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December 2000

Spectrum Management and Telecommunications Policy

Canadian Table of Frequency Allocations 9 kHz to 275 GHz

Revised in 2000
Last published in 1998

(Incorporating the Decisions of the 1997 World Radiocommunication Conference)

Canada

Aussi disponible en français

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
9 kHz to 275 GHz

Revised in 2000
Last published in 1998

Telecommunications Policy Branch
Ottawa, 2000

DEPARTMENT OF INDUSTRY

RADIOCOMMUNICATION ACT

Notice No. DGTP-010-00 — Revisions to the Canadian Table of Frequency Allocations

This Notice announces the release of revisions to the Canadian Table of Frequency Allocations. Proposals to amend the Canadian Table were made by Canada Gazette Notice DGTP-008-00 - *Proposed Revisions to the Canadian Table of Frequency Allocations*, published on July 14, 2000, and were based upon decisions adopted by the International Telecommunications Union (ITU) at the World Radio Conference 1997 (WRC-97). In response to these proposals, comments were received from the public and considered in arriving at the final decisions.

The *Canadian Table of Frequency Allocations* allocates frequency bands to radio services within the scope of the International Table and as required to meet Canadian needs. Canadian footnotes provide the particular provisions and conditions for use of those radio services in Canada. The revisions incorporated into the *Canadian Table of Frequency Allocations* by this Notice reflect results of the consultation initiated by Canada Gazette Notice DGTP-008-00 and the results of other domestic decisions taken since the Canadian Table was last revised in 1998.

The revised *Canadian Table of Frequency Allocations* is available electronically on the Internet at the following address:

World Wide Web (WWW)
http://strategis.gc.ca/spectrum

or can be obtained in hard copy, for a fee from: Tyrell Press Ltd., 2714 Fenton Road, Gloucester, Ontario K1T 3T7, 1-800-267-4862 (Canada toll-free telephone), 1-800-574-0137 (United States toll-free telephone), (613) 822-0740 (Worldwide telephone), (613) 822-1089 (Facsimile); and DLS, St-Joseph Print Group Inc., 45 Sacré-Coeur Boulevard, Hull, Quebec K1A 0S7, 1-888-562-5561 (Canada toll-free telephone), 1-800-565-7757 (Canada toll-free facsimile), (819) 779-4335 (Worldwide telephone), (819) 779-2833 (Worldwide facsimile).

December 20, 2000

Michael Helm
Director General
Telecommunications Policy Branch

Industry Canada, 2000

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Spectrum and Radio Policy
Telecommunications Policy Branch
Room 1610A, 300 Slater Street
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FOREWORD

This Canadian Table of Frequency Allocations assigns the electromagnetic spectrum between 9 kHz and 275 GHz (275-400 GHz is unallocated at this time) and is based on the provisions of the Final Acts resulting from the various World Radio Conferences (WRC), including the 1997 WRC, convened by the International Telecommunication Union (ITU). The Table is intended to respond to Canadian domestic spectrum requirements, consequently it reflects Industry Canada spectrum allocation and utilization policies developed through public consultation. It should be noted, therefore, that the Canadian Table differs, where necessary, from the ITU Table.

Portions of this Table and the associated general information will, from time to time, need to be revised. Such revisions will of necessity occur when changes to the ITU Table are made as a result of future Radiocommunications Conferences convened by the International Telecommunication Union. At an opportune time, the Canadian Table of Frequency Allocations will also be revised to reflect these international changes and to take into account Canadian requirements.

Information on the Canadian Table of Frequency Allocations and its interpretation with respect to various spectrum utilization policies issued by Industry Canada can best be obtained by contacting:

Director
Spectrum and Radio Policy
Telecommunications Policy Branch
Industry Canada
300 Slater Street
Ottawa, Ontario
Canada
K1A 0C8

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TABLE OF CONTENTS

DEFINITIONS

The following is a list of those terms and definitions which are relevant to a consideration of the Canadian Table of Frequency Allocations. These terms and definitions are extracted from the International Radio Regulations of the International Telecommunication Union. The regulations should be consulted for a more comprehensive listing.

1 - General Terms

Administration: Any governmental department or service responsible for discharging the obligations undertaken in the Convention of the International Telecommunication Union and the Regulations.

Allocation (of a frequency band): Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services or the radio astronomy service under specified conditions. This term shall also be applied to the frequency band concerned.

