.5 kHz	8 416.25	8 416.25	**8 416.5 – 8 436** 40 f. 0.5 kHz	8 436.25	**8 436.5 – 8 437.5** 3 f. 0.5 kHz	8 438		8 707	**8 708.4 – 8 813.4** 36 f. 3 kHz	8 815
12	12 476.75	X	12 476.75	**12 477 – 12 549.5** 146 f. 0.5 kHz	12 549.75		12 554.75	**12 555 – 12 559.5** 10 f. 0.5 kHz	12 559.75	**12 560 – 12 576.5** 34 f. 0.5 kHz	12 576.75	**12 577 – 12 578.5** 4 f. 0.5 kHz	12 578.75	12 578.75	**12 579 – 12 656.5** 156 f. 0.5 kHz	12 656.75	**12 657 – 12 658** 3 f. 0.5 kHz	12 658.5		13 077	**13 078.4 – 13 198.4** 41 f. 3 kHz	13 200
16	16 683.25	X	16 683.25	**16 683.5 – 16 733.5** 101 f. 0.5 kHz	16 733.75		16 738.75	**16 739 –16 784.5** 92 f. 0.5 kHz	16 784.75	**16 785 – 16 804** 39 f. 0.5 kHz	16 804.25	**16 804.5 – 16 806** 4 f. 0.5 kHz	16 806.25	16 806.25	**16 806.5 – 16 902.5** 193 f. 0.5 kHz	16 902.75	**16 903 – 16 904** 3 f. 0.5 kHz	16 904.5		17 242	**17 243.4 – 17 408.4** 56 f. 3 kHz	17 410
18/19	18 870	X	18 870	**18 870.5 – 18 892.5** 45 f. 0.5 kHz	18 892.75	X	18 892.75	X	18 892.75	**18 893 – 18 898** 11 f. 0.5 kHz	18 898.25	**18 898.5 – 18 899.5** 3 f. 0.5 kHz	18 899.75	19 680.25	**19 680.5 – 19 703** 46 f. 0.5 kHz	19 703.25	**19 703.5 – 19 704.5** 3 f. 0.5 kHz	19 705		19 755	**19 756.4 – 19 798.4** 15 f. 3 kHz	19 800
22	22 284.25	X	22 284.25	**22 284.5 – 22 351.5** 135 f. 0.5 kHz	22 351.75	X	22 351.75	X	22 351.75	**22 352 – 22 374** 45 f. 0.5 kHz	22 374.25	**22 374.5 – 22 375.5** 3 f. 0.5 kHz	22 375.75	22 375.75	**22 376 – 22 443.5** 136 f. 0.5 kHz	22 443.75	**22 444 – 22 445** 3 f. 0.5 kHz	22 445.5		22 696	**22 697.4 – 22 853.4** 53 f. 3 kHz	22 855
25/26	25 172.75	X	25 172.75	**25 173 – 25 192.5** 40 f. 0.5 kHz	25 192.75	X	25 192.75	X	25 192.75	**25 193 – 25 208** 31 f. 0.5 kHz	25 208.25	**25 208.5 – 25 209.5** 3 f. 0.5 kHz	25 210	26 100.25	**26 100.5 – 26 120.5** 41 f. 0.5 kHz	26 120.75	**26 121 – 26 122** 3 f. 0.5 kHz	26 122.5		26 145	**26 146.4 – 26 173.4** 10 f. 3 kHz	26 175

f. = fréquences/frequencies/frecuencias

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ADD

NOTES REFERRING TO THE TABLE

NOC *a)* See Appendix **16**.

NOC *b)* See Appendix **33**.

(MOD) *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 (Rev. Mob-87)**.

NOC *d)* See Appendix **32**.

MOD *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 assignable frequencies. Any frequencies so assigned shall be multiples of 100 Hz. Administrations shall ensure a uniform distribution of such assignments within the bands.

NOC *f)* See Appendix **35**.

NOC *g)* See Appendix **34**.

NOC *h)* For the conditions of use of the frequency 8 364 kHz, see No. **2988**.

MOD *i)* For the use of the carrier frequencies 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz and 16 420 kHz in these sub-bands by ship and coast stations for distress and safety purposes, by single-sideband radiotelephony, see Articles **38** and **N 38**.

ADD *j)* For the use of the frequencies 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 kHz in these sub-bands by ship and coast stations for distress and safety purposes, by narrow-band direct-printing telegraphy, see Article **N 38**.

ADD *k)* For the use of the frequencies 4 207.5 kHz, 6 312 kHz, 8 414,5 kHz, 12 577 kHz and 16 804.5 kHz in these sub-bands by ship and coast stations for distress and safety purposes, by digital selective calling, see Article **N 38**.

ADD *l)* The following paired frequencies (for ship/coast stations) 4 208/4 219.5 kHz, 6 312.5/6 331 kHz, 8 415/8 436.5 kHz, 12 577.5/12 657 kHz, 16 805/16 903 kHz, 18 898.5/19 703.5 kHz, 22 374.5/22 444 kHz and 25 208.5/26 121 kHz are the first choice international frequencies for digital selective calling (see Article **62**).

ADD *m)* Frequencies from these frequency bands may also be used for A1A or A1B Morse (working); see Appendix **32**.

ADD *n)* The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the exclusive international frequencies for the transmission of Maritime Safety Information (MSI) (see Articles **N 38** and **N 40** and Resolution **333 (Mob-87)**).

ADD *o)* The frequency 4 209.5 kHz is an exclusive international frequency for the transmission of NAVTEX type information (see Articles **N 38** and **N 40** and Resolutions **329 (Mob-87)** and **332 (Mob-87)**).

MOD

APPENDIX 32
Mob-87

MOD

Channelling of the Maritime Mobile Bands Between 4 000 kHz and 27 500 kHz Used for Narrow-Band Direct-Printing Telegraphy and Data Systems (Paired Frequencies)

MOD

(See Article **60** and Resolution **300 (Rev. Mob-87)**)

(MOD) 1. Each coast station which uses paired frequencies is assigned one or more frequency pairs from the following series; each pair consists of a transmitting and a receiving frequency.

ADD 2. The speed of the narrow-band direct-printing telegraphy and data systems shall not exceed 100 bauds for FSK and 200 bauds for PSK.

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

MOD (table)

Channel No.	4 MHz Band[1]		6 MHz Band[3]		8 MHz Band[4]	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
1	4 210.5	4 172.5	6 314.5	6 263	8 376.5[2]	8 376.5[2]
2	4 211	4 173	6 315	6 263.5	8 417	8 377
3	4 211.5	4 173.5	6 315.5	6 264	8 417.5	8 377.5
4	4 212	4 174	6 316	6 264.5	8 418	8 378
5	4 212.5	4 174.5	6 316.5	6 265	8 418.5	8 378.5
6	4 213	4 175	6 317	6 265.5	8 419	8 379
7	4 213.5	4 175.5	6 317.5	6 266	8 419.5	8 379.5
8	4 214	4 176	6 318	6 266.5	8 420	8 380
9	4 214.5	4 176.5	6 318.5	6 267	8 420.5	8 380.5
10	4 215	4 177	6 319	6 267.5	8 421	8 381
11	4 177.5[2]	4 177.5[2]	6 268[2]	6 268[2]	8 421.5	8 381.5
12	4 215.5	4 178	6 319.5	6 268.5	8 422	8 382
13	4 216	4 178.5	6 320	6 269	8 422.5	8 382.5
14	4 216.5	4 179	6 320.5	6 269.5	8 423	8 383
15	4 217	4 179.5	6 321	6 270	8 423.5	8 383.5
16	4 217.5	4 180	6 321.5	6 270.5	8 424	8 384
17	4 218	4 180.5	6 322	6 271	8 424.5	8 384.5
18	4 218.5	4 181	6 322.5	6 271.5	8 425	8 385
19	4 219	4 181.5	6 323	6 272	8 425.5	8 385.5
20			6 323.5	6 272.5	8 426	8 386
21			6 324	6 273	8 426.5	8 386.5
22			6 324.5	6 273.5	8 427	8 387
23			6 325	6 274	8 427.5	8 387.5
24			6 325.5	6 274.5	8 428	8 388
25			6 326	6 275	8 428.5	8 388.5

ADD [1] Ship stations may use the coast station receiving frequencies for transmitting A1A or A1B Morse telegraphy (working), with the exception of channel No. 11 (see No. **N 2983**).

ADD [2] For the conditions of use of this frequency, see Article **N 38**.

ADD [3] Ship stations may use the coast station receiving frequencies of channels Nos. 25 up to and including 34 for transmitting A1A or A1B Morse telegraphy (working).

ADD [4] Ship stations may use the coast station receiving frequencies of channels Nos. 29 up to and including 40 for transmitting A1A or A1B Morse telegraphy (working).

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	6 MHz Band[3] (cont.)		8 MHz Band[4] (cont.)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
26	6 326.5	6 275.5	8 429	8 389
27	6 327	6 281	8 429.5	8 389.5
28	6 327.5	6 281.5	8 430	8 390
29	6 328	6 282	8 430.5	8 390.5
30	6 328.5	6 282.5	8 431	8 391
31	6 329	6 283	8 431.5	8 391.5
32	6 329.5	6 283.5	8 432	8 392
33	6 330	6 284	8 432.5	8 392.5
34	6 330.5	6 284.5	8 433	8 393
35			8 433.5	8 393.5
36			8 434	8 394
37			8 434.5	8 394.5
38			8 435	8 395
39			8 435.5	8 395.5
40			8 436	8 396

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	12 MHz Band[5]		16 MHz Band[6]		18/19 MHz Band	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
1	12 579.5	12 477	16 807	16 683.5	19 681	18 870.5
2	12 580	12 477.5	16 807.5	16 684	19 681.5	18 871
3	12 580.5	12 478	16 808	16 684.5	19 682	18 871.5
4	12 581	12 478.5	16 808.5	16 685	19 682.5	18 872
5	12 581.5	12 479	16 809	16 685.5	19 683	18 872.5
6	12 582	12 479.5	16 809.5	16 686	19 683.5	18 873
7	12 582.5	12 480	16 810	16 686.5	19 684	18 873.5
8	12 583	12 480.5	16 810.5	16 687	19 684.5	18 874
9	12 583.5	12 481	16 811	16 687.5	19 685	18 874.5
10	12 584	12 481.5	16 811.5	16 688	19 685.5	18 875
11	12 584.5	12 482	16 812	16 688.5	19 686	18 875.5
12	12 585	12 482.5	16 812.5	16 689	19 686.5	18 876
13	12 585.5	12 483	16 813	16 689.5	19 687	18 876.5
14	12 586	12 483.5	16 813.5	16 690	19 687.5	18 877
15	12 586.5	12 484	16 814	16 690.5	19 688	18 877.5
16	12 587	12 484.5	16 814.5	16 691	19 688.5	18 878
17	12 587.5	12 485	16 815	16 691.5	19 689	18 878.5
18	12 588	12 485.5	16 815.5	16 692	19 689.5	18 879
19	12 588.5	12 486	16 816	16 692.5	19 690	18 879.5
20	12 589	12 486.5	16 816.5	16 693	19 690.5	18 880
21	12 589.5	12 487	16 817	16 693.5	19 691	18 880.5
22	12 590	12 487.5	16 817.5	16 694	19 691.5	18 881
23	12 590.5	12 488	16 818	16 694.5	19 692	18 881.5
24	12 591	12 488.5	16 695[2]	16 695[2]	19 692.5	18 882
25	12 591.5	12 489	16 818.5	16 695.5	19 693	18 882.5

ADD [5] Ship stations may use the coast station receiving frequencies of channels Nos. 58 up to including 156 for transmitting A1A or A1B Morse telegraphy (working), with exception of channel No. 87 (see No. **N 3011**).

ADD [6] Ship stations may use the coast station receiving frequencies of channels Nos. 71 up to and including 193 for transmitting A1A or A1B Morse telegraphy (working).

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	12 MHz Band[3] (cont.)		16 MHz Band[4] (cont.)		18/19 MHz Band (end)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
26	12 592	12 489.5	16 819	16 696	19 693.5	18 883
27	12 592.5	12 490	16 819.5	16 696.5	19 694	18 883.5
28	12 593	12 490.5	16 820	16 697	19 694.5	18 884
29	12 593.5	12 491	16 820.5	16 697.5	19 695	18 884.5
30	12 594	12 491.5	16 821	16 698	19 695.5	18 885
31	12 594.5	12 492	16 821.5	16 698.5	19 696	18 885.5
32	12 595	12 492.5	16 822	16 699	19 696.5	18 886
33	12 595.5	12 493	16 822.5	16 699.5	19 697	18 886.5
34	12 596	12 493.5	16 823	16 700	19 697.5	18 887
35	12 596.5	12 494	16 823.5	16 700.5	19 698	18 887.5
36	12 597	12 494.5	16 824	16 701	19 698.5	18 888
37	12 597.5	12 495	16 824.5	16 701.5	19 699	18 888.5
38	12 598	12 495.5	16 825	16 702	19 699.5	18 889
39	12 598.5	12 496	16 825.5	16 702.5	19 700	18 889.5
40	12 599	12 496.5	16 826	16 703	19 700.5	18 890
41	12 599.5	12 497	16 826.5	16 703.5	19 701	18 890.5
42	12 600	12 497.5	16 827	16 704	19 701.5	18 891
43	12 600.5	12 498	16 827.5	16 704.5	19 702	18 891.5
44	12 601	12 498.5	16 828	16 705	19 702.5	18 892
45	12 601.5	12 499	16 828.5	16 705.5	19 703	18 892.5
46	12 602	12 499.5	16 829	16 706		
47	12 602.5	12 500	16 829.5	16 706.5		
48	12 603	12 500.5	16 830	16 707		
49	12 603.5	12 501	16 830.5	16 707.5		
50	12 604	12 501.5	16 831	16 708		
51	12 604.5	12 502	16 831.5	16 708.5		
52	12 605	12 502.5	16 832	16 709		
53	12 605.5	12 503	16 832.5	16 709.5		
54	12 606	12 503.5	16 833	16 710		
55	12 606.5	12 504	16 833.5	16 710.5		
56	12 607	12 504.5	16 834	16 711		
57	12 607.5	12 505	16 834.5	16 711.5		
58	12 608	12 505.5	16 835	16 712		
59	12 608.5	12 506	16 835.5	16 712.5		
60	12 609	12 506.5	16 836	16 713		

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	12 MHz Band[5] (cont.)		16 MHz Band[6] (cont.)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
61	12 609.5	12 507	16 836.5	16 713.5
62	12 610	12 507.5	16 837	16 714
63	12 610.5	12 508	16 837.5	16 714.5
64	12 611	12 508.5	16 838	16 715
65	12 611.5	12 509	16 838.5	16 715.5
66	12 612	12 509.5	16 839	16 716
67	12 612.5	12 510	16 839.5	16 716.5
68	12 613	12 510.5	16 840	16 717
69	12 613.5	12 511	16 840.5	16 717.5
70	12 614	12 511.5	16 841	16 718
71	12 614.5	12 512	16 841.5	16 718.5
72	12 615	12 512.5	16 842	16 719
73	12 615.5	12 513	16 842.5	16 719.5
74	12 616	12 513.5	16 843	16 720
75	12 616.5	12 514	16 843.5	16 720.5
76	12 617	12 514.5	16 844	16 721
77	12 617.5	12 515	16 844.5	16 721.5
78	12 618	12 515.5	16 845	16 722
79	12 618.5	12 516	16 845.5	16 722.5
80	12 619	12 516.5	16 846	16 723
81	12 619.5	12 517	16 846.5	16 723,5
82	12 620	12 517.5	16 847	16 724
83	12 620.5	12 518	16 847.5	16 724.5
84	12 621	12 518.5	16 848	16 725
85	12 621.5	12 519	16 848.5	16 725.5
86	12 622	12 519.5	16 849	16 726
87	12 520[2]	12 520[2]	16 849.5	16 726.5
88	12 622.5	12 520.5	16 850	16 727
89	12 623	12 521	16 850.5	16 727.5
90	12 623.5	12 521.5	16 851	16 728
91	12 624	12 522	16 851.5	16 728.5
92	12 624.5	12 522,5	16 852	16 729
93	12 625	12 523	16 852.5	16 729.5
94	12 625.5	12 523.5	16 853	16 730
95	12 626	12 524	16 853.5	16 730.5

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	12 MHz Band[5] (cont.)		16 MHz Band[6] (cont.)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
96	12 626.5	12 524.5	16 854	16 731
97	12 627	12 525	16 854.5	16 731.5
98	12 627.5	12 525.5	16 855	16 732
99	12 628	12 526	15 855.5	16 732.5
100	12 628.5	12 526.5	16 856	16 733
101	12 629	12 527	16 856.5	16 733.5
102	12 629.5	12 527.5	16 857	16 739
103	12 630	12 528	16 857.5	16 739.5
104	12 630.5	12 528.5	16 858	16 740
105	12 631	12 529	16 858.5	16 740.5
106	12 631.5	12 529.5	16 859	16 741
107	12 632	12 530	16 859.5	16 741.5
108	12 632.5	12 530.5	16 860	16 742
109	12 633	12 531	16 860.5	16 742.5
110	12 633.5	12 531.5	16 861	16 743
111	12 634	12 532	16 861.5	16 743.5
112	12 634.5	12 532.5	16 862	16 744
113	12 635	12 533	16 862.5	16 744.5
114	12 635.5	12 533.5	16 863	16 745
115	12 636	12 534	16 863.5	16 745.5
116	12 636.5	12 534.5	16 864	16 746
117	12 637	12 535	16 864.5	16 746.5
118	12 637.5	12 535.5	16 865	16 747
119	12 638	12 536	16 865.5	16 747.5
120	12 638.5	12 536.5	16 866	16 748
121	12 639	12 537	16 866.5	16 748.5
122	12 639.5	12 537.5	16 867	16 749
123	12 640	12 538	16 867.5	16 749.5
124	12 640.5	12 538.5	16 868	16 750
125	12 641	12 539	16 868.5	16 750.5
126	12 641.5	12 539.5	16 869	16 751
127	12 642	12 540	16 869.5	16 751.5
128	12 642.5	12 540.5	16 870	16 752
129	12 643	12 541	16 870.5	16 752.5
130	12 643.5	12 541.5	16 871	16 753

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	12 MHz Band[5] (end)		16 MHz Band[6] (cont.)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
131	12 644	12 542	16 871.5	16 753.5
132	12 644.5	12 542.5	16 872	16 754
133	12 645	12 543	16 872.5	16 754.5
134	12 645.5	12 543.5	16 873	16 755
135	12 646	12 544	16 873.5	16 755.5
136	12 646.5	12 544.5	16 874	16 756
137	12 647	12 545	16 874.5	16 756.5
138	12 647.5	12 545.5	16 875	16 757
139	12 648	12 546	16 875.5	16 757.5
140	12 648.5	12 546.5	16 876	16 758
141	12 649	12 547	16 876.5	16 758.5
142	12 649.5	12 547.5	16 877	16 759
143	12 650	12 548	16 877.5	16 759.5
144	12 650.5	12 548.5	16 878	16 760
145	12 651	12 549	16 878.5	16 760.5
146	12 651.5	12 549.5	16 879	16 761
147	12 652	12 555	16 879.5	16 761.5
148	12 652.5	12 555.5	16 880	16 762
149	12 653	12 556	16 880.5	16 762.5
150	12 653.5	12 556.5	16 881	16 763
151	12 654	12 557	16 881.5	16 763.5
152	12 654.5	12 557.5	16 882	16 764
153	12 655	12 558	16 882.5	16 764.5
154	12 655.5	12 558.5	16 883	16 765
155	12 656	12 559	16 883.5	16 765.5
156	12 656.5	12 559.5	16 884	16 766
157			16 884.5	16 766.5
158			16 885	16 767
159			16 885.5	16 767.5
160			16 886	16 768
161			16 886.5	16 768.5
162			16 887	16 769
163			16 887.5	16 769.5
164			16 888	16 770
165			16 888.5	16 770.5

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	16 MHz Band[6] (end)	
	TRANSMIT	RECEIVE
166	16 889	16 771
167	16 889.5	16 771.5
168	16 890	16 772
169	16 890.5	16 772.5
170	16 891	16 773
171	16 891.5	16 773.5
172	16 892	16 774
173	16 892.5	16 774.5
174	16 893	16 775
175	16 893.5	16 775.5
176	16 894	16 776
177	16 894.5	16 776.5
178	16 895	16 777
179	16 895.5	16 777.5
180	16 896	16 778
181	16 896.5	16 778.5
182	16 897	16 779
183	16 897.5	16 779.5
184	16 898	16 780
185	16 898.5	16 780.5
186	16 899	16 781
187	16 899.5	16 781.5
188	16 900	16 782
189	16 900.5	16 782.5
190	16 901	16 783
191	16 901.5	16 783.5
192	16 902	16 784
193	16 902.5	16 784.5

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	22 MHz Band[7]		25/26 MHz Band	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
1	22 376.5	22 284.5	26 101	25 173
2	22 377	22 285	26 101.5	25 173.5
3	22 377.5	22 285.5	26 102	25 174
4	22 378	22 286	26 102.5	25 174.5
5	22 378.5	22 286.5	26 103	25 175
6	22 379	22 287	26 103.5	25 175.5
7	22 379.5	22 287.5	26 104	25 176
8	22 380	22 288	26 104.5	25 176.5
9	22 380.5	22 288.5	26 105	25 177
10	22 381	22 289	26 105.5	25 177.5
11	22 381.5	22 289.5	26 106	25 178
12	22 382	22 290	26 106.5	25 178.5
13	22 382.5	22 290.5	26 107	25 179
14	22 383	22 291	26 107.5	25 179.5
15	22 383.5	22 291.5	26 108	25 180
16	22 384	22 292	26 108.5	25 180.5
17	22 384.5	22 292.5	26 109	25 181
18	22 385	22 293	26 109.5	25 181.5
19	22 385.5	22 293.5	26 110	25 182
20	22 386	22 294	26 110.5	25 182.5
21	22 386.5	22 294.5	26 111	25 183
22	22 387	22 295	26 111.5	25 183.5
23	22 387.5	22 295.5	26 112	25 184
24	22 388	22 296	26 112.5	25 184.5
25	22 388.5	22 296.5	26 113	25 185
26	22 389	22 297	26 113.5	25 185.5
27	22 389.5	22 297.5	26 114	25 186
28	22 390	22 298	26 114.5	25 186.5
29	22 390.5	22 298.5	26 115	25 187
30	22 391	22 299	26 115.5	25 187.5

ADD [7] Ship stations may use the coast station receiving frequencies of channels Nos. 68 up to and including 135 for transmitting A1A or A1B Morse telegraphy (working).