Allotment (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space radiocommunication service in one or more identified countries or geographical areas and under specified conditions.

Assignment (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.

Radio: A general term applied to the use of radio waves.

Radio Waves or Hertzian Waves: Electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz, propagated in space without artificial guide.

Radiocommunication: Telecommunication by means of radio waves.

Terrestrial Radiocommunication: Any radiocommunication other than space radiocommunication or radio astronomy.

Space Radiocommunication: Any radiocommunication involving the use of one or more space stations or the use of one or more reflecting satellites or other objects in space.

Radiodetermination: The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to those parameters, by means of the propagation properties of radio waves.

Radionavigation: Radiodetermination used for the purpose of navigation, including obstruction warning.

Radiolocation: Radiodetermination used for purposes other than those of radionavigation.

Radio Direction-Finding: Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.

Radio Astronomy: Astronomy based on the reception of radio waves of cosmic origin.

Coordinated Universal Time (UTC): Time scale, based on the second (SI), as defined and recommended by the CCIR, and maintained by the International Time Bureau (BIH).

For most practical purposes associated with the Radio Regulations, UTC is equivalent to mean solar time at the prime meridian (0/ longitude), formerly expressed in GMT.

Industrial, Scientific and Medical (ISM) Applications (of radio frequency energy): Operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications.

2 - Radio Services

Radiocommunication Service: A service as defined in this Section involving the transmission, emission and/or reception of radio waves to specific telecommunication purposes.

In these regulations, unless otherwise stated, any radiocommunication service relates to terrestrial radiocommunication.

Fixed Service: A radiocommunication service between specified fixed points.

Fixed-Satellite Service: A radiocommunication service between earth stations at given positions, when one or more satellites are used; the given position may be a specified point or any fixed point within specified areas; in some cases this service includes satellite-to-satellite links, which may also be operated in the inter-satellite service: the fixed-satellite service may also include feeder links for other space radiocommunication services.

Aeronautical Fixed Service: A radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air transport.

Inter-Satellite Service: A radiocommunication service providing links between artificial earth satellites.

Space Operation Service: A radiocommunication service concerned exclusively with the operation of spacecraft, in particular space tracking, space telemetry and space telecommand.

These functions will normally be provided within the service in which the space station is operating.

Mobile Service: A radiocommunication service between mobile and land stations, or between mobile stations.

Mobile-Satellite Service: A radiocommunication service:

- between mobile earth stations and one or more space stations, or between space stations used by this service; or
- between mobile earth stations by means of one or more space stations.

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

Land Mobile Service: A mobile service between base stations and land mobile stations or between land mobile stations.

Land Mobile-Satellite Service: A mobile-satellite service in which mobile earth stations are located on land.

Maritime Mobile Service: A mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Maritime Mobile-Satellite Service: A mobile-satellite service in which mobile earth stations are located on board ships; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

Aeronautical Mobile Service: A mobile service between aeronautical stations, and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

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.

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.

Aeronautical Mobile-Satellite Service: A mobile-satellite service in which mobile earth stations are located on board aircraft; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

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.

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.

Broadcasting Service: A radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.

Broadcasting-Satellite Service: A radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public.

In the broadcasting-satellite service, the term *direct reception* shall encompass both individual reception and community reception.

Inter-satellite Service: A radiocommunication service providing links between artificial satellites.

Radiodetermination Service: A radiocommunication service for the purpose of radiodetermination.

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[1] (R): route

[2] (OR): off-route

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.

Radionavigation Service: A radiodetermination service for the purpose of radionavigation.

Radionavigation-Satellite Service: A radiodetermination-satellite service for the purpose of radionavigation

Maritime Radionavigation Service: A radionavigation service intended for the benefit and for the safe operation of ships.

Maritime Radionavigation-Satellite Service: A radionavigation-satellite service in which earth stations are located on board ships.

Aeronautical Radionavigation Service: A radionavigation service intended for the benefit and for the safe operation of aircraft.

Aeronautical Radionavigation-Satellite Service: A radionavigation-satellite service in which earth stations are located on board aircraft.

Radiolocation Service: A radiodetermination service for the purpose of radiolocation.

Radiolocation-Satellite Service: A radiodetermination-satellite service used for the purpose of radiolocation.

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

Meteorological Aids Service: A radiocommunication service used for meteorological, including hydrological, observations and exploration.

Earth Exploration-Satellite Service: A radiocommunication service between earth stations and one or more space stations, which may include links between space stations, in which:

- information relating to the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment, is obtained from active sensors or passive sensors on earth satellites;

- similar information is collected from air-borne or Earth-based platforms;

- such information may be distributed to earth stations within the system concerned;

- platform interrogation may be included.

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

Meteorological-Satellite Service: An earth exploration-satellite service for meteorological purposes.

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

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

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

Space Research Service: A radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

Amateur Service: A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Amateur-Satellite Service: A radiocommunication service using space stations on earth satellites for the same purpose as those of amateur service.

Radio Astronomy Service: A service involving the use of radio astronomy.

Safety Service: Any radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

3 - Categories of Services

Primary and Secondary Services

Where, in this Table, a band is indicated as allocated to more than one service, either on a worldwide or regional basis, such services are listed in the following order:

(a) services the names of which are printed in "capitals" (example: FIXED); these are called "primary" services;

(b) services the names of which are printed in "normal characters" (example: Mobile); these are called "secondary" services.

Additional remarks are printed in normal characters (example: MOBILE except aeronautical mobile).

Permitted and primary services have equal rights, except that, in the preparation of frequency plans, the primary service shall have prior choice of frequencies.

Stations of a secondary service:

(a) shall not cause harmful interference to stations of primary service to which frequencies are already assigned or to which frequencies may be assigned at a later date;

(b) cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date;

(c) can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

The heading of the international portion of this Table includes three columns, each of which corresponds

to one of the ITU Regions. Where an allocation occupies the whole of the width of the ITU Table or only one or two of the three columns, this is a worldwide allocation or a Regional allocation, respectively.

The frequency band referred to in each allocation is indicated in the left-hand top corner of the part of the box of the Table concerned.

The footnote references which appear in the Table below the allocated service or services apply to the whole of the allocation concerned.

The footnote references which appear to the right of the name of a service are applicable only to that particular service.

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

0 - 9	(not allocated) C1 C2
9 - 14	RADIONAVIGATION
14 - 19.95	FIXED MARITIME MOBILE S5.57 S5.56
19.95 - 20.05	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)
20.05 - 70	FIXED MARITIME MOBILE S5.57 S5.56
70 - 90	FIXED MARITIME MOBILE S5.57 RADIONAVIGATION S5.60 Radiolocation S5.61
90 - 110	RADIONAVIGATION Fixed S5.64
110 - 130	FIXED MARITIME MOBILE MARITIME RADIONAVIGATION S5.60 Radiolocation S5.61 S5.64

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

130 - 160	FIXED MARITIME MOBILE S5.64
160 - 190	FIXED
190 - 200	AERONAUTICAL RADIONAVIGATION
200 - 285	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
285 - 315	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73
315 - 325	MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical Radionavigation
325 - 335	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons)
335 - 405	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
405 - 415	RADIONAVIGATION S5.76 Aeronautical Mobile
415 - 495	MARITIME MOBILE S5.79 S5.79A S5.78 S5.80 S5.81 S5.82
495 - 505	MOBILE (distress and calling) S5.83
505 - 510	MARITIME MOBILE S5.79 S5.81

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

510 - 525	AERONAUTICAL RADIONAVIGATION MOBILE S5.79A S5.84
525 - 535	AERONAUTICAL RADIONAVIGATION BROADCASTING S5.86
535 - 1 605	BROADCASTING
1 605 - 1 705	BROADCASTING S5.89 S5.90
1 705 - 1 800	AERONAUTICAL RADIONAVIGATION FIXED MOBILE RADIOLOCATION
1 800 - 1 850	AMATEUR
1 850 - 2 000	AMATEUR RADIOLOCATION RADIONAVIGATION
2 000 - 2 065	FIXED MOBILE
2 065 - 2 107	MARITIME MOBILE S5.105 C3
2 107 - 2 170	FIXED MOBILE
2 170 - 2 173.5	MARITIME MOBILE