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	22 MHz Band[7] (cont.)		25/26 MHz Band (end)	
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
31	22 391.5	22 299.5	26 116	25 188
32	22 392	22 300	26 116.5	25 188.5
33	22 392.5	22 300.5	26 117	25 189
34	22 393	22 301	26 117.5	25 189.5
35	22 393.5	22 301.5	26 118	25 190
36	22 394	22 302	26 118.5	25 190.5
37	22 394.5	22 302.5	26 119	25 191
38	22 395	22 303	26 119.5	25 191.5
39	22 395.5	22 303.5	26 120	25 192
40	22 396	22 304	26 120.5	25 192.5
41	22 396.5	22 304.5		
42	22 397	22 305		
43	22 397.5	22 305.5		
44	22 398	22 306		
45	22 398.5	22 306.5		
46	22 399	22 307		
47	22 399.5	22 307.5		
48	22 400	22 308		
49	22 400.5	22 308.5		
50	22 401	22 309		
51	22 401.5	22 309.5		
52	22 402	22 310		
53	22 402.5	22 310.5		
54	22 403	22 311		
55	22 403.5	22 311.5		
56	22 404	22 312		
57	22 404.5	22 312.5		
58	22 405	22 313		
59	22 405.5	22 313.5		
60	22 406	22 314		
61	22 406.5	22 314.5		
62	22 407	22 315		
63	22 407.5	22 315.5		
64	22 408	22 316		
65	22 408.5	22 316.5		

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	22 MHz Band[7] (cont.)	
	TRANSMIT	RECEIVE
66	22 409	22 317
67	22 409.5	22 317.5
68	22 410	22 318
69	22 410.5	22 318.5
70	22 411	22 319
71	22 411.5	22 319.5
72	22 412	22 320
73	22 412.5	22 320.5
74	22 413	22 321
75	22 413.5	22 321.5
76	22 414	22 322
77	22 414.5	22 322.5
78	22 415	22 323
79	22 415.5	22 323.5
80	22 416	22 324
81	22 416.5	22 324.5
82	22 417	22 325
83	22 417.5	22 325.5
84	22 418	22 326
85	22 418.5	22 326.5
86	22 419	22 327
87	22 419.5	22 327.5
88	22 420	22 328
89	22 420.5	22 328.5
90	22 421	22 329
91	22 421.5	22 329.5
92	22 422	22 330
93	22 422.5	22 330.5
94	22 423	22 331
95	22 423.5	22 331.5
96	22 424	22 332
97	22 424.5	22 332.5
98	22 425	22 333
99	22 425.5	22 333.5
100	22 426	22 334

Table of Frequencies for Two-Frequency Operation by Coast Stations (kHz)

Channel No.	22 MHz Band[7] (end)	
	TRANSMIT	RECEIVE
101	22 426.5	22 334.5
102	22 427	22 335
103	22 427.5	22 335.5
104	22 428	22 336
105	22 428.5	22 336.5
106	22 429	22 337
107	22 429.5	22 337.5
108	22 430	22 338
109	22 430.5	22 338.5
110	22 431	22 339
111	22 431.5	22 339.5
112	22 432	22 340
113	22 432.5	22 340.5
114	22 433	22 341
115	22 433.5	22 341.5
116	22 434	22 342
117	22 434.5	22 342.5
118	22 435	22 343
119	22 435.5	22 343.5
120	22 436	22 344
121	22 436.5	22 344.5
122	22 437	22 345
123	22 437.5	22 345.5
124	22 438	22 346
125	22 438.5	22 346.5
126	22 439	22 347
127	22 439.5	22 347.5
128	22 440	22 348
129	22 440.5	22 348.5
130	22 441	22 349
131	22 441.5	22 349.5
132	22 442	22 350
133	22 442.5	22 350.5
134	22 443	22 351
135	22 443.5	22 351.5

MOD

APPENDIX 33
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(MOD)

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)

MOD

(See Article **60** and Resolution **335 (Mob-87)**)

(MOD) 1. One or more frequencies are assigned to each ship station as transmitting frequencies.

ADD 2. All frequencies in this Appendix may also be used by ship stations for transmitting A1A or A1B Morse telegraphy (working).

ADD 3. All frequencies appearing in this Appendix may be used for NBDP duplex operation.

The corresponding coast station frequencies should be selected by the administration concerned from the sub-bands for coast station wideband telegraphy, A1A or A1B Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems.

ADD 4. The speed of the narrow-band direct-printing telegraphy and data systems shall not exceed 100 bauds for FSK and 200 bauds for PSK.

Table of Ship Station Transmitting Frequencies
(kHz)

MOD (table)

Channel No.	Frequency Bands							
	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	18/19 MHz	22 MHz	25/26 MHz
1	4 202.5	6 300.5	8 396.5	12 560	16 785	18 893	22 352	25 193
2	4 203	6 301	8 397	12 560.5	16 785.5	18 893.5	22 352.5	25 193.5
3	4 203.5	6 301.5	8 397.5	12 561	16 786	18 894	22 353	25 194
4	4 204	6 302	8 398	12 561.5	16 786.5	18 894.5	22 353.5	25 194.5
5	4 204.5	6 302.5	8 398.5	12 562	16 787	18 895	22 354	25 195
6	4 205	6 303	8 399	12 562.5	16 787.5	18 895.5	22 354.5	25 195.5
7	4 205.5	6 303.5	8 399.5	12 563	16 788	18 896	22 355	25 196
8	4 206	6 304	8 400	12 563.5	16 788.5	18 896.5	22 355.5	25 196.5
9	4 206.5	6 304.5	8 400.5	12 564	16 789	18 897	22 356	25 197
10	4 207	6 305	8 401	12 564.5	16 789.5	18 897.5	22 356.5	25 197.5
11		6 305.5	8 401.5	12 565	16 790	18 898	22 357	25 198
12		6 306	8 402	12 565.5	16 790.5		22 357.5	25 198.5
13		6 306.5	8 402.5	12 566	16 791		22 358	25 199
14		6 307	8 403	12 566.5	16 791.5		22 358.5	25 199.5
15		6 307.5	8 403.5	12 567	16 792		22 359	25 200
16		6 308	8 404	12 567.5	16 792.5		22 359.5	25 200.5
17		6 308.5	8 404.5	12 568	16 793		22 360	25 201
18		6 309	8 405	12 568.5	16 793.5		22 360.5	25 201.5
19		6 309.5	8 405.5	12 569	16 794		22 361	25 202
20		6 310	8 406	12 569.5	16 794.5		22 361.5	25 202.5
21		6 310.5	8 406.5	12 570	16 795		22 362	25 203
22		6 311	8 407	12 570.5	16 795.5		22 362.5	25 203.5
23		6 311.5	8 407.5	12 571	16 796		22 363	25 204
24			8 408	12 571.5	16 796.5		22 363.5	25 204.5
25			8 408.5	12 572	16 797		22 364	25 205
26			8 409	12 572.5	16 797.5		22 364.5	25 205.5
27			8 409.5	12 573	16 798		22 365	25 206
28			8 410	12 573.5	16 798.5		22 365.5	25 206.5
29			8 410.5	12 574	16 799		22 366	25 207
30			8 411	12 574.5	16 799.5		22 366.5	25 207.5

Table of Ship Station Transmitting Frequencies (kHz)

MOD (table)

Frequency Band *(end)*								
Channel No.	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	18/19 MHz	22 MHz	25/26 MHz
31			8 411.5	12 575	16 800		22 367	25 208
32			8 412	12 575.5	16 800.5		22 367.5	
33			8 412.5	12 576	16 801		22 368	
34			8 413	12 576.5	16 801.5		22 368.5	
35			8 413.5		16 802		22 369	
36			8 414		16 802.5		22 369.5	
37					16 803		22 370	
38					16 803.5		22 370.5	
39					16 804		22 371	
40							22 371.5	
41							22 372	
42							22 372.5	
43							22 373	
44							22 373.5	
45							22 374	

MOD

APPENDIX 34

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MOD **Table of Calling Frequencies Assignable to Ship Stations for A1A or A1B Morse Telegraphy at Speeds Not Exceeding 40 Bauds***

(See Article **60** and Resolution **312 (Rev. Mob-87)**)

(kHz)

MOD (Table)

Group	Channel series	4 MHz Band	6 MHz Band	8 MHz Band	12 MHz Band	16 MHz Band	22 MHz Band	25/26 MHz Band
I	1 2	4 182 4 182.5	6 277 6 277.5	8 366 8 366.5	12 550 12 550.5	16 734 16 734.5	22 279.5 22 280	Channel A 25 171.5 Groups I and II
Common Channel Common Channel	3 4	4 184 4 184.5	6 276 6 276.5	8 368 8 369	12 552 12 553.5	16 736 16 738	22 280.5 22 281	Common Channel C 25 172
II	5 6	4 183 4 183.5	6 278 6 278.5	8 367 8 367.5	12 551 12 551.5	16 735 16 735.5	22 281.5 22 282	Channel A 25 171.5 Groups I and II
III	7 8	4 185 4 185.5	6 279 6 279.5	8 368.5 8 369.5	12 552.5 12 553	16 736.5 16 737	22 282.5 22 283	Channel B 25 172.5
IV	9 10	4 186 4 186.5	6 280 6 280.5	8 370 8 370.5	12 554 12 554.5	16 737.5 16 738.5	22 283.5 22 284	Groups III and IV

ADD * Channel width in every band: 0.5 kHz

Notes

SUP *a)* and *b)*

ADD 1. Only the common channels in the 4, 6, 8, 12 and 16 MHz for A1A Morse telegraphy are harmonically related.

ADD 2. Administrations should assign the frequencies as they appear in this Appendix only to ship stations equipped with crystal controlled oscillators.

ADD 3. However, administrations may subdivide each appropriate group channel and common channel into specific calling frequencies on every full 100 Hz in the channel and assign these discrete frequencies to ships with synthetized transmitters.

MOD Examples of subdivision of channels (centre frequencies are underlined)

4 181.8	6 276.8	8 365.8	12 549.8	16 733.8	22 279.3	25 171.3
4 181.9	6 276.9	8 365.9	12 549.9	16 733.9	22 279.4	25 171.4
<u>4 182</u>	<u>6 277</u>	<u>8 366</u>	<u>12 550</u>	<u>16 734</u>	<u>22 279.5</u>	<u>25 171.5</u>
4 182.1	6 277.1	8 366.1	12 550.1	16 734.1	22 279.6	25 171.6
4 182.2	6 277.2	8 366.2	12 550.2	16 734.2	22 279.7	25 171.7

ADD 4. Administrations should avoid as far as possible, assigning the two frequencies at ± 100 Hz from the harmonically related common channel.

MOD 5. In the 22 MHz and 25/26 MHz bands the channels are not harmonically related to those in the 4 to 16 MHz bands. However, the principle of subdivision of channels into specific calling frequencies on 100 Hz applies.

MOD

APPENDIX 35

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MOD

Table of Working Frequencies, in kHz, Assignable to Ship Stations for A1A or A1B Morse Telegraphy at Speeds Not Exceeding 40 Bauds

(See also Note *e)* to Appendix **31**)

SUP Note

MOD (Table)

Frequency Bands							
Channel No.	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz	25/26 MHz
1	4 187	6 285	8 342	12 422	16 619	22 242	25 161.5
2	4 187.5	6 285.5	8 342.5	12 422.5	16 619.5	22 242.5	25 162
3	4 188	6 286	8 343	12 423	16 620	22 243	25 162.5
4	4 188.5	6 286.5	8 343.5	12 423.5	16 620.5	22 243.5	25 163
5	4 189	6 287	8 344	12 424	16 621	22 244	25 163.5
6	4 189.5	6 287.5	8 344.5	12 424.5	16 621.5	22 244.5	25 164
7	4 190	6 288	8 345	12 425	16 622	22 245	25 164.5
8	4 190.5	6 288.5	8 345.5	12 425.5	16 622.5	22 245.5	25 165
9	4 191	6 289	8 346	12 426	16 623	22 246	25 165.5
10	4 191.5	6 289.5	8 346.5	12 426.5	16 623.5	22 246.5	25 166
11	4 192	6 290	8 347	12 427	16 624	22 247	25 166.5
12	4 192.5	6 290.5	8 347.5	12 427.5	16 624.5	22 247.5	25 167
13	4 193	6 291	8 348	12 428	16 625	22 248	25 167.5
14	4 193.5	6 291.5	8 348.5	12 428.5	16 625.5	22 248.5	25 168
15	4 194	6 292	8 349	12 429	16 626	22 249	25 168.5
16	4 194.5	6 292.5	8 349.5	12 429.5	16 626.5	22 249.5	25 169
17	4 195	6 293	8 350	12 430	16 627	22 250	25 169.5
18	4 195.5	6 293.5	8 350.5	12 430.5	16 627.5	22 250.5	25 170
19	4 196	6 294	8 351	12 431	16 628	22 251	25 170.5
20	4 196.5	6 294.5	8 351.5	12 431.5	16 628.5	22 251.5	25 171
21	4 197	6 295	8 352	12 432	16 629	22 252	
22	4 197.5	6 295.5	8 352.5	12 432.5	16 629.5	22 252.5	
23	4 198	6 296	8 353	12 433	16 630	22 253	
24	4 198.5	6 296.5	8 353.5	12 433.5	16 630.5	22 253.5	
25	4 199	6 297	8 354	12 434	16 631	22 254	
26	4 199.5	6 297.5	8 354.5	12 434.5	16 631.5	22 254.5	
27	4 200	6 298	8 355	12 435	16 632	22 255	
28	4 200.5	6 298.5	8 355.5	12 435.5	16 632.5	22 255.5	
29	4 201	6 299	8 356	12 436	16 633	22 256	
30	4 201.5	6 299.5	8 356.5	12 436.5	16 633.5	22 256.5	
31	4 202	6 300	8 357	12 437	16 634	22 257	
32			8 357.5	12 437.5	16 634.5	22 257.5	
33			8 358	12 438	16 635	22 258	
34			8 358.5	12 438.5	16 635.5	22 258.5	
35			8 359	12 439	16 636	22 259	
36			8 359.5	12 439.5	16 636.5	22 259.5	
37			8 360	12 440	16 637	22 260	
38			8 360.5	12 440.5	16 637.5	22 260.5	
39			8 361	12 441	16 638	22 261	
40			8 361.5	12 441.5	16 638.5	22 261.5	

MOD (Table)

Frequency Bands							
Channel No.	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz	25/26 MHz
41			8 362	12 442	16 639	22 262	
42			8 362.5	12 442.5	16 639.5	22 262.5	
43			8 363	12 443	16 640	22 263	
44			8 363.5	12 443.5	16 640.5	22 263.5	
45			8 364	12 444	16 641	22 264	
46			8 364.5	12 444.5	16 641.5	22 264.5	
47			8 365	12 445	16 642	22 265	
48			8 365.5	12 445.5	16 642.5	22 265.5	
49			8 371	12 446	16 643	22 266	
50			8 371.5	12 446.5	16 643.5	22 266.5	
51			8 372	12 447	16 644	22 267	
52			8 372.5	12 447.5	16 644.5	22 267.5	
53			8 373	12 448	16 645	22 268	
54			8 373.5	12 448.5	16 645.5	22 268.5	
55			8 374	12 449	16 646	22 269	
56			8 374.5	12 449.5	16 646.5	22 269.5	
57			8 375	12 450	16 647	22 270	
58			8 375.5	12 450.5	16 647.5	22 270.5	
59			8 376	12 451	16 648	22 271	
60				12 451.5	16 648.5	22 271.5	
61				12 452	16 649	22 272	
62				12 452.5	16 649.5	22 272.5	
63				12 453	16 650	22 273	
64				12 453.5	16 650.5	22 273.5	
65				12 454	16 651	22 274	
66				12 454.5	16 651.5	22 274.5	
67				12 455	16 652	22 275	
68				12 455.5	16 652.5	22 275.5	
69				12 456	16 653	22 276	
70				12 456.5	16 653.5	22 276.5	
71				12 457	16 654	22 277	
72				12 457.5	16 654.5	22 277.5	
73				12 458	16 655	22 278	
74				12 458.5	16 655.5	22 278.5	
75				12 459	16 656	22 279	
76				12 459.5	16 656.5		
77				12 460	16 657		
78				12 460.5	16 657.5		
79				12 461	16 658		
80				12 461.5	16 658.5		

MOD (Table)

Frequency Bands							
Channel No.	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz	25/26 MHz
81				12 462	16 659		
82				12 462.5	16 659.5		
83				12 463	16 660		
84				12 463.5	16 660.5		
85				12 464	16 661		
86				12 464.5	16 661.5		
87				12 465	16 662		
88				12 465.5	16 662.5		
89				12 466	16 663		
90				12 466.5	16 663.5		
91				12 467	16 664		
92				12 467.5	16 664.5		
93				12 468	16 665		
94				12 468.5	16 665.5		
95				12 469	16 666		
96				12 469.5	16 666.5		
97				12 470	16 667		
98				12 470.5	16 667.5		
99				12 471	16 668		
100				12 471.5	16 668.5		
101				12 472	16 669		
102				12 472.5	16 669.5		
103				12 473	16 670		
104				12 473.5	16 670.5		
105				12 474	16 671		
106				12 474.5	16 671.5		
107				12 475	16 672		
108				12 475.5	16 672.5		
109				12 476	16 673		
110				12 476.5	16 673.5		
111					16 674		
112					16 674.5		
113					16 675		
114					16 675.5		
115					16 676		
116					16 676.5		
117					16 677		
118					16 677.5		
119					16 678		
120					16 678.5		

MOD (Table)

Frequency Bands							
Channel No.	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz	25/26 MHz
121					16 679		
122					16 679.5		
123					16 680		
124					16 680.5		
125					16 681		
126					16 681.5		
127					16 682		
128					16 682.5		
129					16 683		

MOD

APPENDIX 36

Mob-87

Automatic Receiving Equipment for Radiotelegraph and Radiotelephone Alarm Signals

NOC 1. *a)* to *d)*

MOD *e)* The equipment should, as far as practicable, give warning of any faults that would prevent the apparatus from functioning normally during watch hours.

NOC 2.

MOD

APPENDIX 37A

Mob-87

Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequencies 121.5 MHz and 243 MHz

(see Section I of Article **41**)

NOC Emergency position-indicating radiobeacons operating on the carrier frequencies 121.5 MHz and 243 MHz shall fulfil the following conditions: [1]

(MOD) *a)* emission in normal antenna conditions and positions shall be vertically polarized and shall be essentially omnidirectional in the horizontal plane;

(MOD) *b)* carrier frequencies shall be amplitude-modulated (minimum duty cycle of 33%), with a minimum depth of modulation of 0.85;

NOC *c)*

ADD *d)* the emission should include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, at least 30 per cent of the power should be contained at all times within:

– ± 30 Hz of the carrier frequency on 121.5 MHz,

– ± 60 Hz of the carrier frequency on 243 MHz; [2]

NOC [1]

ADD [2] Early implementation of these characteristics for new equipment is strongly recommended (see also Recommendation **604 (Rev.Mob-87)**).

MOD *e)* the class of emission shall be A3X; however, any type of modulation which satisfies the requirements laid down in *b), c)* and *d)* above may be used, provided it does not impair precise locating of the radiobeacon.

MOD APPENDIX 38

Mob-87

MOD **Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service Using Error Detection and Correction Methods**

(see Articles **59, 60, 63** and **64**)

MOD The equipment for narrow-band direct-printing telegraph systems in the maritime mobile service using error detection and correction methods shall fulfil the following conditions:

(MOD) *a)* the equipment shall accept signals conforming to International Telegraph Alphabet No. 2 at a modulation rate of at least 50 bauds and shall provide similar signals at its output suitable for extension to the public telegraph network;

MOD *b)* the modulation rate over the radio path shall be 100 bauds for frequency shift keying, and 100 or 200 bauds for phase-shift keying;

MOD *c)* the emissions to be used are (see *Note 1*):

– class F1B or J2B with a frequency shift of 170 Hz,

– or class G1B, J2B, G7B or J7B (narrow-band phase-shift keying telegraphy);

MOD *d)* the frequency of the transmitted signal shall be maintained within the tolerances specified in Appendix 7 (see *Note 2* below);

MOD *Note 1:* When frequency shift or phase-shift keying is effected by applying audio signals to the input of a single-sideband transmitter, particular care should be taken to suppress adequately the residual carrier of the single-sideband modulation process. In addition a suitable choice of the centre audio frequency will minimize the possibility of the residual carrier causing interference to nearby channels. For frequency shift keying the CCIR recommends 1 700 Hz as the centre frequency.

MOD *Note 2:* For operational purposes, the associated receiving equipment should conform to the frequency stability of the transmitters. Receiving equipment should also comply with the necessary bandwidth as specified in the relevant CCIR Recommendations.

*SUP *Note 3*

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* *Note by the General Secretariat: Note 3* has been suppressed as a consequence of the modification of *d).*

MOD *e)* for frequency shift keying, the higher of the emitted frequencies shall correspond to "space" and the lower of the emitted frequencies shall correspond to "mark" in accordance with the relevant CCIR Recommendation;

MOD *f)* a 7-unit ARQ system or a 7-unit forward acting, error-correcting and indicating time-diversity system, using the same code, shall be employed. The remaining technical characteristics of the error-detecting and correcting equipment should be in accordance with the relevant CCIR Recommendations;

MOD *g)* a station equipped with a direct-printing system in accordance with the provisions of the present Appendix, using a two block call signal, shall be assigned a number in accordance with Nos. **2088**, **2134** and **2143** to **2146**;

MOD *h)* a station equipped with a direct-printing system in accordance with the provisions of the present Appendix capable of using a three block call signal, shall employ the maritime identification digits required in accordance with Appendix **43** when communicating with stations also capable of using a three block call signal;

MOD *i)* conversion from the numerical identification to the two or three block call signal pattern shall be performed according to the relevant CCIR Recommendations.

NOC *j)*

* SUP **Mob-87** APPENDIX 40

* See Note by the General Secretariat page 481.

MOD APPENDIX 43

Mob-87

(MOD) **Maritime Mobile Service Identities** [1]

MOD 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 principally to call ships automatically in the shore-to-ship direction.

MOD 1.4 There are four kinds of maritime mobile service identities:

i) ship station identities,

ii) group ship station call identities,

iii) coast station identities,

iv) group coast station call identities.

ADD [1] In this Appendix a reference to a ship station or a coast station may include the respective earth stations.

MOD 2.1 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. **2087A** authorizes the Secretary-General to allocate additional MIDs to countries in accordance with this appendix within the limits specified, [1] provided that he is satisfied that the possibilities offered by the MIDs allocated to an administration will soon be exhausted despite judicious ship station identity assignment as outlined in 3.1 below and in conformity with the guidelines contained in the relevant CCIR and CCITT Recommendations.

ADD 2.2 A single MID has been allocated to each country. A second MID should not be requested unless the MID first allocated 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.

ADD 2.3 These guidelines do not require an administration to assign numerical identities until it determines that such identities are necessary. They do not concern the assignment of ship station identities without trailing zeros, since 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.

NOC 3. *Ship Station Identities*

ADD 3.1 Administrations should:

ADD 3.1.1 follow the guidelines contained in the relevant CCIR and CCITT Recommendations for the assignment of ship station identities;

ADD [1] In no circumstances may a country claim more MIDs than the total number of its ship stations shown in the ITU List of Ship Stations (List V) divided by 1000.

ADD 3.1.2 make optimum use of the possibilities of forming identities from the single MID allocated to them;

ADD 3.1.3 take particular care in assigning ship station identities with six significant digits (three-trailing-zero identities), which should be assigned only to ship stations which can reasonably be expected to require such an identity for automatic access on a world-wide basis for public switched networks;

ADD 3.1.4 assign one-trailing-zero or two-trailing-zero identities to vessels when they require automatic access only on a national or regional level, as defined in the relevant CCITT Recommendations;

ADD 3.1.5 assign ship station identities without trailing zeros to all other vessels requiring a numerical identification.

(MOD) 3.2 The 9-digit code constituting a ship station identity is formed as follows:

$$M_1I_2D_3X_4X_5X_6X_7X_8X_9$$

wherein

$$M_1I_2\ D_3$$

represent the Maritime Identification Digits and X is any figure from 0 to 9.

MOD 4. *Group Ship Station Call Identities*

Group ship station call identities for calling simultaneously more than one ship are formed as is follows:

$$0_1M_2I_3D_4X_5X_6X_7X_8X_9$$

where the first figure is zero and X is any figure from 0 to 9.

The particular MID represents only the country assigning the group ship station call identity and so does not prevent group calls to fleets containing more than one ship nationality.

ADD 6. *Group Coast Station Call Identities*

Group coast station call identities for calling simultaneously more than one coast station are formed as a subset of coast station identities, 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 particular MID represents only the country assigning the group coast station call identity. The identity may be assigned to stations of one administration which are located in only one geographical region as indicated in the relevant CCITT Recommendation.

NOC TABLE 1

FINAL PROTOCOL*

At the time of signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the undersigned delegates take note of the following statements made by signatory delegations.

No. 1

Original: English

For the Kingdom of Saudi Arabia:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Kingdom of Saudi Arabia to this Conference reserves its Government's right to take any measures it considers necessary to safeguard its interests should any other country fail in any way to observe the provisions laid down in the Final Acts, or should the reservations made by any other country jeopardize the radiocommunication services of the Kingdom of Saudi Arabia.

No. 2

Original: English

For the Democratic Socialist Republic of Sri Lanka:

The Delegation of the Democratic Socialist Republic of Sri Lanka, at the Administrative Radio Conference for the Mobile Services, Geneva, 1987, hereby reserves the rights of its Government to take any measures deemed necessary to protect its interests if in any way any of its Members fail to observe the decisions taken at this Conference or should the reservations of any country jeopardize its radiocommunication service.

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

No. 3

Original: Spanish

For Peru:

In signing *ad-referendum* the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of Peru declares that it does not consider itself bound by the Acts, Agreements, decisions and Resolutions of this Conference insofar as they may jeopardize the national rules and regulations applicable to its national communication systems for these services in Peru, and it reserves for its Government the right to take any decisions or measures it may consider necessary to safeguard its interests in these services in the event that the Final Acts and related agreements may in any way be opposed to its Constitution and laws or its interests affected by the decisions of this Conference or by any reservations submitted by other administrations.

No. 4

Original: French

For the Republic of Côte d'Ivoire:

The delegation of the Republic of Côte d'Ivoire to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, declares that in signing the Final Acts of this Conference it reserves its Government's right to approve them and, if necessary, to take whatever steps it may consider necessary to safeguard its interests in the event that any other administration may refuse or fail in any way to comply with them.

No. 5

Original: English

For the State of Kuwait and the State of Qatar:

The Delegations of the State of Kuwait and the State of Qatar declare that their Administrations reserve the right to take such action as they may consider necessary to protect their interests, should a Member of the Union fail, in any way to observe the Resolutions in the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should the reservations made by such Member jeopardize their telecommunication services.

No. 6

Original: English

For the Republic of the Philippines:

In signing the Final Acts of WARC MOB-87, the Philippine Delegation to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves the right of the Philippine Government to take such measures that it considers necessary to safeguard its interests should the reservations made by other countries to these Final Acts prejudice or jeopardize the telecommunication services of the Republic of the Philippines or that another country should in any way fail to comply with the provisions thereof.

No. 7

Original: English

For the Republic of Suriname:

The Delegation of the Republic of Suriname to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves the right of the Government of the Republic of Suriname to take any action it deems necessary to safeguard its interests if any Member fails in any way to comply with any Provision, Resolution or Recommendation contained in the Final Acts of this Conference or if reservations made by other countries jeopardize the implementation or operation of the provisions contained therein.

No. 8

Original: English

For the Federal Republic of Nigeria:

In signing this Conference Final Acts, the Delegation of the Federal Republic of Nigeria hereby declares that its Government reserves the right to take any action which it considers necessary to safeguard its interests should certain Members fail to comply with the Articles in the Radio Regulations or the provisions in the Final Acts of this World Administrative Radio Conference for the Mobile Services, Geneva, 1987, and thereby endanger in any way the telecommunication services of the Federal Republic of Nigeria or should reservations by other countries endanger these services in any way.

No. 9

Original: English

For the Republic of Singapore:

The Delegation of the Republic of Singapore reserves for its Government the right to take such action as it may consider necessary to safeguard its interests should any country fail in any way to comply with the requirements of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should any reservations by any country jeopardize its radiocommunication services.

No. 10

Original: English

For the Socialist Republic of Viet Nam:

The Delegation of the Socialist Republic of Viet Nam to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, declares as follows:

1. The Administration of Viet Nam reminds that the transmission of broadcasting stations of some countries has been causing harmful interference to the distress and safety communication in the maritime mobile service of Viet Nam. This transmission is not in conformity with Article 35 of the International Telecommunication Convention (Nairobi, 1982).

2. The allocation of frequencies and definitions of operation of aeronautical stations within the sub-area ZLARN-6G in item 27/132A of Appendix **27 Aer. 2** to the Radio Regulations are not in conformity with Article **6 (346)** and Article **50 (3630)** of the Radio Regulations and does not ensure the equal right of usage of frequencies, causing harmful interference to telecommunications in the aeronautical mobile service, impeding the operation and regulation of flight of the Socialist Republic of Viet Nam.

The Government of Viet Nam declares not to recognize these definitions and they should be revised by the next competent WARC.

3. The Delegation of the Socialist Republic of Viet Nam reaffirms the standpoint of the Government of the Socialist Republic of Viet Nam in its statement of the WARC MOB-83 Final Protocol (No. 16) and reserves for its Government the right to take any measure it deems necessary to safeguard its interests in the mobile telecommunication service.

No. 11

Original: English

For the German Democratic Republic:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, and in reaffirming its support for international cooperation in the telecommunication area, the Delegation of the German Democratic Republic reserves the right for its Government to take any measure it may deem necessary to protect and ensure the proper operation of its telecommunication services.

On behalf of its Government, the Delegation of the German Democratic Republic wishes to put on record that it will not recognize any obligations resulting from:

a) the introduction of the radiodetermination-satellite service;

b) allocating frequencies for land mobile services to bands formerly available to aeronautical radionavigation services;

c) reallocating frequencies for the land mobile-satellite service to bands formerly available to the aeronautical radionavigation service, and

d) reallocating frequencies for the mobile aeronautical-satellite service to bands formerly available to the aeronautical radionavigation service.

No. 12

Original: English

For the Sultanate of Oman:

The Delegation of the Sultanate of Oman to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, hereby declares that its Government reserves the right to take any measures deemed necessary to protect its interests should any Member or Members fail in any way to observe the decisions of the Final Acts of this Conference, or should the reservations made by such Member or Members jeopardize our telecommunication services.

No. 13

Original: English

For the Democratic People's Republic of Korea:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Democratic People's Republic of Korea reserves the right of its Government to take any action it deems necessary to protect its interests if any other country fails in any way to observe the provisions of the Final Acts of the Conference or if reservations entered by other countries jeopardize the proper operation of its telecommunication services or its sovereignty.

No. 14

Original: English

For the Democratic Republic of Afghanistan, the People's Democratic Republic of Algeria, the Kingdom of Saudi Arabia, the Islamic Republic of Iran, the Republic of Iraq, the Hashemite Kingdom of Jordan, the State of Kuwait, Lebanon, the Socialist People's Libyan Arab Jamahiriya, the Kingdom of Morocco, the Islamic Republic of Mauritania, the Sultanate of Oman, the Islamic Republic of Pakistan, the State of Qatar, the Syrian Arab Republic, and Tunisia:

The above-mentioned Delegations declare that the signature and possible subsequent approval by their respective Governments of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, are not valid with respect to the Zionist entity listed under the name of so-called Israel and in no way whatsoever imply its recognition.

No. 15

Original: French

For the Togolese Republic:

The Delegation of the Togolese Republic reserves for its Government the right to take any action it deems necessary to safeguard its telecommunication interests should any country:

- fail to comply with the provisions of the Radio Regulations and the amendments adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1987;
- upon signing the Final Acts, formulate reservations which might jeopardize the operation of its telecommunication services.

No. 16

Original: English

For the Democratic Republic of Afghanistan, the Byelorussian Soviet Socialist Republic, the People's Republic of Bulgaria, the People's Republic of Poland, the German Democratic Republic, the Ukrainian Soviet Socialist Republic, the Czechoslovak Socialist Republic and the Union of Soviet Socialist Republics:

In connection with frequency allocations in various parts of the spectrum for the radio-determination-satellite service at the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the above-mentioned Delegations in signing the Final Acts of the Conference are empowered to declare on behalf of their respective Governments that:

1. They cannot accept as sufficient the currently available technical data on feasibility of sharing between the proposed radiodetermination-satellite service (RDSS) and other radio services in the shared frequency bands with minimal RDSS effect on these radio services.

2. In view of the above, they cannot accept as justified the allocations for the RDSS in the frequency bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and in a part of the band 5 000 - 5 250 MHz which have been made at this Conference by modifying the Table of Frequency Allocations or by introducing a footnote in Article **8** of the Radio Regulations.

3. They cannot ensure that harmful interference is not caused to RDSS earth and space stations and reserve their right not to accept any claims related to such interference from other administrations as well as to take any measures they will deem necessary to provide the operation of their radio services using the frequency bands mentioned in item 2 in accordance with the Radio Regulations adopted by the WARC-79.

No. 17

Original: English

For the Republic of Liberia:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, and having regard to the many opposing opinions expressed on the Conference's agenda (with respect to matters such as the radiodetermination-satellite service, the mobile-satellite service, etc.) by other participating administrations, the Liberian Delegation views with concern the action taken by the Conference, particularly in respect of the revision of Articles **55** and **56**, *inter alia*. It therefore reserves the right to accept only those declarations in the Final Acts that serve the best interests of its Government.

Moreover, in signing the Final Acts, the Delegation of the Republic of Liberia reserves for its Government the right to safeguard its own interests should other administrations or their Governments choose to contravene the valid principles embodied in the Final Acts of the Conference.

No. 18

Original: English

For Thailand:

The Delegation of Thailand to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves the right of its Government to take any action that it deems necessary to safeguard its interests should any country fail, in any way, to comply with the requirements of the Final Acts of the present Conference, or should reservations made by any country jeopardize its telecommunication services or lead to an increase in its share toward defraying the expenses of the Union.

No. 19

Original: French

For the Republic of Burundi:

The Delegation of the Republic of Burundi to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves for its Government the right to take any action it deems necessary to safeguard its interests should any country fail, in any way, to comply with the provisions of the Final Acts of the present Conference, or should reservations made by other delegations jeopardize the operation of its telecommunication services, particularly with the introduction of new radiodetermination-satellite services, public correspondence on board aircraft and the mobile-satellite service.

No. 20

Original: French

For Tunisia:

The Delegation of Tunisia reserves for its Government the right to take any action it deems necessary to safeguard its interests should any Member of the Union fail to comply with the provisions adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should reservations entered by other Members jeopardize the operation of its telecommunication services.

No. 21

Original: French

For Burkina Faso:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of Burkina Faso reserves for its Government the right to take such action as it may deem necessary to protect its interests should any country fail, in any way, to comply with the provisions of the Final Acts of the Conference, or should reservations made by any Member jeopardize the operation of its telecommunication services.

Our country or our life – we shall overcome!

No. 22

Original: English

For Papua New Guinea:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of Papua New Guinea reserves for its Government the right to take any measures as it deems necessary to safeguard its interests if Members in any way fail to observe the provisions of the Final Acts of this Conference or if reservations entered by other Delegations jeopardize the operations of its telecommunication services.

No. 23

Original: English

For the Republic of Kenya:

The Kenya Delegation to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves the right of the Government of the Republic of Kenya to take any action it deems necessary to safeguard its interests if any Member country fails in any way to comply with any provisions, Resolutions or Recommendations contained in the Final Acts of this Conference or if any reservations made by other countries jeopardize the implementation or operation of the provisions contained therein.

The Kenya Delegation further reserves the right of its Government to adhere to all or some of the provisions contained in the Final Acts and the annexes to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987.

No. 24

Original: French

For the Republic of Mali:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of Mali reserves for its Government the right to take such action as it may deem necessary to protect its telecommunication interests should any country fail, in any way, to comply with the provisions of the Final Acts of the Conference.

No. 25

Original: English

For the United Republic of Tanzania:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the United Republic of Tanzania reserves for its Government the right to take any measures it might deem necessary to safeguard its interests, if another country should in any way fail to respect the conditions specified in these Final Acts, or if the reservations made by any country should be prejudicial to the telecommunication services of the United Republic of Tanzania.

No. 26

Original: English

For Malaysia:

The Delegation of Malaysia, on behalf of the Government and her Administration hereby:

1. associates itself with the partial revision of the Radio Regulations, its Appendices, Resolutions and Recommendations as laid out in the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987;

2. reserves for its Government the right to take such actions as it may deem necessary to safeguard her interests should any Member country fail in any way to comply with the Provisions of the Final Acts, or should reservations by other Member countries jeopardize her mobile services need.

No. 27

Original: French

For the Republic of Senegal:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of Senegal reserves for its Government, by which they are to be ratified, the right to take such action as it may deem necessary to safeguard its interests should other Members fail to comply with the provisions of these Final Acts, or should reservations entered by other Members jeopardize the operation of its telecommunication services.

No. 28

Original: Spanish

For Costa Rica:

The Delegation of Costa Rica reserves for its Government the right:

1. to take any action it deems necessary to protect its telecommunication services, should Member countries fail to comply with the provisions of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987;

2. to enter any reservations it deems necessary regarding texts in the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, which affect its sovereignty either directly or indirectly.

No. 29

Original: Spanish

For the Republic of Colombia:

The Delegation of the Republic of Colombia reserves for its Government the right to take such action as it may deem necessary, in accordance with its internal legal order and with international law, to safeguard national interests, should the reservations expressed by representatives of other States regarding these Final Acts affect Colombia's telecommunication services or its sovereignty, or should such action be necessitated by the application or interpretation of these Final Acts.

No. 30

Original: English

For the Hungarian People's Republic:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Hungarian People's Republic reserves the right for its Government to take such action as it may consider necessary to safeguard its interests should any Member States of the Union fail in any way to observe or comply with the provisions of these Final Acts or should reservations by other countries jeopardize the proper operation of its mobile services.

No. 31

Original: English

For the Islamic Republic of Iran:

The Delegation of the Islamic Republic of Iran reserves for its Government the right to take any action as it may consider necessary to safeguard its interests should they be affected by decisions taken at this Conference, or by failure on the part of any other country or administration in any way to comply with the requirements of the International Telecommunication Convention (Nairobi, 1982) or its Annexes or the Protocols or the Regulations attached thereto, or these Final Acts, or should Reservations or Declarations by other countries or administrations jeopardize the proper and efficient operation of its telecommunications services, or infringe the full exercise of the sovereign rights of the Islamic Republic of Iran.

No. 32

Original: French

For France:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the French Delegation wishes to enter a reservation regarding certain passages of Resolution **331 (Mob-87)**, insofar as the latter tend to compel administrations, or ships, taking part in the Global Maritime Distress and Safety System (GMDSS), to comply with all the provisions of Chapter **IX** of the Radio Regulations, without taking account of the coordination and transition plans established in the International Maritime Organization, nor of arrangements made in that respect by administrations at a national level.

No. 33

Original: French

For the Republic of Cameroon:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of Cameroon states on behalf of its Government that although the latter attaches special importance to its international commitments, it reserves the right to take all appropriate measures should the application of new provisions adopted for the Global Maritime Distress and Safety System (GMDSS), the allocation of frequency bands to the radiodetermination-satellite, land mobile-satellite or aeronautical mobile-satellite services for public correspondence with aircraft, or should reservations entered by other delegations on behalf of their Governments affect or jeopardize the proper operation of its telecommunication services.

No. 34

Original: French

For the Socialist People's Libyan Arab Jamahiriya:

The Delegation of the Socialist People's Libyan Arab Jamahiriya reserves for its Government the right to accept or refuse the consequences of any reservation entered by other countries which might entail an increase in its contributory share to the expenditure of the Union and to take such measures as it may deem necessary to safeguard its interests and its telecommunication services should any Member fail to comply with the provisions of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987.

No. 35

Original: French

For the People's Republic of Angola:

The Delegation of the People's Republic of Angola to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves for its Government the right to take whatever action it may deem necessary to safeguard its interests, should any Member country fail in any way to comply with the provisions, Resolutions or Recommendations in the Final Acts of this Conference, or should reservations entered by other countries jeopardize the operation of its telecommunication services.

No. 36

Original: Spanish

For Mexico:

The Delegation of Mexico declares that its Government reserves the right to take such action as it may deem necessary to safeguard its interests, should other Members fail in any way to comply with the provisions adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should reservations entered by Members jeopardize its telecommunication services.

No. 37

Original: Spanish

For the Republic of Panama:

The Delegation of the Republic of Panama reserves for its Government the right to take such action as it may consider necessary, in accordance with its national laws and with international law, to safeguard its national interests, should reservations by representatives of other States affect its telecommunication services or the full exercise of its sovereign rights, or should such action be necessitated by the application or interpretation of any of the provisions of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987.

No. 38

Original: French

For Monaco:

The Delegation of Monaco reserves for its Government the right to take any decision it deems necessary to safeguard the interests of its national sovereignty, should any Member fail to comply with the provisions adopted by this Conference and thus jeopardize the operation of its radio services.

No. 39

Original: French

For the People's Democratic Republic of Algeria:

The Delegation of the People's Democratic Republic of Algeria to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves for its Government the right to take such action as it may deem necessary to protect its interests, should any Member fail in any way to comply with the provisions of the Final Acts of this Conference, or should reservations entered by other Members jeopardize its telecommunication services or lead to an increase of its share in defraying the expenses of the Union.

No. 40

Original: Spanish

For the Eastern Republic of Uruguay:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Eastern Republic of Uruguay reserves for its Government the right to adopt any measures it deems necessary to ensure the protection and proper operation of its radio services in the event that:

a) other Members of the Union fail to comply with the provisions of the Final Acts of this Conference;

b) reservations entered by delegations of other countries jeopardize the satisfactory operation of those services.

No. 41

Original: Arabic

For the Republic of Iraq:

The Delegation of the Republic of Iraq reserves for its Government the right to take such action as it may deem necessary to safeguard its interests should other Members of the Union fail in any way to comply with the provisions, Resolutions and Recommendations of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should reservations made by other Members jeopardize the operation of the telecommunication services of the Republic of Iraq or entail an increase in its contribution to defraying the expenses of the Union.

No. 42

Original: Spanish

For the Argentine Republic:

I

The Argentine Delegation hereby declares on behalf of its Government that it accepts the rules and provisions of the Radio Regulations and of its Appendices, Resolutions and Recommendations, taking into account that the Preamble to those Regulations explicitly states that their application does not imply the expression of any opinion whatsoever on the part of the International Telecommunication Union concerning the sovereignty or the legal status of any country, territory or geographical area.

The Argentine Delegation also declares on behalf of its Government that the continued inclusion of the Malvinas Islands as a separate territory in the revised text of Appendix **43**, paragraph 2, "Maritime Identification Digits (MID)" (Table 1), and the corresponding allotment of frequencies, in no way affects the indefeasible and inalienable sovereign right of the Argentine Republic over those Islands and over the South Georgia and South Sandwich Islands. Their *de facto* occupation by the United Kingdom of Great Britain and Northern Ireland resulting from an act of force never accepted by the Argentine Republic led the United Nations, in Resolutions 2065 (XX), 3160 (XXVIII), 31/49 (XXXI), 37/9 (XXXVII), 38/12 (XXXVIII) and 39/6 (XXXIX), to urge both countries to negotiate a peaceful settlement of the dispute concerning sovereignty over the said Islands with a view to ending the colonial situation.

The United Nations General Assembly has also adopted Resolutions 40/21 (XL) and 41/40 (XLI) again urging both parties to resume negotiations to this end.

Accordingly, the Argentine Republic expressly reserves its sovereign rights over the Malvinas, South Georgia and South Sandwich Islands.

II

In considering the Final Acts, the Argentine Delegation declares that the decision taken with regard to the introduction of the radiodetermination-satellite service in the bands 1 610 - 1626.5 MHz and 2 483.5 - 2 500 MHz on a primary basis in Region 2 is not the most appropriate, for the following reasons:

1. The report of CCIR Study Group 8 (Report 1050, pink document) and its counterpart entitled "Technical and operational bases for the World Administrative Radio Conference for the Mobile Services, Geneva, 1987" (30 June - 11 July 1986) refers to the radiodetermination-satellite service in Chapter 6, section 2.9, and concludes, in section 6.2.9.3, that further studies are needed to determine the technical and coordination steps.

2. Document 277 of WARC MOB-87 contains several references to the possibility of harmful interference caused by the new service to other services currently occupying the bands in question.

3. The Radio Regulations do not yet contain any procedure for coordinating the planned installation of a radiodetermination-satellite service with the land services.

4. In view of the foregoing, it cannot be affirmed that potential interference from the new radiodetermination service will in all cases be insignificant; consequently, the land services will be adversely affected without there being any possibility of coordination.

5. Since this important issue has not been satisfactorily settled, it should be referred to a future competent world administrative conference once the relevant technical and regulatory studies have been conducted.

The Argentine Delegation therefore reserves for its Government the right to take such action as it may deem necessary to protect existing services in the bands concerned against harmful interference from the radiodetermination-satellite service.

III

In considering the Final Acts, the Argentine Delegation declares that the decision to introduce the land mobile-satellite service on a primary basis in certain bands constitutes an encroachment on other services which currently operate on a primary basis in those bands and, in some cases, were not placed on the Conference's agenda.

Accordingly, the Argentine Delegation reserves for its Government the right to take such action as it may deem necessary to protect existing services against harmful interference from the land mobile-satellite service.

IV

The Argentine Delegation's efforts to obtain consideration and amendment of Articles **11** and **28** of the Radio Regulations were unsuccessful, since those Articles had not been placed on the Conference's agenda and the amendments in question related to the establishment of coordination procedures for the radiodetermination-satellite service and the fixed, aeronautical, radionavigation and radiolocation services not represented at the Conference.

Accordingly, the Argentine Delegation reserves for its Government the right to take such action as it may deem necessary to protect the above-mentioned services against harmful interference from the radiodetermination-satellite service.

No. 43

Original: Spanish

For Chile:

1. The Delegation of Chile wishes to place on record that, wherever there appears in the Radio Regulations or in any of the documents emanating from this Conference (WARC MOB-87) mention of or references to "Antarctic Territories" as dependencies of any State, they neither do nor can include the Chilean Antarctic sector between the meridians 53° and 90° longitude West, which is an integral part of Chile's territory and over which Chile has indefeasible rights and exercises sovereignty.

Accordingly, the Chilean Delegation reserves for its Government the right to take such measures as it deems necessary for safeguarding its interests should other States in any way encroach on all or part of the above-mentioned territory, invoking the provisions of the Regulations or to that end seeking to assert rights that the Government of Chile does not recognize.

2. The Delegation of Chile further reserves for its Government the right to take such steps as it deems necessary to safeguard its interests should other Members of the Union fail to comply with the provisions of the Radio Regulations and its Annexes, as amended by this Conference, or should reservations entered by other Members directly or indirectly affect the operation of its telecommunication services or its sovereignty.