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

2 173.5 - 2 190.5	MOBILE (distress and calling) S5.108 S5.109 S5.110 S5.111
2 190.5 - 2 194	MARITIME MOBILE
2 194 - 2 300	FIXED MOBILE
2 300 - 2 495	FIXED MOBILE
2 495 - 2 501	STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)
2 501 - 2 502	STANDARD FREQUENCY AND TIME SIGNAL Space Research
2 502 - 2 505	STANDARD FREQUENCY AND TIME SIGNAL
2 505 - 2 850	FIXED MOBILE
2 850 - 3 025	AERONAUTICAL MOBILE (R) S5.111 S5.115
3 025 - 3 155	AERONAUTICAL MOBILE (OR) C5
3 155 - 3 230	FIXED MOBILE except aeronautical mobile (R) S5.116

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

3 230 - 3 400	FIXED MOBILE except aeronautical mobile Radiolocation S5.118 S5.116
3 400 - 3 500	AERONAUTICAL MOBILE (R)
3 500 - 4 000	AMATEUR S5.120 S5.124
4 000 - 4 063	FIXED MARITIME MOBILE S5.127
4 063 - 4 438	MARITIME MOBILE S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 S5.129
4 438 - 4 650	FIXED MOBILE except aeronautical mobile (R)
4 650 - 4 700	AERONAUTICAL MOBILE (R)
4 700 - 4 750	AERONAUTICAL MOBILE (OR) C5
4 750 - 4 850	FIXED MOBILE except aeronautical mobile (R)
4 850 - 4 995	FIXED LAND MOBILE
4 995 - 5 003	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)
5 003 - 5 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

5 005 - 5 060	FIXED
5 060 - 5 250	FIXED Mobile except aeronautical mobile
5 250 - 5 450	FIXED MOBILE except aeronautical mobile
5 450 - 5 480	AERONAUTICAL MOBILE (R)
5 480 - 5 680	AERONAUTICAL MOBILE (R) S5.111 S5.115
5 680 - 5 730	AERONAUTICAL MOBILE (OR) S5.111 S5.115 C5
5 730 - 5 900	FIXED MOBILE except aeronautical mobile (R)
5 900 - 5 950	BROADCASTING S5.134 S5.135 FIXED MOBILE except aeronautical mobile (R) S5.136 C9
5 950 - 6 200	BROADCASTING
6 200 - 6 525	MARITIME MOBILE S5.109 S5.110 S5.130 S5.132 C4
6 525 - 6 685	AERONAUTICAL MOBILE (R)
6 685 - 6 765	AERONAUTICAL MOBILE (OR) C5

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

6 765 - 7 000	FIXED Land Mobile S5.138
7 000 - 7 100	AMATEUR S5.120 AMATEUR-SATELLITE
7 100 - 7 300	AMATEUR S5.120 S5.142
7 300 - 7 350	BROADCASTING S5.134 FIXED Land Mobile S5.143 C9
7 350 - 8 100	FIXED Land Mobile
8 100 - 8 195	FIXED MARITIME MOBILE
8 195 - 8 815	MARITIME MOBILE S5.109 S5.110 S5.132 S5.145 S5.111
8 815 - 8 965	AERONAUTICAL MOBILE (R)
8 965 - 9 040	AERONAUTICAL MOBILE (OR) C5
9 040 - 9 400	FIXED

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

9 400 - 9 500	BROADCASTING S5.134 FIXED S5.146 C9
9 500 - 9 900	BROADCASTING S5.147
9 900 - 9 995	FIXED
9 995 - 10 003	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) S5.111
10 003 - 10 005	STANDARD FREQUENCY AND TIME SIGNAL Space Research S5.111
10 005 - 10 100	AERONAUTICAL MOBILE (R) S5.111
10 100 - 10 150	AMATEUR S5.120 C6
10 150 - 11 175	FIXED Mobile except aeronautical mobile (R)
11 175 - 11 275	AERONAUTICAL MOBILE (OR) C5
11 275 - 11 400	AERONAUTICAL MOBILE (R)
11 400 - 11 600	FIXED

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

11 600 - 11 650	BROADCASTING S5.134 FIXED S5.146 C9
11 650 - 12 050	BROADCASTING S5.147
12 050 - 12 100	BROADCASTING S5.134 FIXED S5.146 C9
12 100 - 12 230	FIXED
12 230 - 13 200	MARITIME MOBILE S5.109 S5.110 S5.132 S5.145
13 200 - 13 260	AERONAUTICAL MOBILE (OR) C5
13 260 - 13 360	AERONAUTICAL MOBILE (R)
13 360 - 13 410	FIXED RADIO ASTRONOMY S5.149
13 410 - 13 570	FIXED MOBILE except aeronautical mobile (R) S5.150
13 570 - 13 600	BROADCASTING S5.134 FIXED MOBILE except aeronautical mobile (R) S5.151 C9