3. It further declares that the Global Maritime Distress and Safety System (GMDSS) will be introduced on the territory of its country at the discretion of the Chilean Government, with the degree of flexibility deemed by the latter to be appropriate, and that the land-based distress and safety services for ships not subject to the 1974 SOLAS Convention will be maintained to provide assistance to such ships in the form laid down by the Government of Chile and until such time as the latter decides otherwise.

4. The Delegation of Chile further reserves the right of its country to take appropriate steps in the event that its frequencies are affected by transfers or changes.

No. 44

Original: Spanish

For Cuba:

The Delegation of the Republic of Cuba to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, declares on behalf of its Government that signature of the Final Acts does not signify recognition of the frequency allotments identified as CUB (Guantánamo) (7) in Part IV of Appendix **26** to the Radio Regulations partially revised at this Conference, or of their use by the Government of the United States of America at the naval base which it is occupying illegally and against the wishes of the Cuban Government and people in the Cuban territory of the Province of Guantánamo.

Furthermore, the use of radio frequencies by the Government of the United States of America in the territory which it has usurped in Guantánamo, Cuba, impedes and interferes with the communication services of Cuba and also limits and encroaches upon our country's sovereignty over the radio frequency spectrum which, as stated in Declaration No. 9 of the Final Protocol of the World Administrative Radio Conference, Geneva, 1979, is a limited resource.

The Government of Cuba reserves the right to take all the necessary steps to safeguard its legitimate interests.

No. 45

Original: Spanish

For Cuba:

In signing the Final Acts, the Delegation of the Republic of Cuba to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, declares on behalf of its Government, with regard to the allocation of frequency bands for the radiodetermination-satellite service in Article **8** of the Radio Regulations:

That it is not satisfied with the technical studies conducted to date on the possibility of sharing between the new radiodetermination-satellite service and other radio services to which frequencies in the bands concerned are already allocated.

That it therefore does not recognize the allocations to the radiodetermination-satellite service in bands 1 610 - 1 626.5 MHz and 2 483.5 - 2 500 MHz, as well as in part of the bands between 5 000 and 5 250 MHz, decided at this Conference.

Consequently, the Administration of Cuba cannot undertake to prevent harmful interference to earth and space stations in the radiodetermination-satellite service, and reserves the right to refrain from such preventive action as would affect the other services to which frequencies are allocated on a primary basis in the Table of Frequency Allocations.

Finally, the Delegation of Cuba declares that its Administration does not authorize radiodetermination-satellite emissions to or from the territory of the Republic of Cuba and, consequently, that other countries' space stations in the radiodetermination-satellite service in particular may not cover Cuban territory with their emissions.

No. 46

Original: Spanish

For the Republic of Venezuela:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of Venezuela reserves for its Government the right to ratify or withhold ratification of these Final Acts, in whole or in part, as well as the right to take any measures which it may deem appropriate to safeguard its interests in the event that any Member, present or future, should fail to comply with the provisions of these Final Acts or take any other action which may undermine the sovereignty of Venezuela or its internal juridical order.

The Venezuelan Delegation likewise reserves for its Government the right to refuse to accept any consequences in the event that any acts or reservations of other administrations result in an increase in the Venezuelan contribution to defraying the costs of the International Telecommunication Union.

No. 47

Original: Arabic

For the Syrian Arab Republic:

The Delegation of the Syrian Arab Republic declares that its Government reserves the right to take such action as it may deem necessary to safeguard its interests should a Member for any reason infringe the Resolutions adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should reservations by other Members jeopardize the Syrian Arab Republic's telecommunication interests.

No. 48

Original: English

For the Republic of Indonesia:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of Indonesia hereby reserves the right of its Government:

1. Not to be bound by the provisions of the Final Acts, Resolutions and Recommendations of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, which are not in conformity with the Constitution, laws, regulations, as well as policy of the Government of Indonesia.

2. To take any action as may be deemed necessary to safeguard its interests should Members, in any way, fail to comply with the requirements of the provisions of these Final Acts or should reservations by other countries jeopardize its telecommunications system and services.

No. 49

Original: Spanish

For the Republic of Paraguay:

In signing the Final Acts, the delegation of the Republic of Paraguay to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves for its Government the right to take such action as it may deem necessary to safeguard its telecommunication services, should they be adversely affected by the implementation of the provisions adopted at this Conference or by any reservation entered by another Member of the Union.

No. 50

Original: English

For the Democratic Republic of Afghanistan:

The Delegation of the Democratic Republic of Afghanistan reserves the right of its Government to take any measures, if necessary, to safeguard its interests if certain Members in any way fail to observe the provisions of the Final Acts of the Conference (WARC for the Mobile Services, Geneva, September - October 1987) and its annexes and protocols or if reservations entered by other countries jeopardize the operation of its telecommunication services.

No. 51

Original: English

For the Federal Republic of Germany, Australia, Austria, the Commonwealth of the Bahamas, Belgium, Canada, Denmark, the United States of America, Finland, France, Ireland, the Republic of Liberia, the Republic of Malta, Monaco, Norway, New Zealand, the Republic of Panama, the Kingdom of the Netherlands, the United Kingdom of Great Britain and Northern Ireland, the Republic of Singapore, Sweden and the Confederation of Switzerland:

The Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, would impose on all countries rigid obligations to require on-board passenger ships with more than 12 passengers and on-board cargo ships of 300 tons gross tonnage and upwards engaged on international voyages beyond the range of MF coast stations, the carriage of personnel certificated for the maintenance of shipborne equipment for distress and safety communications. The consequences would be an unnecessary and unacceptable burden upon the world-wide maritime community.

Furthermore, these obligations would be inconsistent with the actions of the Maritime Safety Committee of the International Maritime Organization which, in May 1987, endorsed the principle of flexibility in the choice of means of maintaining shipborne equipment for distress and safety purposes. Under these circumstances the Delegations making this statement declare that:

1. Their Administrations do not accept any of the new obligations which might be held to stem from Articles **55 (Rev.)** and **56 (Rev.)** of the Radio Regulations relating to the mandatory carriage on board ships of personnel certificated for the on-board maintenance of shipborne radio and electronic equipment.

2. Their Administrations will take action by all appropriate means to ensure the necessarily high standards of maintenance and operational availability of shipborne radio equipment essential for distress and safety communications.

No. 52

Original: English

For the State of Israel:

The Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, would impose on all countries rigid obligations for ships carrying GMDSS equipment. The consequences may cause an unnecessary and unacceptable burden upon our Administration and the maritime community.

Furthermore, these obligations would be inconsistent with the action of the Maritime Safety Committee of the International Maritime Organization, which in May 1987 endorsed the principle of flexibility in the choice of means of maintaining shipboard equipment for distress and safety purposes. Under these circumstances our Delegation, making this statement declares that:

1. Our Administration will study the consequences of the obligations which might be held to stem from new Article **55** and new Article **56** of the Radio Regulations, relating to the mandatory carriage on board ships of personnel certified for the on-board maintenance of shipborne GMDSS equipment, and will make an effort to avoid increasing the burden upon its maritime community and upon the Administration.

2. Our Administration will take action by all appropriate means to ensure the necessary high standards of maintenance and operational availability of shipboard radio equipment essential for distress and safety communications.

No. 53

Original: Spanish

For Spain:

The Delegation of Spain to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, enters the following reservation with regard to No. **3016** of the Radio Regulations, as adopted by the Conference:

Spain maintains the reservation expressed at the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, concerning the above-mentioned provision of the Radio Regulations, which appears as Declaration No. 17 of the Final Acts of that Conference. The reason is that it has not found adequate alternative means of carrying out at sea the complete testing of the radiotelephone alarm signal generator as required by the International Convention for the Safety of Life at Sea, 1974 (as amended in 1981 and 1983) and as recommended by Resolution No. 571 of the 14th Assembly of the International Maritime Organization.

Moreover, so far as the Spanish Administration is aware, dummy load tests performed by Spanish vessels have not caused any false alarms in the 2 MHz band.

No. 54

Original: English

For Ethiopia:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the People's Democratic Republic of Ethiopia reserves the right of its Government to take any action it may deem necessary to protect its services jeopardized by reservations of other countries or systems operated in contravention of the Regulations enacted by this Conference.

No. 55

Original: English

For the Republic of India:

In signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Republic of India reserves the right of its Administration to take necessary steps to protect its interests should any administration either reserve its position on any provision of the Radio Regulations or operate any radiocommunication station in contravention of any provision in the Radio Regulations.

No. 56

Original: Arabic

For the Hashemite Kingdom of Jordan:

The Delegation of the Hashemite Kingdom of Jordan reserves the right of its Government to take any measures it may deem necessary to safeguard its interests should any Member of the International Telecommunication Union in any way, and for whatever reason, fail to comply with the provisions, Resolutions and Recommendations adopted by the World Administrative Radio Conference for the Mobile Services, Geneva, 1987.

The Delegation of the Hashemite Kingdom of Jordan reserves the right to refuse to accept any reservation which may jeopardize the telecommunication interests of the Hashemite Kingdom of Jordan.

No. 57

Original: English

For Canada:

The Delegation of Canada formally declares that Canada does not, by signature of these Final Acts on its behalf, accept certain decisions taken by this Conference in regard to the Table of Frequency Allocations and the associated footnotes and, therefore, Canada:

In view of the fact that the Conference has unduly restricted allocations for mobile satellite services in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz, states its intention to utilize these bands in the way most appropriate to satisfy its particular mobile satellite services requirements recognizing the priority of AMSS (R) and maritime safety communications.

No. 58

Original: English

For the United States of America:

The Delegation of the United States of America formally declares that the USA does not, by signature of those Final Acts on its behalf, accept certain decisions taken by this Conference in regard to the Table of Frequency Allocations and the associated footnotes, and therefore, the USA:

In view of the fact that the Conference has unduly restricted allocations for mobile satellite services in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz, states its intention to utilize these bands in the way most appropriate to satisfy its particular mobile satellite services requirements recognizing the priority of AMSS (R) and maritime safety communications.

No. 59

Original: French

For the Democratic Republic of Madagascar:

The Delegation of the Democratic Republic of Madagascar reserves for its Government the right to take such action as it may deem necessary to protect its interests should Members of the Union fail in any way to comply with the provisions of the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, or should reservations by other countries jeopardize the operation of its telecommunication services.

No. 60

Original: French

For the Islamic Republic of Mauritania:

Having noted the declarations which have been made, in signing the Final Acts and the Final Protocol, the Delegation of the Islamic Republic of Mauritania to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, hereby reserves its Government's right to take any measures necessary to safeguard its interests if reservations entered by other Members should in any way jeopardize the proper operation of its telecommunication services.

No. 61

Original: English

For the United Kingdom of Great Britain and Northern Ireland:

The Delegation of the United Kingdom of Great Britain and Northern Ireland notes statement No. 42 by the Delegation of the Argentine Republic concerning the Falkland Islands, South Georgia and the South Sandwich Islands.

The Delegation of the United Kingdom of Great Britain and Northern Ireland rejects the statement made regarding the Falkland Islands and South Georgia and South Sandwich Islands. The Government of the United Kingdom of Great Britain and Northern Ireland have no doubt as to British sovereignty over the Falkland Islands and South Georgia and South Sandwich Islands which are, and remain, an integral part of the territories for the international relations of which the Government of the United Kingdom of Great Britain and Northern Ireland are responsible.

No. 62

Original: English

For the United Kingdom of Great Britain and Northern Ireland:

The Delegation of the United Kingdom of Great Britain and Northern Ireland notes statement No. 43 by the Delegation of Chile with regard to Antarctic Territories. Insofar as this may be intended to refer to the British Antarctic Territory Her Majesty's Government in the United Kingdom of Great Britain and Northern Ireland have no doubt as to their sovereignty over the British Antarctic Territory. In connection with the aforementioned statement the Delegation of the United Kingdom draws attention to the provisions of the Antarctic Treaty and particularly Article IV thereof.

No. 63

Original: English

For the People's Republic of China:

In signing the Final Acts, the Delegation of the People's Republic of China to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, declares that:

1. having noted the statement No. 10, the Chinese Delegation reiterates the position of the Chinese Government, already stated in its declaration (No. 32) included in the Final Acts to the World Administrative Radio Conference for the Mobile Services, Geneva, 1983;

2. should failure to comply with the Radio Regulations or the decisions in the Final Acts of the relevant administrative radio conferences, or reservations by any other Member State, affect the interests and the telecommunication services of the People's Republic of China, the Chinese Delegation reserves for its Government the right to take any action it deems necessary to ensure that its rights are not encroached upon.

No. 64

Original: English

For the Arab Republic of Egypt:

Having noted the statements made, in signing the Final Acts, the Delegation of the Arab Republic of Egypt to the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, reserves for its Government the right to take such action as it may deem necessary to protect its interests, should any Member fail in any way to comply with the provisions of the Final Acts of this Conference, or should reservations entered by other Members jeopardize its telecommunication services.

No. 65

Original: French

For the Socialist Republic of Romania:

Having noted the statements made by other delegations, in signing the Final Acts of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Delegation of the Socialist Republic of Romania reserves its Government's right to take whatever measures it considers necessary to safeguard its country's radio services, in the event that one or more Members should fail in any way to observe the decisions of this Conference or that the reservations entered by another Member should jeopardize its radio services.

No. 66

Original: English

For the State of Israel:

The declarations made by certain delegations in No. 14 of the Final Protocol, being in flagrant contradiction with the principles and purposes of the International Telecommunication Union and, therefore, devoid of any legal validity, the Government of Israel wishes to put on record that it rejects these declarations outright and will proceed on the assumption that they can have no validity with respect to the rights and duties of any Member State of the International Telecommunication Union.

In any case, the Government of Israel will avail itself of its rights to safeguard its interests should the Governments of those delegations in any way violate any of the provisions of the Convention, or the Annexes, Protocols or Regulations attached thereto, or the Final Acts of this Conference.

The Delegation of Israel further notes that Declaration No. 14 does not refer to the State of Israel by its full and correct name. As such it is totally inadmissible and must be repudiated as a violation of recognized rules of international behaviour.

No. 67

Original: English

For the United States of America:

With reference to statement No. 44 by the Government of the Republic of Cuba, the Government of the United States of America notes that the United States presence in Guantánamo is by virtue of a treaty in force; the United States reserves the right to meet its radiocommunication requirements there as heretofore.

No. 68

Original: Spanish

For the Argentine Republic:

With regard to Declaration No. 43 included in the Final Protocol of the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, the Argentine Republic expressely states that it does not accept the reservation contained therein, entered either by the State concerned or by any other State, insofar as it may affect Argentine rights over the sector included between 25° and 74° longitude West of Greenwich and south of 60° latitude South, territories over which the Argentine Republic exercises and reaffirms its indefeasible and inalienable sovereign rights.

No. 69

Original: Spanish

For Spain:

The Delegation of Spain objects to the second paragraph of Reservation No. 51 of this Final Protocol, referring to the Maritime Safety Committee of the IMO, insofar as the latter Committee adopted the principle of flexibility mentioned in the reservation solely to facilitate study of the new Chapter IV of the SOLAS Convention by the Sub-Committee on Radiocommunications of the IMO, and insofar as no final decision of that Organization therefore contradicts the content of Articles **55** and **56** of the Radio Regulations, as revised by the present Conference.

No. 70

Original: English

For the Islamic Republic of Pakistan:

The Delegation of the Islamic Republic of Pakistan reserves its Administration's rights to take effective steps to protect its interests if any administration operates any terrestrial services or radiocommunication services in violation of the Radio Regulations in force or of the decisions taken in the World Administrative Radio Conference for the Mobile Services, Geneva, 1987. It further reserves the right of its Administration to take steps if reservations or declarations made by any other countries or administrations jeopardize the proper and efficient operation of its telecommunication services and systems.

The Administration of Pakistan cannot also undertake to accept any transmission to or infringement of its territory by transmissions in the radiodetermination-satellite service of any other administration and reserves its right to take such steps as necessary should this happen.

No. 71

Original: Spanish

For the Argentine Republic:

The Delegation of the Argentine Republic objects to the second paragraph of Reservation No. 51 of this Final Protocol referring to the Maritime Safety Committee of the IMO, insofar as that latter Committee adopted the principle of flexibility mentioned in the reservation solely to facilitate study of the new Chapter IV of the SOLAS Convention by the Sub-Committee on Radiocommunications of the IMO, and insofar as no final decision of that Organization therefore contradicts the content of Articles **55** and **56** of the Radio Regulations, as revised by the present Conference.

No. 72

Original: Spanish

For Cuba:

With regard to the declaration of the United States of America, contained in Section 58 of Document 482 concerning the declarations of the Final Protocol of the Conference, the Delegation of Cuba declares that the intention of that country to utilize the frequency bands 1 530 - 1 559 MHz and 1 625.5 - 1 660.5 MHz for services not allocated by this Conference, such as the mobile satellite services, could or might imply interference with Cuban services operating in the above-mentioned bands in accordance with the Table of Frequency Allocations of Article **8** of the Radio Regulations, which mentions the aeronautical mobile-satellite (R) service and the maritime mobile-satellite service. In Cuba's opinion, these improper uses constitute an encroachment on the spectrum requirements of the said services and affect air navigation safety in the Region as well as human safety.

The Delegation of Cuba therefore declares in addition that it reserves the right to take any action to ensure that such uses do not jeopardize the use of these bands and that it cannot offer protection to the service which it is intended to use.

No. 73

Original: English

For Greece:

In relation to Declaration No. 51 of the present Final Protocol, the Delegation of Greece objects to its second paragraph. The Maritime Safety Committee of IMO has adopted the principle of flexibility mentioned in that declaration solely to facilitate study of the new Chapter IV of the SOLAS Convention by the Radiocommunication Sub-Committee. Consequently there is no final IMO decision on this matter which is in contradiction with Articles **55 (Rev.)** and **56 (Rev.)** of the Radio Regulations.

No. 74

Original: English

For the Federative Republic of Brazil:

In view of the declarations made by certain delegations stating that their administrations will not or may not abide by the decisions taken by this Conference, the Delegation of Brazil hereby reserves for its Government the right to take all the necessary steps to protect its interests should any Member of the Union fail to comply with the decisions of this Conference or any other provision of the Radio Regulations.

(The signatures follow)

(The signatures following the Final Protocol are the same as those shown on pages 3 to 18.)

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RESOLUTION No. 8 (Rev.Mob-87)[1]

Implementation of the Changes in Allocations in the Bands Between 4 000 kHz and 27 500 kHz

(see also Resolution **512** (HFBC-87))

[1] Under its terms of reference, the World Administrative Radio Conference for the Mobile Services, Geneva, 1987, considered this Resolution and decided to delete *resolves* 5.

RESOLUTION No. 19 (Mob-87)

The Need to Study the Question of Including Decisions of Regional Administrative Radio Conferences in the Radio Regulations

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that this Conference had Resolution **704** as an item on its agenda;

b) that the general question of the inclusion of decisions of regional conferences in the Radio Regulations was raised;

c) that there is a need for general guidance on the question to ensure consistency of approach;

recognizing

a) that the question of including decisions of regional conferences in the Radio Regulations, in order to render those decisions applicable to all the Members of a particular Region, raises a question of principle which affects all the Members of the Union;

b) that the best source of guidance on this question is the supreme organ of the Union;

resolves

to submit to the next Plenipotentiary Conference for consideration the question of including in the Radio Regulations the decisions of regional administrative radio conferences and the implications of such inclusion on all Members of the Union;

invites the IFRB

to prepare a report on the radio regulatory aspects of this question for the information of the Administrative Council and administrations;

instructs the Secretary-General

to prepare a report on the legal aspects of this question for the Administrative Council and administrations;

invites the Administrative Council

to bring to the attention of the Plenipotentiary Conference the need for a decision by that Conference on the possible inclusion of decisions of regional administrative radio conferences in the Radio Regulations;

recommends the Plenipotentiary Conference

to consider the question of including in the Radio Regulations decisions of regional administrative conferences in order to provide general guidance on this subject.

RESOLUTION No. 20 (Mob-87)

Technical Cooperation with Developing Countries in the Field of Aeronautical Telecommunications

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the allocations of the frequency bands and the provisions concerning the various aeronautical mobile services have been revised;

b) that some of these frequency bands and provisions are intended for the world-wide implementation of new aeronautical telecommunication systems;

c) that these new systems will employ more advanced techniques, such as satellite communications, in combination with modern information transmission media;

d) that this technological modernization should serve to improve the safety and regularity of international civil aviation, the accuracy and security of aeronautical radionavigation and the efficiency of distress and rescue systems;

e) that the developing countries may require assistance in improving the training of technical staff, as well as in introducing new systems, in coping with technological modernization and enhancing the operation of aeronautical telecommunications;

recognizing

the value of the assistance which, in conjunction with other international organizations, the Union has provided and may continue to provide to developing countries in the field of telecommunications;

instructs the Secretary-General

1. to encourage the International Civil Aviation Organization (ICAO) to continue its assistance to developing countries which are endeavouring to improve their aeronautical telecommunications, in particular by providing them with technical advice for the planning, establishment, operation and maintenance of equipment, as well as help with the training of staff, essentially in matters relating to the new technologies;

2. for this purpose, to seek the continued collaboration of ICAO, the United Nations Conference for Trade and Development (UNCTAD) and other specialized agencies of the United Nations, as appropriate;

3. to inform ICAO that this Conference has recognized the valuable cooperation provided by that organization to developing countries in its technical assistance programmes;

4. to continue to give special attention to seeking the aid of the United Nations Development Programme (UNDP) and other sources of financial support, to enable the Union to render sufficient and effective technical assistance in the field of aeronautical telecommunications;

invites the developing countries

so far as possible, to give a high level of priority to and include in their national programmes of requests for technical assistance projects relating to aeronautical telecommunications and to support multinational projects in that field.

RESOLUTION No. 38 (Rev.Mob-87)

Reassignment of Frequencies of Stations in the Fixed and Mobile Services in the Bands Allocated to the Radiolocation and Amateur Services in Region 1

(1 625 - 1 635 kHz, 1 800 - 1 810 kHz, 1 810 - 1 850 kHz and 2 160 - 2 170 kHz)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

that the World Administrative Radio Conference, Geneva, 1979, adopted modifications to the allocation of the frequency bands between 1 606.5 kHz and 2 850 kHz;

noting

a) that the implementation of the revised Table of Frequency Allocations presents difficulties, in particular for stations in the maritime mobile service in Region 1 in the bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz and 2 160 - 2 170 kHz made available for radiolocation services and in the band 1 810 - 1 850 kHz made available to the amateur service;

b) that replacement frequencies for stations of the maritime mobile service have been provided in the frequency assignment plan contained in the Final Acts of the Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, together with the arrangements for their implementation;

resolves

1. that in Region 1, except for the countries and frequency bands mentioned[1] in Nos. **485**, **490**, **491**, **493** and **499** of the Radio Regulations, on the date of implementation (1 April 1992) of the frequency assignment plan for the maritime mobile service contained in the Final Acts of the Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, all operations of stations of the fixed and mobile services shall be terminated in the bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz, 1 810 - 1 850 kHz and 2 160 - 2 170 kHz;

2. that administrations having assignments to stations of the fixed, land mobile or aeronautical mobile (OR) services in the bands concerned shall choose and notify to the IFRB appropriate replacement assignments; and where the finding of the Board is favourable with respect to Nos. **1240** and **1241** of the Radio Regulations, each such replacement assignment shall have the same date and status as that which it has replaced, so far as the assignments of the countries in Region 1 are concerned;

3. that the protection afforded to stations of the fixed and mobile services by Nos. **486** and **492** of the Radio Regulations shall continue to apply until such time as satisfactory replacement assignments have been found and implemented in accordance with this Resolution;

4. that, after the date of implementation (1 April 1992) of the frequency assignment plan for the maritime mobile service contained in the Final Acts of the Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, the continued use of frequency assignments that have not been transferred in accordance with *resolves* 3 shall be only on the basis of No. **342** of the Radio Regulations.

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[1] No. **485**, bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz and 2 160 - 2 170 kHz;
No. **490**, band 1 810 - 1 830 kHz;
No. **491**, band 1 810 - 1 830 kHz;
No. **493**, band 1 810 - 1 850 kHz;
No. **499**, band 2 160 - 2 170 kHz.

RESOLUTION No. 44 (Mob-87)

Compatibility of Equipment Used in the Mobile-Satellite Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that only a limited number of frequency bands is allocated to the mobile-satellite service;

b) that the CCIR is studying the preferred technical and operating characteristics for a mobile-satellite system which would have earth stations on ships, land and/or aircraft, all operating within the same system;

c) that there is a need to use efficiently the bands allocated to the mobile-satellite service;

d) that the maritime mobile-satellite service and the aeronautical mobile-satellite service have special requirements with regard to safety;

resolves

that the CCIR should continue to study, as a matter of urgency, terminal characteristics which are common to the extent practicable, in order to ensure compatibility between the land, maritime, and aeronautical mobile-satellite services;

urges administrations

to encourage the development and manufacture of compatible mobile-satellite user equipment.

RESOLUTION No. 200 (Rev.Mob-87)

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, 1987,

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 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 Global Maritime Distress and Safety System (GMDSS);

c) that there are many uncertain factors relating to the date of introduction of the GMDSS;

d) that the Radio Regulations provide frequencies in the band 2 173.5 - 2 190.5 kHz for the orderly introduction of the GMDSS 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.

RESOLUTION No. 205 (Rev.Mob-87)

Protection of the Band 406 - 406.1 MHz Allocated to the Mobile-Satellite Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

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 Nos. **649** and **649A** of the Radio Regulations limit the use of the band 406 - 406.1 MHz to low-power satellite emergency position-indicating radiobeacons (EPIRBs);

c) that the World Administrative Radio Conference for the Mobile Services, Geneva, 1983 (WARC MOB-83), made provision in the Radio Regulations for the introduction and development of a global distress and safety system;

d) that the use of satellite EPIRBs 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 WARC MOB-83 adopted Recommendation **604 (Rev.Mob-83)** which recommends that the CCIR continue its studies on the technical and operational questions for EPIRBs, including those using the frequencies in the band 406 - 406.1 MHz;

g) that the CCIR has initiated a study of the compatibility between satellite EPIRBs in the band 406 - 406.1 MHz and services using adjacent bands;

considering further

h) that some administrations have developed and implemented an operational low-altitude, near-polar orbiting satellite system (COSPAS-SARSAT) operating in the band 406 - 406.1 MHz to provide alerting and to aid in the locating of distress incidents;

i) that the International Maritime Organization (IMO) has decided that EPIRBs operating in the COSPAS-SARSAT system will form part of the Global Maritime Distress and Safety System (GDMSS);

j) 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 have caused harmful interference to the mobile-satellite service, and particularly to the reception of satellite EPIRB signals by the COSPAS-SARSAT system;

k) 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 the 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 continue on an urgent basis its study of compatibility between satellite EPIRBs in the band 406 - 406.1 MHz and services using adjacent bands.

RESOLUTION No. 207 (Mob-87)

Unauthorized Use of Frequencies in the Bands Allocated to the Maritime Mobile Service[1] and to the Aeronautical Mobile (R) Service[2]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that monitoring observations of the use of frequencies in the band 2 170 - 2 194 kHz and in the bands allocated exclusively to the maritime mobile service between 4 063 kHz and 27 500 kHz and to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz show that a number of frequencies in these bands are still being used by stations of other services, some of which are operating in contravention of No. **2665** of the Radio Regulations;

b) that these stations are causing harmful interference to the maritime mobile and aeronautical mobile (R) services;

c) that radio is the sole means of communication for the maritime mobile service and that certain frequencies in the bands mentioned in *considering a)* are reserved for distress and safety purposes;

d) that radio is the sole means of communication for the aeronautical mobile (R) service and that this is a safety service;

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[1] Replaces Resolution **309** of the WARC, Geneva, 1979.

[2] Replaces Resolution **407** of the WARC, Geneva, 1979.

considering in particular

e) that it is of paramount importance that the distress and safety channels of the maritime mobile service be kept free from harmful interference, since they are essential for the protection of the safety of life and property;

f) that it is also of paramount importance that channels directly concerned with the safe and regular conduct of aircraft operations be kept free from harmful interference, since they are essential for the safety of life and property;

resolves

to urge administrations

1. to ensure that stations of services other than the maritime mobile service abstain from using frequencies in distress and safety channels and their guard bands and in the bands allocated exclusively to that service, except under the conditions expressly specified in Nos. **342**, **518**, **519**, **522** and **956** to **958** of the Radio Regulations; and to ensure that stations of services other than the aeronautical mobile (R) service refrain from using frequencies allocated to that service except under the conditions expressly specified in Nos. **342** and **956** of the Radio Regulations;

2. to make every effort to identify and locate the source of any unauthorized emission capable of endangering human life or property and the safe and regular conduct of aircraft operations, and to communicate their findings to the IFRB;

3. to participate in the monitoring programmes that the IFRB may organize pursuant to this Resolution;

4. to make every effort to ensure that such emissions are made in appropriate bands allocated to services other than the maritime mobile service or the aeronautical mobile (R) service;

5. to request their competent authorities to take, within their respective jurisdiction, such legislative or regulatory measures which they consider necessary or appropriate in order to prevent stations from operating in contravention of No. **2665** of the Radio Regulations;

to invite the IFRB

1. to continue to organize monitoring programmes, at regular intervals, in the maritime distress and safety channels and their guard bands and in the bands allocated exclusively to the maritime mobile service between 4 063 kHz and 27 500 kHz and to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz, with a view to identifying the stations of other services operating on these channels or in these bands;

2. to seek the cooperation of administrations in identifying the sources of those emissions by all available means and in securing the cessation of those emissions;

3. when the station of another service transmitting in a band allocated to the maritime mobile service or to the aeronautical mobile (R) service has been identified, to inform the administration concerned;

requests administrations

to take all necessary steps in such cases to ensure the cessation of any transmissions contravening the provisions of the Radio Regulations on the frequencies or in the bands referred to in this Resolution.

RESOLUTION No. 208 (Mob-87)

Extension of the Frequency Bands Allocated to the Mobile-Satellite and Mobile Services and Their Conditions of Use

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the demand for frequency allocations for the various mobile-satellite services has increased during the last few years;

b) that the allocations for the mobile-satellite services at 1.5 GHz are the only allocations generally available for those services below 10 GHz;

c) that the International Civil Aviation Organization (ICAO) studies indicate that future Aeronautical Mobile-Satellite (R) Service (AMSS(R)) systems will require the use of all the spectrum presently allocated to that service;

d) that since AMSS(R) systems may not fully utilize, before 1992, all of the spectrum allocated to that service, a portion of that spectrum has been reallocated to the Land Mobile-Satellite Service;

e) that in view of the growing demand for frequency bands for satellite communications with mobile stations, it is necessary to revise the allocations in parts of the frequency spectrum to cover the needs beyond 1992;

f) that the most suitable frequencies for the operation of mobile and mobile-satellite services are below about 3 GHz;

g) that the CCIR is studying the possibility and need for maritime, aeronautical and land mobile-satellite systems to use common frequency bands of the mobile-satellite service;

h) Resolutions **2** and **4** of the World Administrative Radio Conference (WARC-1979);

resolves

1. that mobile satellite systems operating in the bands 1 530 - 1 544 MHz, 1 555 - 1 559 MHz, 1 626.5 - 1 645.5 MHz and 1 656.5 - 1 660.5 MHz shall be limited to providing national service or, with the agreement of administrations concerned, to providing multinational service;

2. that in defining the characteristics of the antennas of such systems, all technical means available shall be used to reduce to the maximum extent practicable the radiation over the territories of other countries, unless an agreement has been previously reached with such countries;

resolves to recommend

the Plenipotentiary Conference, 1989, to take appropriate steps for the convening of a world administrative radio conference, not later than 1992, to consider revising certain parts of the Table of Frequency Allocations in Article **8** of the Radio Regulations in the approximate range 1 - 3 GHz and other relevant provisions of the Radio Regulations with a view to providing the necessary spectrum for the mobile-satellite services as well as for the mobile services taking into account Resolutions **2** and **4** of WARC-1979;

invites

1. the CCIR to study as a matter of urgency, the technical and operational issues relating to geostationary and non-geostationary mobile-satellite systems. These studies should include applications, spectrum requirements, available and future technology and intersystem and intrasystem sharing aspects concerning the mobile-satellite systems;

2. the International Maritime Organization (IMO), ICAO and other interested international organizations and other participants in the work of the CCIR to cooperate in these studies and to make the results of their own studies available to the CCIR;

3. the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and on the Planning of Space Services Utilizing It (WARC ORB-1988) to consider the particular characteristics of the mobile-satellite services when dealing with provisions relating to procedures for coordination and notification;

instructs the Secretary-General

1. to bring this Resolution to the attention of IMO and ICAO;

2. to forward this Resolution to WARC ORB-88;

invites the Administrative Council

to bring this Resolution to the attention of the Plenipotentiary Conference, 1989.

RESOLUTION No. 209 (Mob-87)

Study and Implementation of a Global Land and Maritime Distress and Safety System

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the basic characteristics of the Global Maritime Distress and Safety System (GMDSS) have been developed by the International Maritime Organization (IMO) to meet the specific needs of the maritime mobile and maritime mobile-satellite services;

b) that stations of the land mobile and land mobile-satellite services may use the frequencies and procedures of the GMDSS in sparsely populated, uninhabited or remote areas for distress and safety purposes;

c) that further development of the communication facilities in the GMDSS would enable the system also to meet the specific needs of the land mobile and land mobile-satellite services for distress and safety;

noting

that the CCIR made a considerable contribution to the development of the GMDSS by carrying out appropriate technical and operational studies;

noting further

that the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, decided that the stations of the land mobile service in sparsely populated and remote areas may be authorized to use the frequencies of the then Future Global Maritime Distress and Safety System on condition that no harmful interference was caused to other distress and safety communications;

recognizing

a) that this Conference has adopted provisions to facilitate implementation of the GMDSS;

b) that administrative, technical and operational studies concerning the land mobile and land mobile-satellite services need to be conducted before detailed provisions relating to the distress and safety requirements of these services can be incorporated into the Radio Regulations;

resolves

that a future competent conference be invited to include, as necessary, provisions in Chapter **N IX** to ensure adequate distress and safety communications in sparsely populated, uninhabited or remote areas;

invites the CCIR

to study the requirements for distress and safety communications in sparsely populated, uninhabited or remote areas by the land mobile and land mobile-satellite services, including the technical and operational characteristics of equipment which is simple to operate and inexpensive for use in the global land and maritime distress and safety system;

invites administrations

1. actively to contribute to and participate in the work of the CCIR;

2. to take all legislative or other appropriate measures for the implementation of such a system;

3. to permit the appropriate equipment to be used within the areas under their national jurisdiction;

invites the Administrative Council

to take the necessary steps to place this matter on the agenda of the next competent conference;

instructs the Secretary-General

to communicate this Resolution to IMO and the International Civil Aviation Organization (ICAO).

RESOLUTION No. 210 (Mob-87)

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, 1987,

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 495 kHz to 505 kHz guardband for the frequency 500 kHz, which is the international distress and calling frequency for Morse 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 for distress and safety communications on 500 kHz;

d) that an adequate amortization period has been allowed for the radio equipment currently in service;

taking into account

that the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, asked this Conference to decide on the date of entry into force of the definitive 495 kHz to 505 kHz guardband;

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[1] Replaces Resolution **206 (Mob-83)**.

resolves

that the date of entry into force of the 10 kHz guardband for the frequency 500 kHz shall be the date for the full implementation of the Global Maritime Distress and Safety System (GMDSS).

RESOLUTION No. 300 (Rev.Mob-87)

Use and Notification of the Paired Frequencies Reserved for Narrow-Band Direct-Printing Telegraphy and Data Transmission Systems in the HF Bands Allocated on an Exclusive Basis to the Maritime Mobile Service

(see Appendix **32**)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that certain sections of the HF bands allocated to the maritime mobile service have been reserved for narrow-band direct-printing telegraphy and data transmission systems for use on a paired frequency basis only;

b) that Appendix **32** of the Radio Regulations contains a channelling arrangement in the maritime mobile HF bands for narrow-band direct-printing telegraphy and data systems (paired frequencies);

c) that this Conference has made available an increased number of paired frequencies reserved for narrow-band direct-printing telegraphy and data transmission systems for use on a paired basis only, and has modified Appendix **32** accordingly;

d) that the World Maritime Administrative Radio Conference (WMARC, Geneva, 1974), established interim measures for the orderly bringing into use of the paired frequencies;

e) that the WMARC 1974 established a provisional procedure for the use and notification of paired frequencies for narrow-band direct-printing telegraphy and that the application of this procedure by administrations and by the IFRB was satisfactory;

resolves

1. that paired frequencies in the HF bands reserved for narrow-band direct-printing telegraphy between coast stations and ship stations shall be used by these stations, notified to the IFRB and recorded in the Master International Frequency Register in the following manner:

1.1 assignments of pairs of frequencies for transmission and reception shall be made solely to coast stations. Ship stations of any nationality shall use by right for their transmissions the receiving frequencies of the coast stations with which they exchange traffic;

1.2 each administration shall choose the pairs of frequencies for its requirements, if necessary with the assistance of the IFRB;

1.3 the assignments thus selected shall be notified to the IFRB in notices as shown in Appendix **1** to the Radio Regulations and administrations shall supply the basic characteristics listed in Section A or B of that Appendix, as appropriate;

1.4 whenever practicable, each notice should reach the Board before the date on which the assignment is brought into use. It must reach the Board not earlier than one year before the date on which it is to be brought into use but in any case not later than 30 days after it is actually brought into use;

1.5 assignments which are in conformity with the Radio Regulations, and in particular Appendix **32**, shall be examined by the Board from the viewpoint of the probability of harmful interference to be caused by or to other existing or proposed uses. The Board shall inform the administration concerned of the results of its examination and shall record the notified assignment with reference to this Resolution and without any date in Column 2. The date of receipt of the notice by the Board and the date of putting into use of the assignment shall be entered in the Remarks Column. In cases where the Board identifies incompatibilities, it shall make suggestions with a view to resolving them;

1.6 any notice not in conformity with the Radio Regulations shall be returned to the notifying administration by the IFRB, together with any suggestion which the Board may be able to submit in this respect;

1.7 should difficulties arise between administrations using the same channel, or adjacent channels, the matter shall be settled by agreement between the administrations concerned taking into account the information published by the IFRB;

2. that a future competent conference be invited to review this Resolution and examine any difficulties which may have arisen in its application;

3. that the entries made in the Master Register under this Resolution shall in no way prejudge any decisions which may be taken by the aforementioned conference;

invites the Administrative Council

to place this Resolution on the agenda of the next competent conference in order to examine any difficulties which may have arisen in its application.

RESOLUTION No. 310 (Rev.Mob-87)

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, 1987,

considering

a) the need to specify radio frequencies which may be used by the maritime mobile service on a world-wide basis for ship movement requirements including transmission of electronic nautical chart data corrections, 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 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) that the CCIR is considering this matter particularly within its Question 55/8;

b) that further operational and technical information is needed in deciding the most effective frequency utilization and sharing criteria;

c) that the International Maritime Organization (IMO) has identified a need for data exchange, using digital transmission techniques, between shore and ship for ship's position and movement data, correction data of radionavigation systems and electronic nautical charts (see CCIR Report 1044);

resolves

that the next competent world administrative radio conference shall review possible frequency provisions in the light of additional studies;

requests the CCIR

to examine and advise on bandwidths and data formats in coordination with administrations developing and testing these digital transmission systems;

invites the Administrative Council

to include this Resolution in the agenda of a forthcoming competent world administrative radio conference;

instructs the Secretary-General

to communicate this Resolution to the IMO and the International Hydrographic Organization (IHO).

RESOLUTION No. 312 (Rev.Mob-87)

Calling Procedures for HF A1A and A1B Morse Telegraphy[1]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that there is a need for more effective utilization of the radio frequency spectrum and of the time of operational personnel on board ships;

b) that it is desirable to continue to improve the effectiveness of calling in the HF A1A and A1B Morse telegraphy bands;

c) that the World Maritime Administrative Radio Conference, Geneva, 1974, adopted a new calling procedure for the HF A1A Morse telegraphy bands (Article **60** and Appendix **34**);

d) that the effectiveness of the new calling procedure requires agreement between administrations with respect to the groups specified in Appendix **34** in accordance with a planned distribution of coast stations on a regional and traffic basis;

e) that the administrations at the 1974 Conference agreed to the Distribution Plan of Coast Stations (annexed to this Resolution) arranged by countries and areas into four groups to ensure a better distribution of calls;

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[1] Replaces Resolution **312** of the World Administrative Radio Conference, Geneva, 1979.

invites

administrations which are providing an international public correspondence service to indicate for publication in the List of Coast Stations the periods of service during which watch will be maintained on the common, and if necessary the group, channel or channels;

invites further

administrations which wish to enter into a group in the Distribution Plan, or administrations included in the Plan wishing to make a modification in the Plan, to coordinate as far as possible their proposed changes with other interested and affected administrations which are designated in the group concerned. An administration which has decided to enter into a group or change from a designated group in the Distribution Plan shall inform the Secretary-General of its decision and it shall be published in the Annex to the List of Coast Stations;

instructs the Secretary-General

to update, as necessary, the Distribution Plan annexed to the List of Coast Stations.

ANNEX TO RESOLUTION **No. 312 (Rev.Mob-87)**

(The rest of the text of the Annex remains unchanged)

RESOLUTION No. 314 (Rev.Mob-87)

Establishment of a Coordinated World-Wide System for the Collection of Data Relating to Oceanography

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) the expressed desire for the establishment of a coordinated world-wide system for the collection of data relating to oceanography;

b) that in the high frequency bands allocated exclusively to the maritime mobile service, bands are designated for use in the collection of data relating to oceanography in accordance with Appendix **31** to the Radio Regulations;

c) that use of these frequencies with maximum effectiveness is dependent upon cooperation and coordination among administrations;

d) that certain administrations expressed the desire that a coordinated world-wide system for the transmission of data relating to oceanography be established on the basis of a coordinated plan in the bands allocated by this Conference;

e) that, however, certain other administrations wish to use in the near future stations for the collection of data relating to oceanography within the framework of decisions taken on this matter by this Conference;

f) that, consequently, a coordinated programme for the collection of data relating to oceanography should be established using the frequency bands referred to in *b)* above;

g) that the Intergovernmental Oceanographic Commission (IOC) and the World Meteorological Organization (WMO) have been in consultation since 1962 with respect to cooperative efforts in the collection of data relating to oceanography;

resolves

1. that the IOC and WMO be invited to develop jointly, in consultation with the IFRB, and in consultation with administrations of the Members, as appropriate, a coordinated plan designed to meet existing and future requirements of all interested Members, for use by stations in the collection of data relating to oceanography in a world-wide system, within the framework of provisions made by this Conference for such a system; this plan to include the geographical distribution of oceanographic stations, their system of operation, the deployment of frequencies in the system and the manner in which oceanographic information is to be transmitted;

2. that administrations be encouraged to assign frequencies in conformity with the plan and the recommendations of IOC and WMO for the portion of the world-wide system over which they have jurisdiction;

3. that the IOC and WMO be invited further to assume jointly the responsibility, in consultation with the IFRB, for keeping such a plan current, in the light of changing requirements for data relating to oceanography;

4. that the plan developed under paragraphs 1 and 3 above shall be considered at the next administrative radio conference competent to deal with matters relating to the maritime mobile service, to determine what changes, if any, appear necessary to improve its effectiveness.

RESOLUTION No. 316 (Rev.Mob-87)

Technical Cooperation with the Developing Countries in Maritime Telecommunications

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

that, in the field of maritime telecommunications, the assistance provided by the Union to developing countries, in collaboration with other organizations, in particular the International Maritime Organization (IMO), has been promising;

conscious of

a) the need for the developing countries to increase their own shipping activities and attract foreign maritime traffic in order to develop their trade;

b) the important role that telecommunications play in maritime activities throughout the world, from the economic and safety aspects;

c) the possibility of providing adequate safety and improved economy in shipping activities by a relatively modest investment in the installation and operation of maritime telecommunication facilities;

d) the significant changes in operating techniques and methods that are being introduced in the maritime mobile service for the improvement of general, distress and safety communications;

considering

a) that in many developing countries there is a need to increase the efficiency of the services for:

- safety of navigation and safety of life at sea;
- commercially viable port operations;
- public correspondence for passengers and crews;

b) that in this regard the Union's technical cooperation activities could be extended to render very valuable assistance to these countries;

c) that it is necessary to adapt the levels of knowledge of techniques among developing countries to meet the technological and operational changes in maritime telecommunications;

resolves

to request the Secretary-General

1. to offer the assistance of the Union to developing countries endeavouring to improve their maritime telecommunications, particularly by providing technical advice in the establishment, operation and maintenance of equipment and by assisting in training staff, especially in matters relating to the new technologies and operating methods examined at the present Conference;

2. in this context, to seek the collaboration of IMO, the United Nations Conference for Trade and Development (UNCTAD), other specialized agencies of the United Nations, and the World Maritime University (WMU), as appropriate;

3. to continue to give special attention to seeking the aid of the United Nations Development Programme (UNDP) and other sources of financial support, to enable the Union to render sufficient and effective technical assistance in the field of maritime telecommunications, when necessary in collaboration with other specialized agencies concerned;

to urge Member countries

to give priority in supporting, to the extent of their capabilities and their technical advancement, the Union's technical cooperation with developing countries in the field of maritime telecommunications by facilitating the recruitment of experts for missions to work in developing countries, by receiving students from developing countries who have been awarded a fellowship by the Union, by providing lecturers to seminars arranged by the Union and, upon request, by giving technical advice to the Union;

to invite the developing countries

to include maritime telecommunications projects as needed in their country programmes for external technical assistance and to support inter-country projects in this field.