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

13 600 - 13 800	BROADCASTING
13 800 - 13 870	BROADCASTING S5.134 S5.135 FIXED Mobile except aeronautical mobile (R) S5.151 C9
13 870 - 14 000	FIXED Mobile except aeronautical mobile (R)
14 000 - 14 250	AMATEUR S5.120 AMATEUR-SATELLITE
14 250 - 14 350	AMATEUR S5.120
14 350 - 14 990	FIXED Mobile except aeronautical mobile (R)
14 990 - 15 005	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) S5.111
15 005 - 15 010	STANDARD FREQUENCY AND TIME SIGNAL Space Research
15 010 - 15 100	AERONAUTICAL MOBILE (OR) C5
15 100 - 15 600	BROADCASTING
15 600 - 15 800	BROADCASTING S5.134 S5.135 FIXED S5.146 C9

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

15 800 - 16 360	FIXED S5.153
16 360 - 17 410	MARITIME MOBILE S5.109 S5.110 S5.132 S5.145
17 410 - 17 480	FIXED
17 480 - 17 550	BROADCASTING S5.134 FIXED S5.146 C9
17 550 - 17 900	BROADCASTING
17 900 - 17 970	AERONAUTICAL MOBILE (R)
17 970 - 18 030	AERONAUTICAL MOBILE (OR) C5
18 030 - 18 052	FIXED
18 052 - 18 068	FIXED Space Research
18 068 - 18 168	AMATEUR S5.120 AMATEUR-SATELLITE
18 168 - 18 780	FIXED
18 780 - 18 900	MARITIME MOBILE
18 900 - 19 020	BROADCASTING S5.134 FIXED S5.146 C9

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

19 020 - 19 680	FIXED
19 680 - 19 800	MARITIME MOBILE S5.132
19 800 - 19 990	FIXED
19 990 - 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space Research S5.111
19 995 - 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) S5.111
20 010 - 21 000	FIXED Mobile
21 000 - 21 450	AMATEUR S5.120 AMATEUR-SATELLITE
21 450 - 21 850	BROADCASTING
21 850 - 21 870	FIXED
21 870 - 21 924	FIXED S5.155B
21 924 - 22 000	AERONAUTICAL MOBILE (R)
22 000 - 22 855	MARITIME MOBILE S5.132
22 855 - 23 000	FIXED
23 000 - 23 200	FIXED Mobile except aeronautical mobile (R)
23 200 - 23 350	AERONAUTICAL MOBILE (OR) C5

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
kHz

23 350 - 24 000	FIXED MOBILE except aeronautical mobile S5.157
24 000 - 24 890	FIXED LAND MOBILE
24 890 - 24 990	AMATEUR S5.120 AMATEUR-SATELLITE
24 990 - 25 005	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
25 005 - 25 010	STANDARD FREQUENCY AND TIME SIGNAL Space Research
25 010 - 25 070	FIXED MOBILE except aeronautical mobile
25 070 - 25 210	MARITIME MOBILE
25 210 - 25 550	FIXED MOBILE except aeronautical mobile
25 550 - 25 670	RADIO ASTRONOMY S5.149
25 670 - 26 100	BROADCASTING
26 100 - 26 175	MARITIME MOBILE S5.132
26 175 - 27 500	FIXED MOBILE except aeronautical mobile S5.150

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

27.5 - 28	MOBILE Fixed
28 - 29.7	AMATEUR AMATEUR-SATELLITE
29.7 - 30.005	MOBILE Fixed
30.005 - 30.01	MOBILE SPACE RESEARCH Fixed
30.01 - 37.5	MOBILE Fixed
37.5 - 38.25	MOBILE Fixed Radio Astronomy S5.149
38.25 - 39.986	MOBILE Fixed
39.986 - 40.02	MOBILE Fixed Space Research
40.02 - 40.98	MOBILE Fixed S5.150
40.98 - 41.015	MOBILE Fixed Space Research