RESOLUTION No. 319 (Rev.Mob-87)

General Review of the Bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz Allocated on a Shared Basis to the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

a) that the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, 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 it was not within the competence of the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, to carry out a general review of the sub-allocations and channelling plans in the HF maritime mobile bands;

c) that this Conference has decided not to include frequencies in the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz in either Appendix **31** or Allotment Plan of Appendix **25**, and that this decision was made taking into account the continuation of the related studies in the CCIR;

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

that the next competent world administrative radio conference (WARC) should carry out a general review and any necessary revision of the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz allocated on a shared basis to the maritime mobile service, taking into account the requirements of each administration;

invites the Administrative Council

1. to include on the agenda of the next competent world administrative radio conference the Articles and Appendices of the Radio Regulations relevant to the review and revision of the bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz;

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 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 including the possibility of using other emissions in the maritime mobile service by ship stations;

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. 322 (Rev.Mob-87)

Coast Stations and Coast Earth Stations Assuming Watch-Keeping Responsibilities on Certain Frequencies in Connection with the Implementation of Distress and Safety Communications for the Global Maritime Distress and Safety System (GMDSS)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the International Maritime Organization (IMO) is implementing a Global Maritime Distress and Safety System (GMDSS);

b) that this Conference has introduced in the Radio Regulations provisions for distress and safety communications for the GMDSS to facilitate the progressive implementation of the new system while maintaining the provisions for the continuation of the existing system during the transitional period (see Resolution **331 (Mob-87)**);

c) that the new system necessitates the use or 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 prove to be too onerous to be assumed, for MF, HF and VHF frequencies, by all coast stations open to public correspondence and, for space systems, by all coast earth stations;

recognizing

a) that the successful implementation of the new system requires an adequate geographical distribution of coast earth stations and coast stations keeping watch on the appropriate frequencies and the continuation of watch-keeping on the present frequencies;

b) that the IMO is the organization best qualified to coordinate, in cooperation with administrations, a plan of coast earth stations and coast stations which administrations intend to use for watch-keeping on GMDSS frequencies;

resolves to invite

1. administrations to inform the Secretary-General and the IMO of the arrangements they intend to make for watch-keeping on GMDSS distress and safety calling frequencies;

2. IMO to ensure that the services provided by administrations are sufficient for world-wide HF DSC coverage;

instructs the Secretary-General

1. to indicate in the List of Coast Stations all coast and coast earth stations designated by administrations for providing distress and safety watch-keeping services for the GMDSS;

2. to communicate this Resolution to the IMO.

RESOLUTION No. 323 (Mob-87)

Implementation and Use of Frequency 156.525 MHz for Digital Selective Calling for Distress, Safety and Calling

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

that the World Administrative Radio Conference for the mobile Services, 1983, designated, on an exclusive basis, the frequency 156.525 MHz for distress and safety calling by digital selective calling techniques;

considering

a) that the frequency 156.525 MHz became available for distress and safety calling using digital calling techniques on 1 January 1986;

b) that this Conference has decided that the frequency 156.525 MHz may also be used for other calling purposes using digital calling techniques;

c) that the partial revision of the Radio Regulations made by this Conference will enter into force on 3 October 1989;

d) that there is an urgent need to implement, at the earliest possible date, use of digital selective calling techniques on 156.525 MHz for calling purposes in addition to distress and safety calling;

e) that every effort must be made to prevent the use of 156.525 MHz for purposes other than digital selective calling in the maritime mobile service;

f) that the use of 156.525 MHz for other maritime mobile communication purposes must cease as soon as practical;

resolves

that as of 1 January 1988, the frequency 156.525 MHz in the maritime mobile service shall be used exclusively for digital selective calling for distress, safety and calling;

urges administrations

to take all practical measures, including the possible use of technical means, to prevent, as soon as possible and not later than 1 January 1988, any maritime mobile use of the frequency 156.525 MHz other than indicated in the *resolves*;

instructs the Secretary-General

to communicate this Resolution to the International Maritime Organization (IMO).

RESOLUTION No. 324 (Mob-87)

Procedures to be Applied for the Coordination of the Use of the Frequency 518 kHz for the International NAVTEX System

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that this Conference has adopted, as a new Article **14A**, a 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 (International NAVTEX system);

b) that this Conference has decided to abrogate Resolution **318 (Mob-83)**;

resolves

that the administrations and the Board shall, with immediate effect, apply the procedures as described in the new Article **14A** in their activities to coordinate the planned use of the frequency 518 kHz for the International NAVTEX system;

instructs the Secretary-General

to communicate this Resolution to the International Maritime Organization (IMO), the International Hydrographic Organization (IHO) and the World Meteorological Organization (WMO).

RESOLUTION No. 325 (Mob-87)

Use of the Additional Channels Reserved for Duplex Radiotelephony in the HF Bands Allocated to the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that there is an increasing demand for additional duplex channels for radiotelephony in the HF bands allocated on an exclusive basis to the maritime mobile service;

b) that this Conference has modified Appendices **16** and **31** of the Radio Regulations and has provided a number of additional duplex channels for radiotelephony (channel Nos.:

from 427 to 429
from 607 to 608
832, and from 834 to 837
from 1233 to 1241
from 1642 to 1656
from 1801 to 1805, and from 1807 to 1815
from 2241 to 2253
from 2501 to 2509);

c) that it is necessary to develop procedures for the establishment of initial duplex radiotelephony allotments for the newly available channels, as well as for the updating of the use of these channels;

noting

that the current Appendix **25** allotment plan together with Article **16** of the Radio Regulations have effectively served the maritime mobile service and the latter may be used for the updating of the use of the new channels;

resolves

1. that the newly available channels shall be initially allotted in accordance with the procedure contained in the Annex to this Resolution;

2. that Appendix **25** shall be updated by including in it the allotments resulting from the application of the provisions of the Annex to this Resolution;

3. that, following the application of *resolves* 2 above, the administrations shall apply the procedure of Article **16** for any modification to existing allotments or the addition of new allotments.

ANNEX TO RESOLUTION No. 325 (Mob-87)

Procedure for Establishing an Initial Allotment Arrangement in the Newly Available Channels for Duplex Radiotelephony in the HF bands

1. Administrations intending to use one of the new channels indicated in *considering b)* shall send their requirements to the Board by providing the information listed in Appendix **5** to the Radio Regulations before 1 April 1989.[1]

2. Following the receipt of this information, the Board shall examine these requirements and, if necessary, request the Administrations to communicate any missing information. Only those requirements which are complete will be taken into account in this procedure.

3. Using its Technical Standards, the Board shall prepare an initial allotment arrangement following the order indicated in paragraph 4 below.

[1] *Note* – Administrations that cannot use channels Nos. 428, 429, 834, 835, 836, 837 shall indicate accordingly when submitting their requirements.

4. The initial allotment arrangement for the new channels shall include for a given band and a given allotment area the requirements in the following order:

4.1 requirements of administrations having no allotments in Appendix **25** to the Radio Regulations and which require such allotments;

4.2 requirements of administrations which, following the application of Article **16**, could not be given an allotment in the current Appendix **25** with the required protection criteria;

4.3 requirements of administrations asking for additional allotments to supplement their existing allotments in order to satisfy an increase in radiotelephony traffic.

5. The Board shall consult those administrations whose requirements could not be included in the allotment arrangement for the new channels and, if an administration insists, the Board shall determine from all the channels available for duplex radiotelephony the channel which is the least affected, and shall include the requirement in this channel.

6. Not later than 1 October 1990 the Board shall publish the allotment arrangement for the new channels so that administrations may comment on it.

7. If within a period of 60 days following this publication, an administration informs the Board that its proposed allotment is not acceptable to it, the Board shall endeavour to identify an alternative channel as indicated in paragraph 5 above.

8. If following the application of paragraph 7 above, the administration concerned is not in a position to accept the Board's recommendation, the requirement will be returned to the administration concerned with the suggestion that it apply the Article **16** procedure.

9. At 1 July 1991 the Board shall enter the allotment arrangement for the new channels in Appendix **25** and shall prepare a revised version of Appendix **25** for publication by the Secretary-General.

RESOLUTION No. 326 (Mob-87)

Transfer of Frequency Assignments of Radiotelephone Stations Operating in Accordance with Appendix 25

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that this Conference has modified Appendices **16** and **31** of the Radio Regulations and has placed the paired frequencies reserved for radiotelephony in the HF bands allocated to the maritime mobile service at intervals of 3.0 kHz as opposed to 3.1 kHz;

b) that it will be necessary to make a consequential modification to Appendix **25** of the Radio Regulations;

c) that coast and ship radiotelephone stations will need to change their transmitting and receiving frequencies to bring them into conformity with the corresponding channels in Appendix **16** (Section A);

d) that there should be an orderly transition to the revised paired frequencies reserved for radiotelephony in the HF bands allocated to the maritime mobile service;

resolves

1. that, at 0001 hours UTC on 1 July 1991, coast and ship radiotelephone stations shall change their transmitting and receiving frequencies to the replacement frequencies indicated for the same channel number in Appendix **16**;

2. that within three months prior to 1 July 1991 the administrations shall notify the Board of the transfer of their assignments to the replacement frequencies;

3. that an assignment for a replacement frequency, the other basic characteristics of which are not modified, shall be recorded with the date 1 July 1989 in column 2a;

4. that frequency assignments for which the Board received no notification for the frequency indicated in Appendix **16** shall bear a symbol to indicate that they will no longer be taken into account. The Board shall apply the provisions of Article **16** to the corresponding allotment appearing in Appendix **25**.

RESOLUTION No. 327 (Mob-87)

Transfer of Paired Frequency Assignments Reserved for Narrow-Band Direct-Printing Telegraphy and Data Transmission Systems

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

that it has provided for additional narrow-band direct-printing and data transmission channels;

recognizing

a) that the transfer of frequency assignments from the channels established by the World Maritime Administrative Radio Conference, Geneva, 1974, and already in use, to the channels adopted by this Conference, should be made with the least possible disruption of the service provided by each station;

b) that a satisfactory procedure for the use and notification of paired frequencies for narrow-band direct-printing telegraphy and data transmission has been established in Resolution **300 (Rev.Mob-87)**;

c) that the present coast station assignment arrangements for paired narrow-band direct-printing telegraphy and data transmission have been effective;

resolves

1. that, at 0001 hours UTC on 1 July 1991, coast and ship stations using paired narrow-band direct-printing and data transmission shall change their transmitting and receiving frequencies to bring them into conformity with Appendix **32**;

2. that, within three months prior to 1 July 1991, administrations shall notify the Board of the transfer of their assignments to the frequency indicated for the same channel number in Appendix **32**;

3. that notices of frequency assignments whose basic characteristics, other than the frequency, are not modified, shall be recorded in the Master International Frequency Register;

4. that frequency assignments for which the Board has received no notification for the frequency indicated in Appendix **32** shall bear a symbol to show that they will no longer be taken into account in the application of Resolution **300 (Rev.Mob-87)**.

RESOLUTION No. 328 (Mob-87)

Transfer of Frequency Assignments to Coast Stations for Wideband Telegraphy, for A1A or A1B Morse Telegraphy, for Facsimile, Special and Data Transmission Systems and for Direct-Printing Telegraphy Systems Operating in the Bands Allocated Exclusively to the Maritime Mobile Service Between 4 000 and 27 500 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the frequency bands allocated to the maritime mobile service for coast stations have been changed as a result of the general review of the HF maritime mobile service bands;

b) that new frequency limits for coast stations for wideband telegraphy, for A1A or A1B Morse telegraphy, for facsimile, special and data transmission systems and for direct-printing telegraphy systems (hereafter referred to collectively as "wideband telegraphy" in this Resolution), are laid down in the revised provisions of Appendix **31**;

c) that this Conference has not established a channelling arrangement for these bands;

d) that there should be an orderly transition of the frequency assignments to the newly allocated bands;

resolves

1. that those frequency assignments recorded in the Master Register, having an assigned frequency band totally within that part of the band which is no longer allocated to coast station wideband telegraphy, shall be transferred in blocks, as follows:

4 MHz band:	from	4 219.4 - 4 221	to	4 349.4 - 4 351
6 MHz band:	from	6 325.4 - 6 332.5	to	6 493.9 - 6 501
8 MHz band:	from	8 435.4 - 8 438	to	8 704.4 - 8 707
12 MHz band:	from	12 652.3 - 12 658.5	to	13 070.8 - 13 077
16 MHz band:	from	16 859.4 - 16 904.5	to	17 196.9 - 17 242
22 MHz band:	from	22 310.5 - 22 445.5	to	22 561 - 22 696

2. that the IFRB shall identify those frequency assignments recorded in the Master Register having an assigned frequency band overlapping the part of the band which is no longer allocated to coast station wideband telegraphy, shall search for an alternative frequency in accordance with Nos. **1445** to **1450** and shall propose it to the administration concerned;

3. that when the frequency transfer results in a degradation of operating conditions of any of these coast stations, the IFRB shall search for an alternative frequency in accordance with Nos. **1445** to **1450** and shall propose it to the administration concerned;

4. that at 0001 UTC on 1 July 1991 administrations shall transfer the transmitting frequencies of their stations to the newly designated frequencies, notifying the IFRB of these transfers, in accordance with the provisions of Article **12** of the Radio Regulations;

5. that replacement frequency assignments whose basic characteristics, other than the frequency, are not modified, shall be recorded without modifying the date appearing in column 2a or 2b;

6. that frequency assignments for which the Board has received no notification of changeover shall be examined under Article **12** of the Radio Regulations with respect to all the transferred assignments irrespective of the date of their notification to the Board. Following this examination the Board shall advise the administration to delete this assignment and enter a symbol to indicate that the assignment is not in conformity with this Resolution.

RESOLUTION No. 329 (Mob-87)

Procedure Applicable to Stations Transmitting NAVTEX-type Information on the Frequencies 490 kHz and 4 209.5 kHz Using Narrow-Band Direct-Printing Telegraphy

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that in the maritime mobile service the frequency 518 kHz is used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships using narrow-band direct-printing telegraphy (the International NAVTEX system);

b) that this Conference has included in Article **14A** the procedure for the coordination of the planned use of the frequency 518 kHz for the International NAVTEX system;

c) that this Conference has also designated within the maritime mobile service the frequencies 490 kHz and 4 209.5 kHz to be used exclusively for the transmission of NAVTEX-type information;

d) that the frequency 490 kHz will become available for NAVTEX-type transmissions after the full implementation of the GMDSS;

e) that the proper functioning of the transmission of NAVTEX-type information is dependent on the coordinated use of these transmissions by the coast stations involved;

f) that the coordination of the operational aspect of the International NAVTEX system on 518 kHz is being undertaken by the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), and the World Meteorological Organization (WMO);

g) that it is moreover desirable that the IMO, in cooperation with the IHO and the WMO, provide assistance in the coordination of the transmission of NAVTEX-type information by coast stations on the frequencies 490 kHz and 4 209.5 kHz;

resolves

1. that administrations wishing the IMO to coordinate the use of the frequencies 490 kHz and 4 209.5 kHz for the transmission of NAVTEX-type information should also communicate to the IFRB the additional characteristics mentioned in No. **1632** of the Radio Regulations;

2. that for the frequencies 490 kHz and 4 209.5 kHz administrations and the IFRB shall use the procedures set forth in Article **14A** with the following qualifications:

- No. **1634** applies to the basic characteristics only;
- communication of the additional characteristics mentioned in No. **1632**, or of any analogous characteristics, is nevertheless recommended;
- No. **1635** shall also be applied to the frequency bands 489.75 - 490.25 kHz and 4 209.25 - 4 209.75 kHz;
- the IFRB shall communicate a copy of the special section of its weekly circular indicating any coordination already effected and the names of administrations identified in application of No. **1635** to the IMO, IHO and WMO for information only;

invites

1. the IMO to communicate, as soon as practicable after receipt of the information supplied by the IFRB under *resolves* 2, to the administrations concerned and the IFRB, any comments which may assist the administrations in reaching agreement;

2. the IMO, the IHO and the WMO to carry out any operational coordination which may be necessary;

requests the CCIR

to undertake the necessary technical studies with a view to ensuring global coordination of the planned utilization of the transmission of NAVTEX-type information, for use by the IMO, the WMO, the IHO and the IFRB;

instructs the Secretary-General

to communicate this Resolution to the IMO, the IHO and the WMO.

RESOLUTION No. 330 (Mob-87)

Frequencies for Routine (Non-Distress) Calling in the Bands Between 1 605 kHz and 4 000 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

a) that after the full implementation of the Global Maritime Distress and Safety System (GMDSS) the carrier frequency 2 182 kHz may be required exclusively for distress and safety purposes (see Resolution **331 (Mob-87)**);

b) that, as a consequence, there may be a need to provide a frequency for routine (non-distress) calling by radiotelephony; however, this Conference is not in a position to identify a specific frequency for this purpose in the bands between 1 605 kHz and 4 000 kHz;

c) that this Conference has provided the frequency pair 2 177 kHz (coast stations) and 2 189.5 kHz (ship stations) for routine (non-distress) calling using digital selective-calling techniques;

considering

that, as this Conference has provided frequencies for routine (non-distress) calling using digital selective calling techniques, there may no longer be a need to provide a frequency for routine (non-distress) calling by radiotelephony in the bands between 1 605 kHz and 4 000 kHz after the full implementation of the GMDSS;

resolves

to recommend that a future competent world administrative radio conference should consider whether there is a need to provide a frequency for routine (non-distress) calling by radiotelephony in the bands between 1 605 kHz and 4 000 kHz;

invites the Administrative Council

to place this matter on the agenda of the next competent world administrative radio conference;

instructs the Secretary-General

to communicate this Resolution to the International Maritime Organization (IMO).

RESOLUTION No. 331 (Mob-87)

Introduction of Provisions for the Global Maritime Distress and Safety System (GMDSS) and Continuation of the Existing Distress and Safety Provisions

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

that the International Maritime Organization (IMO):

- has reached the final stage of development of the Global Maritime Distress and Safety System (GMDSS);
- is preparing a revision of the International Convention for the Safety of Life at Sea (SOLAS), 1974, with a view to introducing the GMDSS;
- will decide on the dates of initial and full implementation of the GMDSS, including any intermediate dates of application for various classes of ships subject to the above-mentioned Convention;

noting further

a) that to ensure compatibility between ships following Chapter **IX** and those following Chapter **N IX** of the Radio Regulations, all ships subject to the 1974 SOLAS Convention will continue to use applicable existing distress and safety provisions until the GMDSS has been implemented fully;

b) that some administrations and ships not subject to the 1974 SOLAS Convention may continue to use provisions of Chapter **IX** on Distress and Safety Communications after the GMDSS has been implemented fully;

c) that it would be costly for administrations to maintain in parallel for an excessive period of time shore-based facilities necessary to support both the existing distress and safety system and the GMDSS;

d) that it is necessary to continue existing shore-based distress and safety services so that ships not subject to the 1974 SOLAS Convention will be able to obtain assistance from these services until such time as they are able to participate in the GMDSS;

considering

a) that this Conference has placed in Chapter **N IX** the provisions which are required for the GMDSS to be implemented, and that Chapter **IX**, as modified, retains the provisions for the existing distress and safety system;

b) that the introduction of the GMDSS will offer the opportunity to gain administrative, technical and operational experience with the new system;

c) that the experience gained from the operation of the GMDSS should be used to improve the distress and safety system;

recognizing

a) that to assist IMO, the provisions of Chapter **N IX** should enter into force prior to the initial implementation date of the GMDSS;

b) that some elements of the GMDSS described in Chapter **N IX**, particularly digital selective calling, will not be fully operational in all parts of the world on the date of entry into force of the Final Acts of this Conference;

resolves

1. that the entry into force of Chapter **N IX**:

a) implies that those administrations wishing to start using the provisions of Chapter **N IX** may do so;

b) does not commit any administration to install or establish GMDSS facilities or to start using the provisions of Chapter **N IX**;

2. that nevertheless, and in light of *resolves* 1, administrations shall be obliged to follow the provisions of Chapter **IX** until adequate measures have been taken to ensure the continuation of safety communications for ships not subject to the 1974 SOLAS Convention, until full implementation of the GMDSS and until a future competent conference decides otherwise;

invites the Administrative Council

to draw this Resolution to the attention of the next Plenipotentiary Conference and to request that Conference to decide on a world administrative radio conference which should be made competent to review this Resolution and Chapters **IX** and **N IX**;

requests the IMO

when it is deciding the dates of implementation of the GMDSS, to take into account:

1. Resolution **322 (Rev.Mob-87)** Relating to Coast Stations and Coast Earth Stations Assuming Watch-keeping Responsibilities on Certain Frequencies in Connection with the Implementation of Distress and Safety Communications for the GMDSS, which is concerned with the adequate geographic distribution of coast stations and coast earth stations necessary for the implementation of the GMDSS;

2. the economic repercussions and benefits of the GMDSS and the particular limitations confronting the developing countries;

3. the possibility of a progressive implementation of the GMDSS by bringing into effect component parts of the system, particularly those having maximum benefit to the safety of life at sea;

instructs the Secretary-General

to communicate this Resolution to IMO and the International Civil Aviation Organization (ICAO).

RESOLUTION No. 332 (Mob-87)

Use of the Frequency 4 209.5 kHz for NAVTEX-type Transmissions in the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that, *inter alia*, high atmospheric noise levels in the 500 kHz band, mainly in the tropical and sub-tropical regions, will limit the range at which NAVTEX signals transmitted on 518 kHz can be received in these regions;

b) that atmospheric noise levels in the tropical and sub-tropical regions are significantly lower in the 4 MHz band than at 518 kHz;

c) that a non-paired narrow-band direct-printing (NBDP) channel in the 4 MHz maritime mobile band is needed to provide such transmissions in a predominantly ground wave mode;

noting

a) that NAVTEX-type transmissions include navigational and meteorological warnings and urgent information to ships;

b) that the International Maritime Organization (IMO) has agreed that there is a need for NAVTEX-type transmissions on a 4 MHz NBDP channel;

recognizing

a) that the frequency 4 209.5 kHz has been allocated by this Conference exclusively for these purposes specified in *considering c)*;

b) that the IMO, the World Meteorological Organization (WMO) and the International Hydrographic Organization (IHO) are the competent organizations to develop a plan for the global use of the HF NBDP marine NAVTEX-type transmission channel;

resolves to invite the IMO, WMO and IHO

1. to develop jointly, in consultation with the IFRB, a plan for the global coordination of NAVTEX-type transmissions using NBDP techniques;

2. to assume joint responsibility for maintaining the plan in consultation with the IFRB;

urges administrations

which need to use this channel to assign the frequency in conformity with the procedures set out in Resolution **329 (Mob-87)** and the Recommendations of the IMO, WMO and IHO for that part of the system over which they hold jurisdiction;

invites the Administrative Council

to place this Resolution on the agenda of the next competent world administrative radio conference for review and any other action that may be required;

invites the CCIR

to develop the technical characteristics to allow these transmissions to be received using automated techniques;

instructs the Secretary-General

to communicate this Resolution to the IMO, IHO and WMO for consideration and comments.

RESOLUTION No. 333 (Mob-87)

Coordination of the Use of HF Maritime Mobile Frequencies for Transmission of High Seas Maritime Safety Information

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the International Maritime Organization (IMO) has reaffirmed the need for long-range navigational and meteorological warnings to all ships on all voyages;

b) that operational limitations prevent NAVTEX or satellite services from totally fulfilling this requirement;

c) that international narrow-band direct-printing channels for this purpose have been identified by this Conference;

d) that, due to HF propagation characteristics, global coordination of transmissions to prevent interference is required;

noting

a) that the IMO and the International Hydrographic Organization (IHO), in the development of the World-Wide Navigational Warning Service, have identified sixteen Navigational Areas (NAVAREAs), each under the jurisdiction of an area coordinator, for the transmission of maritime safety information;

b) that as maritime safety information includes meteorological as well as navigational messages, the World Meteorological Organization (WMO) also has an interest in this matter;

recognizing

that the IMO, WMO and IHO are the competent organizations to coordinate the operational aspects of the transmission of maritime safety information;

resolves that the IMO, WMO and IHO be invited

1. to develop jointly, in consultation with the IFRB, a global coordinated plan for the transmission of high seas maritime safety information using narrow-band direct-printing techniques;

2. to assume joint responsibility for maintaining the plan in consultation with the IFRB;

urges administrations

to effect the appropriate operational coordination with the IMO, IHO and WMO in accordance with this plan;

invites the CCIR

to develop the technical characteristics to allow these transmissions to be received using automated techniques;

invites the Administrative Council

to place this Resolution on the agenda of the next competent world administrative radio conference, with a view to reviewing and, if necessary, amending the coordination arrangements;

instructs the Secretary-General

to communicate this Resolution to the IMO, IHO and WMO for consideration and comments.

RESOLUTION No. 334 (Mob-87)

Inclusion in the Regulations to be Adopted by the World Administrative Telegraph and Telephone Conference (WATTC-88) of Provisions Concerning Charging and Accounting for Maritime Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications, and Consequential Modifications to Article 66 of the Radio Regulations

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

recognizing

that it is expected that provisions concerning charging and accounting for maritime radiocommunications in the maritime mobile service and the maritime mobile-satellite service may be included in the Regulations to be adopted by the WATTC-88;

considering

that, if such provisions are included in those Regulations, it will not be necessary to retain similar provisions in the Radio Regulations;

noting

that those Regulations, if adopted, will enter into force after the revision of the Radio Regulations by this Conference;

resolves

1. that if provisions concerning charging and accounting for maritime radiocommunications in the maritime mobile service and the maritime mobile-satellite service are contained in the Regulations to be adopted by the WATTC-88, when the latter enter into force, Article **66** of the Radio Regulations should be replaced by the following text:

"ARTICLE 66

Charging and Accounting for Maritime Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications

The provisions of the Regulations adopted by the WATTC-88, taking into account the relevant CCITT Recommendations, shall apply.";

2. that in any interim period between the entry into force of the Final Acts of this Conference and the entry into force of the new Regulations containing modified provisions concerning charging and accounting for maritime radiocommunications in the maritime mobile and maritime mobile-satellite services, administrations and recognized private operating agencies shall apply Article **66** of the Radio Regulations as modified by this Conference;

3. that if special provisions concerning charging and accounting in the maritime mobile and maritime mobile-satellite services are not included in the new Regulations adopted by the WATTC-88, Article **66** of the Radio Regulations, as modified by this Conference, shall continue to apply;

4. that a future competent conference should be invited to review this Resolution;

invites the Administrative Council

to place this Resolution on the agenda of the next competent conference.

RESOLUTION No. 335 (Mob-87)

Use of Non-Paired Ship Station Frequencies for Narrow-Band Direct-Printing Telegraphy and Data Transmission Systems[1]

(see Article **60** and Appendix **33**)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that certain sections of the HF bands allocated to the maritime mobile service are reserved for narrow-band direct-printing telegraphy and data transmission systems operating on a non-paired frequency basis;

b) that neither the World Maritime Administrative Radio Conference, Geneva, 1974, nor the World Administrative Radio Conference, Geneva, 1979, were in a position to decide the extent to which it was necessary to regulate the orderly use of frequencies for the transmission by ship stations of non-paired direct-printing telegraphy signals or on what basis this might be done;

c) that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraphy and data transmission systems for ships have notified the IFRB, for recording in the Master Register, the frequencies on which ship stations transmit;

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[1] Replaces Resolution **301** of the World Administrative Radio Conference, Geneva, 1979.

d) that these notices have not been subject to technical examination by the IFRB, and that the assignments notified have been recorded in the Master Register for information only, with no date in Column 2;

e) that this Conference has provided administrations with guidance on how the frequencies reserved for non-paired narrow-band direct-printing telegraphy and data transmission systems should be used by ship stations;

resolves

1. that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraphy and data transmission systems for ships shall not be required to notify to the IFRB the frequencies on which ship stations transmit;

2. to instruct the IFRB to delete from the Master Register all assignments recorded as a result of the application of Resolution **301**.

RESOLUTION No. 336 (Mob-87)

Early Implementation of the Use of Digital Selective Calling on Maritime HF Radiotelephone Channels

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that it is desirable for ship stations using radiotelephony to be able also to signal using digital selective calling;

b) that, at present, the emission of digital signals on maritime HF radiotelephone channels is not allowed;

c) that this Conference has nevertheless adopted a modification to No. **4685** to permit the use of digital selective calling on maritime HF radiotelephone working channels;

resolves

that, with effect from 1 January 1988, digital selective calling signals may be emitted on maritime HF radiotelephone working channels.

RESOLUTION No. 337 (Mob-87)

Resolutions and Recommendations Which Remain in Effect Until the Provisions of the Radio Regulations as Partially Revised by WARC Mob-87 Take Effect

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the essential parts of Resolution **320 (Mob-83)** have been incorporated into the Radio Regulations, as partially revised by WARC Mob-87;

b) that this Conference has therefore decided to suppress Resolutions **304** and **320 (Mob-83)** and that Recommendations **302** and **312** shall eventually be suppressed;

noting

a) that as a general rule, Resolutions and Recommendations become effective at the time of the signing of the Final Acts of a Conference;

b) that the provisions of the Radio Regulations, as partially revised by this Conference, will become effective only at a much later date;

noting further

that, as a general rule, Resolutions and Recommendations which a WARC has decided to suppress, become ineffective at the time of the signing of the Final Acts of the Conference;

recognizing

a) that, in accordance with the general rule, such a suppression would effectively remove the guidelines contained in the Resolutions and Recommendations referred to above upon the signing of the Final Acts;

b) that these guidelines should, however, remain in effect until the entry into force of the provisions of the Radio Regulations, as partially revised by this Conference;

resolves

that Resolutions **304** and **320 (Mob-83)** and Recommendations **302** and **312** shall remain in effect until the entry into force of the provisions of the Radio Regulations, as partially revised by this Conference, at which date they shall become ineffective and definitively suppressed.

RESOLUTION No. 408 (Mob-87)

Use of the Band 136 - 137 MHz by Services other than the Aeronautical Mobile (R) Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

a) the provisions of No. **595** concerning the use of the band 136 - 137 MHz by the aeronautical mobile (R) service commencing on 1 January 1990;

b) that frequencies allocated to the aeronautical mobile (R) service are reserved for communications related to safety and regularity of flight and therefore require special measures to ensure freedom from harmful interference;

considering

a) that the Table of Frequency Allocations includes allocations in the band 136 - 137 MHz to the aeronautical mobile (R) service on a primary basis, to the aeronautical mobile (OR) service in some countries (No. **594A**) on a permitted basis and to the fixed and mobile, except aeronautical mobile (R), services on a secondary basis;

b) that No. **595** also provides for allocation to the space operation service (space-to-Earth), the meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis up to 1 January 1990, and thereafter on a secondary basis, and that the aeronautical mobile (R) service can be introduced only after 1 January 1990;

c) that from that date the aeronautical mobile (R) service may be subject to harmful interference which would endanger the safety of air navigation and that it is therefore necessary to protect this service from harmful interference that might be caused by stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth);

resolves

1. that administrations operating or intending to operate, stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth) in the band 136 - 137 MHz from 1 January 1990, take all necessary steps to protect the aeronautical mobile (R) service;

2. to request administrations to refrain from authorizing new assignments, as from 1 January 1990, to the services to which the band 136 - 137 MHz is allocated on a secondary basis;

recommends

1. that administrations cease operation of stations of the other services to which the band is allocated on a secondary basis as and when the stations of the aeronautical mobile (R) service come into operation;

2. that a future competent world administrative radio conference consider the deletion of all secondary allocations from the band 136 - 137 MHz;

invites the Administrative Council

to place this matter on the agenda of the next competent world administrative radio conference.

RESOLUTION No. 409 (Mob-87)

Use of Frequency Bands Allocated Exclusively to the Aeronautical Mobile Service for Various Forms of Public Correspondence

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that some administrations have notified assignments to the IFRB, in the frequency bands allocated exclusively to the aeronautical mobile service, which relate to public correspondence, limited public correspondence and correspondence of a private agency;

b) that such assignments are in contravention of No. **3633**, which does not permit public correspondence in frequency bands allocated exclusively to the aeronautical mobile service;

c) that such assignments are capable of causing harmful interference to the aeronautical mobile service;

d) that radio is the sole means of communication available to the aeronautical mobile service and that this service is concerned with the safety and regularity of flight;

recognizing

a) that this Conference has made appropriate amendments to Article **12** to allow the IFRB the flexibility required in dealing with notices not in conformity with No. **3633**;

b) that it is of paramount importance that frequencies directly concerned with the safe and regular conduct of aircraft operations be kept free from harmful interference, since they are essential for the safety of life and property;

resolves

1. *to urge administrations*

a) to refrain from making assignments to stations for various forms of public correspondence in frequency bands allocated exclusively to the aeronautical mobile service;

b) to cease such operations and delete related assignments from the Master International Frequency Register;

2. *to request the IFRB*

a) to advise the administrations concerned of their assignments contained in the Master International Frequency Register which are in contravention of No. **3633** of the Radio Regulations;

b) to seek the cooperation of administrations in the cessation of operations in contravention of No. **3633** of the Radio Regulations and consequent deletion of the assignments concerned from the Master International Frequency Register.

RESOLUTION No. 601 (Rev. Mob-87)

Recommendations and Standards for Emergency Position-Indicating Radiobeacons Operating on the Frequencies 121.5 MHz and 243 MHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that emergency position-indicating radiobeacons operating on the frequencies 121.5 MHz and 243 MHz are intended to facilitate search and rescue operations;

b) that the frequencies 121.5 MHz and 243 MHz are in common use by aircraft engaged in search and rescue operations;

c) that the International Civil Aviation Organization (ICAO) has established recommended signal characteristics and technical specifications for aircraft equipment operating on 121.5 MHz and/or 243 MHz;

d) Appendix **37A**;

resolves

that administrations authorizing the use of emergency position-indicating radiobeacons on 121.5 MHz and/or 243 MHz should ensure that such radiobeacons comply with the relevant CCIR Recommendations and standards and recommended practices of ICAO.

RESOLUTION No. 602 (Mob-87)

Data Transmission from Maritime Radiobeacons for Differential Radionavigation Systems

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that No. **466** of the Radio Regulations provides for the transmission of supplementary navigational information using narrow-band techniques, on condition that the prime function of the beacon is not significantly degraded;

b) that the International Maritime Organization (IMO) has identified a need for data exchange between shore and ship in the case of radionavigation systems (e.g., Omega, GPS, Loran-C) operating in the differential mode;

c) that Resolution **3** of the Regional Administrative Conference for the Planning of the Maritime Radionavigation Service (Radiobeacons) in the European Maritime Area (Geneva, 1985) (EMA) invited this Conference to consider the various aspects of the use of maritime radiobeacons to transmit data to ships using either minimum shift keying (MSK) or frequency shift keying (FSK) techniques, and to choose between these two techniques;

d) that CCIR studies have shown that, for continuous data transmission, it is necessary to use a second carrier, offset from the main carrier by 300 Hz or more, to prevent interference to certain types of automatic radio direction finders, regardless of whether MSK or FSK modulation is chosen;

e) that these studies have shown that MSK modulation has advantages over FSK modulation because of its improved spectral efficiency;

f) that the EMA Conference decided that radiobeacons in the European Maritime Area would be channelled in multiples of 500 Hz;

g) that if FSK or MSK modulation with an offset of 300 Hz or more is encoded on to a radiobeacon signal in the European Maritime Area, then the digital modulation signal will be contained partly in the channel adjacent to the radiobeacon channel, particularly in the case of high-speed data transmission;

h) that many administrations prefer the use of MSK modulation;

i) that the satellite system data corrections have to be transmitted on a continuous basis;

resolves

1. that the frequency for continuous data transmission to ships using FSK or MSK modulation on maritime radiobeacons should be offset from the radiobeacon main carrier frequency by an amount sufficient to ensure that no harmful interference is caused to automatic radio direction finders;

2. that the CCIR should continue to study the technical factors, including a standard coding format, modulation method, necessary bandwidth, protection ratios and frequency offsets, such that the prime function of the radiobeacon is not significantly degraded, and make Recommendations;

3. that channelling plans for maritime radiobeacons should accommodate the transmission of data to ships using frequency offset techniques;

invites the IFRB

to consider this Resolution in preparing its technical standards and rules of procedure;

invites

the Members of the Union in the European Maritime Area to consider convening a competent regional administrative radio conference concerning a possible revision of the Regional Agreement (Geneva, 1985) for the purpose of accommodating continuous data transmission using frequency offset techniques.

RESOLUTION No. 704 (Mob-83)[1]

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

[1] Although this Resolution has been reviewed by the WARC Mob-87, some of the action required has not been completed, and it is retained until such a time as appropriate action is taken in a future competent WARC and pending consideration of Resolution **19 (Mob-87)** by the Plenipotentiary Conference, 1989.

RESOLUTION No. 705 (Mob-87)

Mutual Protection of Radio Services Operating in the Band 70 - 130 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that various radio services, including radionavigation systems used by maritime and aeronautical services, operate in frequency bands between 70 and 130 kHz;

b) that, radionavigation being a safety service, all practical steps consistent with the Radio Regulations should be taken to prevent harmful interference to any radionavigation system;

c) that the CCIR has noted that users of phased pulse radionavigation systems in the band 90 - 110 kHz receive no protection outside the band, yet may receive benefit from their signals outside the occupied bandwidth;

noting

that CCIR studies show:

- that for CW radionavigation systems in the frequency bands 70 - 90 kHz and 110 - 130 kHz, the protection ratio should be 15 dB within the receiver passband of ± 7 Hz at 3 dB;
- that phased pulse radionavigation systems require a 15 dB protection ratio within the band 90 - 110 kHz;

– that these pulse radionavigation systems would be aided by protection ratios of 5 dB and 0 dB for frequency separations between wanted and interfering signal of 10 - 15 kHz and 15 - 20 kHz, respectively;

further noting

that the CCIR has recommended the exchange of information between authorities operating radionavigation systems in the band 90 - 110 kHz and those operating other systems in the band 70 - 130 kHz employing emissions of very high stability;

recognizing

a) that radio services other than radionavigation operating in the bands 70 - 90 kHz and 110 - 130 kHz fulfil essential functions that may be affected;

b) the provisions of Nos. **343**, **451**, **453** and **953** of the Radio Regulations;

resolves that administrations

1. in assigning frequencies to services in the bands 70 - 90 kHz, 90 - 110 kHz and 110 - 130 kHz, consider the potential mutual impairment to other stations operating in accordance with the Table of Frequency Allocations and apply protective measures;

2. use the relevant CCIR Recommendations and encourage the exchange of information between authorities operating radionavigation systems in the band 90 - 110 kHz and those operating other systems in the band 70 - 130 kHz employing emissions of very high stability, to assist in preventing potential interference problems;

3. encourage consultation, both nationally and internationally, between operators of radionavigation systems using the band 90 - 110 kHz and of other systems using the band 70 - 130 kHz;

requests the CCIR

to continue studies in this matter, particularly the development of technical criteria and standards to permit compatible operations within the allocated bands and to assist in developing the list of contacts of system operators;

invites

1. the Administrative Council to place this matter on the agenda of the next competent world administrative radio conference, in order to establish technical criteria for the harmonious operation of the services in the bands between 70 - 130 kHz;

2. the International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO), the International Association of Lighthouse Authorities (IALA), the *Bureau international de l'heure* (BIH)[1] and national authorities to provide the Union with information pertaining to the potential impairment of systems operating in the bands 70 - 90 kHz, 90 - 110 kHz and 110 - 130 kHz, together with their views and proposals resulting therefrom.

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[1] *Note by the General Secretariat:* The 18th General Conference of the "Bureau International des Poids et des Mesures", 12-15 October 1987, adopted a Resolution transferring the responsibility of establishing the International Atomic Time (TAI) from the BIH to the BIPM.

RESOLUTION No. 706 (Mob-87)

Operation of the Fixed and Maritime Mobile Services in the Band 90 - 110 kHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) the need to protect phased pulse hyperbolic radionavigation systems (Loran-C) operating in the band 90 - 110 kHz used as a safety service for both maritime and aeronautical services;

b) the studies made by the CCIR in this band;

c) that harmful interference affecting safety of flight and ship navigation may be caused to this service by the operation of the fixed and maritime mobile services having a secondary allocation in this band;

d) that, notwithstanding No. **453A** of the Radio Regulations, this Conference has removed the allocation for the maritime mobile service from this band;

noting

that this Conference is not competent to affect significantly the allocation of the fixed service;

resolves

to invite the next competent conference to review the fixed service allocation in this band, and No. **453A** of the Radio Regulations, with a view to their possible deletion;

invites the Administrative Council

to place this matter on the agenda of the next competent world administrative radio conference.

RESOLUTION No. 708 (Mob-87)

Criteria for Sharing between the Radiodetermination-Satellite Service and Terrestrial Services in the Bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and 2 500 - 2 516.5 MHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that this Conference allocated frequencies for the radiodetermination-satellite service in the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and 2 500 - 2 516.5 MHz;

b) that the technical criteria specified for this service, and in particular the provisions of Nos. **1107.2**, **2548A** and **2556** to **2564** were established or adapted for the purpose of allowing implementation of this service;

c) that further studies are required in order to obtain more precise results concerning the conditions of sharing in these bands, between the radiodetermination-satellite service (RDSS) and the terrestrial services;

resolves

that the next competent world administrative radio conference should consider reviewing the limits in *considering b)* above, taking into account the results of relevant CCIR studies;

invites the CCIR

to continue its studies in order to obtain more precise results concerning the conditions of sharing in the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and 2 500 - 2 516.5 MHz between the radiodetermination-satellite service on the one hand and the aeronautical radionavigation, fixed, mobile, radiolocation and radioastronomy services on the other hand;

urges administrations

1. to use the most recent information developed by the CCIR in assessing the probability of interference between the radiodetermination-satellite service and the terrestrial services sharing the same frequency bands;

2. to accept the application of the most recent CCIR Recommendations relating to the technical criteria referred to in *considering b)* above when they are consulted in the application of Resolution **703**;

invites the Administrative Council

to place this matter on the agenda of the next competent world administrative radio conference.

RECOMMENDATION No. 7 (Rev.Mob-87)

Adoption of Standard Forms for Ship Station and Ship Earth Station Licences and Aircraft Station and Aircraft Earth Station Licences [1, 2]

(The text remains unchanged)

[1] Replaces Recommendation **17** of the Administrative Radio Conference, Geneva, 1959.

[2] Throughout this Recommendation, references to ship stations may include references to ship earth stations and references to aircraft stations may include references to aircraft earth stations.

RECOMMENDATION No. 14 (Mob-87)

Identification and Location of Special Vessels, such as Medical Transports, by Means of Standard Maritime Radar Transponders

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) the desirability of implementing modern techniques in standard maritime radar transponders for the identification and location of vessels at sea;

b) Radio Regulations **3219A** and **N 3223**, which provide that the identification and location of medical transports at sea may be effected by means of appropriate standard maritime radar transponders;

c) that transponders designed to be compatible with radiolocation radars are not necessarily compatible with radars used by the maritime and aeronautical radionavigation services; nor is their coding for identification technically defined;

d) that if maritime radar transponders of the type described in CCIR Report 775-2 and CCIR Recommendations 628 and 630, or using the technology described in CCIR Report 774-2, were to be encoded for the identification of special vessels such as medical transports, they would probably be incompatible with most radiolocation radars;

invites the CCIR

to study the question of the identification and location of special vessels such as medical transports by means of standard maritime radar transponders, taking into account also the technical and economic impact of their introduction;

invites administrations

to provide the CCIR with information on this question;

requests the Administrative Council

to include this Recommendation in the agenda of the next competent world administrative radio conference for review and, if appropriate, to amend the Radio Regulations.

RECOMMENDATION No. 104 (Mob-87)

Provision of Frequency Bands for Feeder Links in the Fixed-Satellite Service for the Mobile-Satellite Service or for the Aeronautical, Land, or Maritime Mobile-Satellite Services in the Bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that No. **726** of the Radio Regulations provides that the allocation to the maritime mobile-satellite service in the band 1 530 - 1 535 MHz shall be effective from 1 January 1990, and that up to that date the fixed service shall be on a primary basis in Regions 1 and 3;

b) that feeder links are required for the aeronautical mobile-satellite service, the land mobile-satellite service, the maritime mobile-satellite service and the mobile-satellite service operating in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz;

c) that, although No. **27** of the Radio Regulations provides that such feeder links may be part of the mobile-satellite service, No. **22** of the Radio Regulations indicates that the fixed-satellite service may also include feeder links for the mobile-satellite services;

d) that the majority of such feeder links are in the bands 3 400 - 4 200 MHz and 5 925 - 7 075 MHz;

e) that the bands mentioned in *considering d)* above are becoming increasingly congested, thus causing some difficulties during the coordination process;

f) that the lack of homogeneity of the technical characteristics of the feeder links of the mobile-satellite services and the links of the fixed-satellite service results in coordination difficulties;

g) that distress and safety traffic is carried on feeder links of the mobile-satellite services;

h) that the extension of the spectrum necessary for feeder links in contiguous frequency bands would be desirable from a technical and economic point of view, but may cause significant problems of sharing or allocation, or both;

noting

that, at this Conference, certain administrations made proposals for sub-bands in the frequency bands 3 400 - 4 200 MHz and 5 925 - 7 075 MHz in which the feeder links for the aeronautical, land, maritime and mobile-satellite services would have priority over other assignments to the fixed-satellite service, while other administrations considered that the frequency spectrum required for the feeder links for the mobile-satellite services can more readily be provided in the fixed-satellite service bands by the normal coordination process;

recommends

that the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and on the Planning of the Space Services Utilizing It (WARC Orb-88) take note of the concerns expressed in the *considerings* and *noting* above in its decisions with respect to feeder links for the aeronautical mobile-satellite service, the land mobile-satellite service, the maritime mobile-satellite service and the mobile-satellite service in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz;

invites the CCIR

to continue its study relating to this matter;

instructs the Secretary-General

to forward this Recommendation to WARC Orb-88.

RECOMMENDATION No. 205 (Mob-87)

Future Public Land Mobile Telecommunication Systems

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that present techniques used by land mobile cellular systems allow for a significant degree of spectrum efficiency;

b) that new applications involving digital techniques are being introduced in public switched networks and that these applications will also be introduced in the land mobile service;

c) that there is a need for world-wide interoperability, especially for hand-portable (personal) terminals;

d) that the demand for mobile services will continue to increase, making it necessary to develop techniques to improve spectrum utilization;

e) that the spectrum needs will be relatively small for systems serving short-range, low-power, hand-portable (personal) terminals due to the high spectrum efficiency inherent to the small cells in such systems;

f) that a high degree of equipment standardization is desirable;

g) that land mobile system techniques may also be used to provide telecommunications services for fixed service applications in remote areas;

h) that future systems which provide service to hand-portable (personal) terminals may evolve from existing or currently planned systems;

noting

a) Recommendation **310** of the World Administrative Radio Conference, Geneva, 1979, relating to an automated UHF maritime mobile radiocommunication system;

b) CCIR Question 39/8 and Study Programme 39A/8 on public land mobile telephone systems;

c) CCIR Decision 69 initiating a study of future public land mobile telecommunication systems within the current study period;

d) relevant CCITT studies and Recommendations;

recommends

that the next competent world administrative radio conference should consider designating a suitable band or bands for international use by future public land mobile telecommunication systems taking into account the relevant CCIR Recommendations and Reports;

invites the CCIR

to continue to study, as a matter of urgency, the technical characteristics and suitable frequency bands for the equipment and systems providing public land mobile services;

invites the CCITT

to pursue studies to permit the interworking of future public land mobile telecommunication systems with the public switched telecommunication networks;

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. 302 (Rev.Mob-87)

Improved Use of the HF Radiotelephone Channels for Coast Stations in the Bands Allocated Exclusively to the Maritime Mobile Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that a large number of requests for HF radiotelephony allotments was submitted to the World Maritime Administrative Radio Conference, Geneva, 1974;

b) that the number of channels resulting from the revision of Appendix **16** by that Conference has not been sufficient to satisfy those requirements in optimum conditions;

c) that the resulting sharing patterns have been formed mainly by operational considerations;

d) that since the World Administrative Radio Conference, Geneva, 1979, the optimum use of the HF radiotelephony channels in the bands allocated exclusively to the maritime mobile service has been of even greater importance;

e) that, on each channel, administrations should afford one another an equivalent quality of service;

f) that the efforts to develop technical means to facilitate the common use of frequencies by neighbouring coast stations of different administrations, or by a coast station operating on behalf of more than one administration, should be continued;

g) that this Conference has provided a number of additional channels for radiotelephony in the HF bands allocated exclusively to the maritime mobile service (see Resolution **325 (Mob-87)**), but that these additional channels may not be sufficient to satisfy all requirements;

recommends that administrations

1. make every effort to reach mutually satisfactory operational arrangements, which may include:

- different time-sharing arrangements;
- differentiated hours of opening;
- on a voluntary and regional basis, the use of HF radiotelephone channels in an order of overflow priority;

2. employ every practicable means, which may include those mentioned above, to ensure that the best possible use is made of the HF coast radiotelephone channels in the bands allocated to the maritime mobile service;

invites administrations

1. when assigning frequencies in the HF bands to coast stations, to take into account the special rules contained in No. **954** and the provisions of No. **1804** of the Radio Regulations;

2. to ensure that coast stations:

- use the frequency band and the minimum power appropriate to the propagation conditions and the nature of the service;
- use directional antennae whenever possible;

– give appropriate instructions to ship stations in accordance with No. **5056** of the Radio Regulations;

invites the CCIR

to continue its study with a view to improving all technical and operational sharing criteria relating to the use of HF coast radiotelephone channels in the bands allocated exclusively to the maritime mobile service, including the choice of available channels by electronic or other means to facilitate multiple access to the channels.

RECOMMENDATION No. 303 (Rev.Mob-87)

Use of the Carrier Frequencies 4 125 kHz and 6 215 kHz to Supplement the Carrier Frequency 2 182 kHz for Distress and Safety and for Call and Reply Purposes

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that in some areas of the world it is not practicable to provide reliable coverage for distress and safety purposes on the international radiotelephony distress frequency 2 182 kHz, because of the great distances between coast stations keeping watch on this frequency;

b) that a large number of ships equipped only for radiotelephony make voyages in these areas during which they are often out of range of coast stations keeping watch on the carrier frequency 2 182 kHz;

c) that to overcome this problem many administrations in the above-mentioned areas have established watches at their coast stations for distress and safety and for call and reply purposes on the carrier frequencies 4 125 kHz and 6 215 kHz; and that these watches have proved to be effective supplements to those kept on 2 182 kHz;

d) that provision is made in the Radio Regulations for the carrier frequencies 4 125 kHz and 6 215 kHz to be used as supplementary frequencies to 2 182 kHz for distress and safety and for call and reply purposes;

e) that it could be in the interests of ships equipped only for radiotelephony and operating in these areas to have facilities to send and receive on the carrier frequencies 4 125 kHz and 6 215 kHz when calls on 2 182 kHz might be ineffective;

recommends

1. that administrations bring to the notice of the operators of ships under their jurisdiction which are equipped only for radiotelephony that certain land stations as indicated in the List of Coast Stations provide facilities for distress and safety and for call and reply purposes on the carrier frequencies 4 125 kHz and 6 215 kHz to supplement the carrier frequency 2 182 kHz;

2. that administrations whose ships are equipped only for radiotelephony consider that, although it is not mandatory for ship and coast stations to provide facilities for sending and receiving on the carrier frequencies 4 125 kHz and 6 215 kHz, it may be essential for the safety of radiotelephony ships to have such facilities.

RECOMMENDATION No. 312 (Rev.Mob-87)

Studies of the Interconnection of Maritime Mobile Radiocommunication Systems with the International Telephone and Telegraph Networks

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that it is desirable that there be interconnection of radiocommunication systems in the maritime mobile service with the international public telephone and telegraph networks to permit automatic routing of ship-shore traffic to and from national networks;

b) that such interconnection would greatly improve maritime radiocommunications;

urges the CCIR and the CCITT

to continue all required studies relating to compatibility between the maritime mobile radiocommunication systems and the international telephone and telegraph systems, including various quality-of-service criteria, to permit the full interconnection of the maritime mobile services with the international telephone and telegraph networks;

and recommends administrations

to give priority to these studies in their participation in the work of the CCIR and the CCITT.

RECOMMENDATION No. 316 (Rev.Mob-87)

Use of Ship Earth Stations Within Harbours and Other Waters Under National Jurisdiction

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

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

that the World Administrative Radio Conference, Geneva, 1979, allocated the bands 1 530 - 1 535 MHz (with effect from 1 January 1990), 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;

noting

that the International Agreement on the use of INMARSAT ship earth stations within the Territorial Sea and Ports has been adopted and this Agreement is open to accession, ratification, approval or acceptance, as appropriate;

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 Global Maritime Distress and Safety System (GMDSS);

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 1 530 - 1 535 MHz (with effect from 1 January 1990), 1 535 - 1 545 MHz and 1 626.5 - 1 646.5 MHz;

recommends

1. that all administrations should consider permitting, to the extent possible, ship earth stations to operate within harbours and other waters under national jurisdiction, in the above-mentioned frequency bands;

2. that administrations should consider the adoption, where required, of international agreements on this matter.

RECOMMENDATION No. 317 (Rev.Mob-87)

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, 1987,

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 some administrations have already estalished such ship reporting systems;

c) that verification of the safety of vessels which have failed to report is required;

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 or in marine safety information broadcasts, 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);

instructs the Secretary-General

to communicate this Recommendation to IMO for consideration.

RECOMMENDATION No. 318 (Mob-87)

Improved Efficiency in the Use of the Appendix 18 VHF Frequency Spectrum for Maritime Mobile Communications

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that growth in the use of Appendix **18** VHF maritime mobile channels is expected to continue;

b) that in many parts of the world significant congestion already exists;

c) that increases in congestion could be harmful to the safe movement and operation of vessels and port operations and are a matter of concern to the International Association of Lighthouse Authorities (IALA), the International Maritime Organization (IMO) and many administrations;

noting

a) that it may be possible to make more efficient use of the VHF maritime mobile spectrum with the development of existing or new technologies such as narrow-band FM, single sideband, compandored single sideband, use of interleaved channels separated by 12.5 kHz, reduced channel spacing, etc.;

b) that a great number of mariners using low-cost transceivers rely on this band and the safety services that are thereby provided;

c) that any modification to Appendix **18** shall take account of the distress and safety utilization;

invites the CCIR

urgently to undertake studies to determine the most appropriate means of promoting a more efficient use of the frequency spectrum in the VHF maritime mobile band and to develop Recommendations covering the technical and operational characteristics of systems using this band;

invites administrations

to participate in these studies actively;

recommends

that a future competent administrative radio conference review and revise, if appropriate, the provisions of Appendix **18**, taking into account the relevant CCIR Recommendations;

instructs the Secretary-General

to communicate this Recommendation to the IALA and IMO.

RECOMMENDATION No. 319 (Mob-87)

The Need for Technical Improvements to Minimize the Risk of Adjacent Channel Harmful Interference Between Assignments Used for Narrow-Band Direct-Printing Telegraphy and Data Transmission Systems in Accordance with Appendix 32 and Resolution 300 (Rev.Mob-87)

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that Appendix **32** of the Radio Regulations contains the channelling arrangement for narrow-band direct-printing telegraphy and data transmission systems (paired frequencies);

b) that the use of these frequency pairs is subject to the provisions of Article **60** of the Radio Regulations and Resolution **300 (Rev.Mob-87)**;

c) that the spacing between the frequencies listed in Appendix **32** is 500 Hz;

d) that the present Conference has decided to adopt No. **4321B** which specifies the maximum mean powers to be used by coast stations for F1B and J2B emissions in bands exclusively allocated to the maritime mobile service between 4 000 kHz and 27 500 kHz;

recommends

that administrations cooperate to the fullest extent possible in resolving harmful interference from adjacent channels used for narrow-band direct-printing telegraphy and data transmission systems (paired frequencies);

invites the CCIR

1. to study the question of technical compatibility between adjacent channels and make appropriate Recommendations;

2. to take into account, in the study, the maximum mean powers for coast radiotelegraph stations employing class F1B or J2B emissions in the bands exclusively allocated to the maritime mobile service between 4 000 and 27 500 kHz (see No. **4321B**);

3. to present the results of its study to the next competent conference.

RECOMMENDATION No. 408 (Mob-87)

Development of a World-Wide System for Public Correspondence with Aircraft

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that studies and operational experience in some areas indicate a demand for a world-wide system of public correspondence with aircraft (APC);

b) that although some terrestrial APC systems operate in the band 862 - 960 MHz, it is not allocated to the aeronautical mobile service on a world-wide basis;

c) that it could be beneficial to extend and supplement a satellite APC system by additionally developing a terrestrial APC system to provide a spectrally efficient cost effective system over the more densely populated areas of the world;

d) that two bands of 1 MHz would appear to provide sufficient capacity for pre-operational and experimental APC systems;

e) that studies are required to determine the optimum technical and operational characteristics to be adopted for a terrestrial APC system, together with studies concerning the conditions for sharing with other services utilizing the same frequency bands, particularly safety services;

f) that consideration must be given to electromagnetic compatibility problems in the operation of APC radiocommunication equipment and radionavigation equipment in aircraft;

noting

1. that the bands 1 593 - 1 594 MHz and 1 625.5 - 1 626.5 MHz have been allocated under certain conditions to the aeronautical mobile service to provide the initial allocations for pre-operational and experimental APC systems;

2. that in some countries the use of those bands for APC systems would cause considerable difficulties;

recommends

that administrations continue their studies relating to technical and experimental matters concerning a terrestrial APC system and to report their results to the CCIR, CCITT, International Civil Aviation Organization (ICAO) and other interested bodies;

invites the CCIR

1. to study urgently the necessary sharing criteria between terrestrial APC systems operating in the bands mentioned in *noting* 1 above and other services in the same and adjacent frequency bands;

2. to study the operational and technical characteristics of a terrestrial APC system and related matters;

3. to identify technically preferred alternative frequency bands for a future world-wide terrestrial aeronautical public correspondence system;

invites the CCITT

to study the interworking of a world-wide APC system with the public switched telecommunication networks, including tariff principles, accounting and numbering schemes;

invites administrations

to take note of this Recommendation and, as appropriate, to consider various aspects relating to the implementation of terrestrial APC systems;

invites the Administrative Council

to take note of this Recommendation and, if appropriate following the conclusion of the CCIR studies, place this subject on the agenda of a future world administrative radio conference;

instructs the Secretary-General

to bring this Recommendation to the attention of ICAO, the International Maritime Satellite Organization (INMARSAT) and the International Air Transport Association (IATA) and other appropriate organizations having an interest in the subject of APC.

RECOMMENDATION No. 603 (Rev.Mob-87)

Technical Provisions for Maritime Radiobeacons in the African Area

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

the need to facilitate the planning for new maritime radiobeacons in the band 283.5 - 315 kHz, particularly in the neighbouring localities of the European and African Areas;

recommends

that the administrations of the countries of the African Area adopt provisions similar to those contained in the Regional Agreement concerning the planning of the maritime radionavigation service (radiobeacons) in the European Maritime Area, Geneva, 1985.

RECOMMENDATION No. 604 (Rev.Mob-87)

Future Use and Characteristics of Emergency Position-Indicating Radiobeacons (EPIRBs)[1]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that the essential purpose of EPIRB signals is to help locate survivors in search and rescue operations;

b) that requirements for carriage of EPIRBs operating on the frequencies 121.5 and 243 MHz have been included in the 1983 Amendments to the International Convention for the Safety of Life at Sea (1974);

c) that the International Maritime Organization (IMO) has been considering various types of EPIRBs;

d) 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, 156.525 MHz, 243 MHz, and in the bands 406 - 406.1 MHz and 1 645.5 - 1 646.5 MHz;

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[1] For the purpose of this Recommendation, references to EPIRBs include references to satellite EPIRBs as appropriate.

b) that Appendix **37A** was established in order to facilitate the application of a universal standard for EPIRBs operating on the frequencies 121.5 MHz and 243 MHz;

c) that for EPIRBs operating on 121.5 MHz and 243 MHz, there is a need to improve their function of being detected and located by satellite systems;

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;

3. that the CCIR and ICAO study, as a matter of urgency, the technical and operational questions arising from paragraph *d)* of Appendix **37A**;

instructs the Secretary-General

to communicate this Recommendation to the IMO and ICAO.

RECOMMENDATION No. 605 (Rev.Mob-87)

Technical Characteristics and Frequencies for Shipborne Transponders[1]

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that merchant ships of the world are increasing in size and speed;

b) that every year a significant number of collisions occur involving merchant vessels with resultant loss of life and property and that collisions have a high potential for endangering the natural environment;

c) that there is a need to correlate radar targets with vessels making VHF radiotelephone transmissions;

d) that studies and experiments have shown that shipborne transponders can enhance and supplement radar target images as compared with normal radar images;

e) that current studies and experimentation relating to shipborne transponders indicate that development of equipment can be expected in the near future which will offer adequate radar image enhancement and target identification and, possibly, data transfer capabilities;

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[1] A receiver-transmitter which emits a signal automatically when it receives the proper interrogation.

f) that such shipborne transponders may require protection from interference;

g) that the selection of technical characteristics for these transponders should be coordinated with other users of the radio frequency spectrum whose operations might be affected;

requests the CCIR

to recommend, after consultation with appropriate international organizations, the most suitable order of magnitude of frequencies and bandwidth required for this purpose, and the technical parameters to be met by such devices, taking into account both electromagnetic compatibility with other services having allocations in the same frequency band and the need to ensure that the response of a transponder of the system studied should not be capable of interpretation as being from a radar beacon of whatever type;

invites administrations and the International Maritime Organization (IMO)

to continue to evaluate the operational benefits which could result from the widespread use of transponders on ships and to consider whether there would be advantage in adopting an internationally approved system for future implementation;

recommends

that, pending further technical and operational developments and evaluation, administrations be prepared at the next competent world administrative radio conference to make the necessary provisions for the use of such devices.

RECOMMENDATION No. 606 (Mob-87)

The Possibility of Reducing the Band 4 200 - 4 400 MHz Used by Radio Altimeters in the Aeronautical Radionavigation Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that there is a demand for additional frequency allocations for the mobile service, particularly the land mobile service;

b) that all systems utilizing the radio-frequency spectrum should be efficient in their use of that scarce resource;

c) that the allocation of the band 4 200 - 4 400 MHz to the aeronautical radionavigation service appeared in the Radio Regulations (Atlantic City, 1947) and has not been changed despite technological advances;

d) that it has decided not to change the frequency allocations in that band;

e) that studies carried out by the International Civil Aviation Organization (ICAO) on this question indicate that the operation of the existing radio altimeter equipment necessitates the whole band;

f) that it might be possible to operate radio altimeters in this band with sufficient accuracy with a necessary bandwidth of less than 200 MHz;

g) that the frequency tolerance of such devices might be improved;

recommends

1. that the next competent world administrative conference should consider, if appropriate, a reduction of the band 4 200 - 4 400 MHz allocated to the aeronautical radionavigation service;

2. that any reduction should be based on a detailed technical evaluation of the systems in question, taking into account ICAO reports on the evaluation of future world traffic of aircraft using this band;

3. that the conference mentioned in *recommends* 1 above should consider reallocating to the land mobile service any portion of the band currently available for the aeronautical radionavigation service which is identified as being suitable on the basis of technical considerations;

invites the CCIR

to study the necessary bandwidth and frequency tolerance requirements for systems operating in the aeronautical radionavigation service in the frequency band 4 200 - 4 400 MHz;

invites the Administrative Council

to place this Recommendation on the agenda of the next competent world administrative radio conference;

instructs the Secretary-General

to refer this Recommendation to ICAO, inviting it to consider the possibility of reducing the band 4 200 - 4 400 MHz for the aeronautical radionavigation service and to make appropriate recommendations to assist administrations in this matter.

RECOMMENDATION No. 607 (Mob-87)

Future Requirements of the Band 5 000 - 5 250 MHz for the Aeronautical Radionavigation Service

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that there is a demand for additional frequency allocations for the mobile service, particularly the land mobile service;

b) that all systems utilizing the radio frequency spectrum should be efficient in their use of this scarce resource;

c) that within the band 5 000 - 5 250 MHz the internationally agreed microwave landing system (MLS) is presently in the process of implementation;

d) that the protection of this vital aeronautical radionavigation system is paramount;

e) that the final MLS may not require at all locations the complete band 5 000 - 5 250 MHz for its full implementation;

f) that the International Civil Aviation Organization (ICAO) is studying the requirements of this band for MLS and other aeronautical radionavigation systems and has come to the conclusion that no change should be made;

recommends

1. that a future competent world administrative conference consider the requirements of the aeronautical radionavigation service in the band 5 000 - 5 250 MHz and, if appropriate, the possibility of sharing a portion of the band with other services;

2. that any sharing should be based on a detailed technical evaluation of the systems in this band, taking into account the ICAO reports on the evaluation of future world traffic of aircrafts using this band;

3. that the Conference mentioned in *recommends* 1 above should consider an allocation to the mobile service in any portion of the band considered to be capable of being shared;

invites the CCIR

to study the possibility of sharing a portion of the 5 000 - 5 250 MHz band which may not be required by the MLS system and any other aeronautical radionavigation system;

invites the Administrative Council

to place this Recommendation on the agenda of the appropriate future competent world administrative radio conference;

instructs the Secretary-General

to refer this Recommendation to ICAO inviting their consideration of the requirements of the aeronautical radionavigation service in the band 5 000 - 5 250 MHz and to make appropriate Recommendations to assist administrations in this matter.

RECOMMENDATION No. 714 (Mob-87)

Compatibility Between the Aeronautical Mobile (R) Service in the Band 117.975 - 137 MHz and Sound Broadcasting Stations in the Band 87.5 - 108 MHz

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

considering

a) that VHF air/ground communications play a vital role for aircraft operations and safety, which could be prejudiced by interference;

b) that compatibility problems have arisen in various parts of the world between the aeronautical mobile (R) service in the band 117.975 - 137 MHz and FM sound broadcasting stations in the band 87.5 - 108 MHz;

c) that the Regional Administrative Conference for the Planning of VHF Sound Broadcasting (Region 1 and Part of Region 3) (Geneva, 1984) did not consider the aspects of compatibility between these two services in preparation of the sound broadcasting plan;

d) that the CCIR and the International Civil Aviation Organization (ICAO) have studied the problem and the CCIR has recommended technical criteria which can be used by administrations for coordination between the two services concerned;

e) that ICAO has adopted standards, to come into effect on 1 January 1998, relating to the immunity characteristics of future aeronautical VHF receivers and incorporating the agreed immunity levels for intermodulation and desensitization;

invites the CCIR

to continue studying compatibility between these two services from the standpoint of possible interference to the aeronautical mobile service;

requests ICAO

to continue studying these problems and communicate the results of its studies to the CCIR;

recommends administrations

a) to participate actively in these studies and provide the CCIR with expert guidance on this matter;

b) to take all possible steps to give the required protection to the aeronautical mobile (R) service, taking into account the information contained in relevant CCIR Recommendations and Reports;

instructs the Secretary-General

to communicate this Recommendation to ICAO.

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Note by the General Secretariat

1. Although the Conference adopted a new French-language equivalent of the term «facsimile», it did not amend the definition in No. 116 of Article 1 of the Radio Regulations. This matter will have to be placed on the agenda of a forthcoming competent world administrative radio conference.

2. Certain parts of the Regulations considered by the Conference contain references to the numbers of provisions which were deleted by the Conference.

Consequently, the following changes should be made in those parts of the Regulations:

Provisions deleted by the Conference	*Parts of the Regulations containing references to those provisions*	*Changes to be made in the Regulations*
3766, 3767	Article 19, No. **1846**	Delete the number 3766 and replace 3767 by 3663A
4245	Article 8, No. **497**	Replace the number 4245 by 4323BD

3. Certain parts of the Regulations contain references to Resolutions which were deleted by the Conference.

Consequently, the following changes should be made in those parts of the Regulations:

Resolutions deleted by the Conference	*Parts of the Regulations containing references to those Resolutions*	*Changes to be made in the Regulations*
206(Mob-83)	Article 8, No. **471**	Resolution 206(Mob-83) has been replaced by Resolution 210(Mob-87)
320(Mob-83)	Article 25, section II, footnotes 1 and 2 (Nos. **2083.1** and **2087.1**)	Delete Nos. 2083.1 and 2087.1, which are now redundant
	Nos. **2083** and **2087**	Accordingly, the Notes 1 and 2 after "Appendix 43" should be deleted
	Nos. **2087.A** and **2149**	Delete the reference to Resolution 320
400	Article 26, No. **2185** and footnote *	Replace "27 * and 27 Aer2 *" by "27 Aer2" and delete the reference to Resolution 400 from the footnote
318(Mob-83)	Article 42, No. **3339**	Replace "in accordance with Resolution 318(Mob-83)" by "in accordance with Article 14A"

4. The Conference deleted the following Articles, Appendix, Resolutions and Recommendations:

Article 52
Article 53

Appendix 40

Resolution 12
Resolution 30
Resolution 202
Resolution 203(Mob-83)
Resolution 204(Mob-83)
Resolution 206(Mob-83) (replaced by Resolution 210(Mob-87))
Resolution 301 (replaced by Resolution 335(Mob-87))
Resolution 302
Resolution 303
Resolution 304
Resolution 306
Resolution 307
Resolution 308
Resolution 309 (replaced by Resolution 207(Mob-87))
Resolution 311
Resolution 317(Mob-83)
Resolution 318(Mob-83)
Resolution 320(Mob-83)
Resolution 321(Mob-83)
Resolution 400
Resolution 401
Resolution 402
Resolution 404
Resolution 407 (replaced by Resolution 207(Mob-87))
Resolution 600

Recommendation 201(Rev.Mob-83)
Recommendation 203
Recommendation 204(Rev.Mob-83)
Recommendation 300
Recommendation 301
Recommendation 307
Recommendation 308
Recommendation 311
Recommendation 313(Rev.Mob-83)

Recommendation 314(Mob-83)
Recommendation 315(Mob-83)
Recommendation 400
Recommendation 404
Recommendation 600
Recommendation 703
Recommendation 713(Mob-83)

The General Secretariat will delete all references to the above Articles, Appendix, Resolutions and Recommendations when the new pages to be inserted in the Radio Regulations are published.

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