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

41.015 - 47	MOBILE Fixed
47 - 50	MOBILE Fixed
50 - 54	AMATEUR
54 - 72	BROADCASTING
72 - 73	FIXED MOBILE
73 - 74.6	RADIO ASTRONOMY
74.6 - 74.8	FIXED MOBILE S5.180
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION S5.180
75.2 - 76	FIXED MOBILE S5.180
76 - 108	BROADCASTING
108 - 117.975	AERONAUTICAL RADIONAVIGATION
117.975 - 137	AERONAUTICAL MOBILE (R) S5.111 S5.198 S5.199 S5.200 S5.203

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

137 - 137.025	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) S5.208
137.025 - 137.175	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) S5.208
137.175 - 137.825	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) S5.208
137.825 - 138	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth) S5.208
138 - 144	FIXED LAND MOBILE Space Research (space-to-Earth)
144 - 146	AMATEUR S5.120 AMATEUR-SATELLITE
146 - 148	AMATEUR

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

148 - 149.9	FIXED LAND MOBILE MOBILE-SATELLITE (Earth-to-space) S5.209 S5.218 S5.219 C26
149.9 - 150.05	MOBILE-SATELLITE (Earth-to-space) S5.209 S5.224A RADIONAVIGATION-SATELLITE S5.224B S5.220 S5.222 S5.223
150.05 - 156.7625	MOBILE Fixed S5.226 S5.227
156.7625 - 156.8375	MARITIME MOBILE (distress and calling) S5.111 S5.226
156.8375 - 174	MOBILE Fixed S5.226
174 - 216	BROADCASTING
216 - 220	FIXED LAND MOBILE S5.242 MARITIME MOBILE
220 - 225	AMATEUR
225 - 235	FIXED MOBILE C5

235 - 273	FIXED MOBILE S5.111 S5.199 S5.254 S5.256 C5 C8
273 - 312	FIXED MOBILE S5.254 C5 C8
312 - 315	FIXED MOBILE Mobile-Satellite (Earth-to-space) S5.254 S5.255 C5 C8
315 - 328.6	FIXED MOBILE S5.149 S5.254 C5 C8
328.6 - 335.4	AERONAUTICAL RADIONAVIGATION S5.258
335.4 - 387	FIXED MOBILE S5.254 C5
387 - 390	FIXED MOBILE Mobile-Satellite (space-to-Earth) S5.254 S5.255 C5
390 - 399.9	FIXED MOBILE S5.254 C5

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

399.9 - 400.05	MOBILE-SATELLITE (Earth-to-space) S5.209 S5.224A RADIONAVIGATION-SATELLITE S5.222 S5.224B S5.260 S5.220 C19
400.05 - 400.15	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) S5.261
400.15 - 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.209 SPACE RESEARCH (space-to-Earth) S5.263 Space Operation (space-to-Earth) S5.264
401 - 402	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) SPACE OPERATION (space-to-Earth) Fixed Mobile except aeronautical mobile
402 - 403	EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile
403 - 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile
406 - 406.1	MOBILE-SATELLITE (Earth-to-space) S5.149 S5.266 S5.267

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

406.1 - 410	MOBILE except aeronautical mobile RADIO ASTRONOMY Fixed S5.149
410 - 414	MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) S5.268 Fixed
414 - 415	FIXED SPACE RESEARCH (space-to-space) S5.268 Mobile except aeronautical mobile
415 - 419	MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) S5.268 Fixed
419 - 420	FIXED SPACE RESEARCH (space-to-space) S5.268 Mobile except aeronautical mobile
420 - 430	MOBILE except aeronautical mobile Fixed C10
430 - 450	RADIOLOCATION S5.285 Amateur S5.284 S5.282 S5.286
450 - 455	MOBILE Fixed S5.209 S5.286 S5.286A S5.286B S5.286C S5.286D S5.286E

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

455 - 456	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.286A S5.286B S5.286C S5.209 C26A C26B
456 - 459	MOBILE S5.287 Fixed S5.287 S5.288
459 - 460	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.286A S5.286B S5.286C S5.209 C26A C26B
460 - 470	MOBILE S5.287 Fixed S5.289
470 - 608	BROADCASTING
608 - 614	RADIO ASTRONOMY Mobile-Satellite except aeronautical mobile-satellite (Earth-to-space)
614 - 806	BROADCASTING
806 - 890	MOBILE Fixed S5.317 S5.318 C11
890 - 902	FIXED MOBILE except aeronautical mobile Radiolocation C5A S5.318

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

902 - 928	FIXED RADIOLOCATION C5A Amateur Mobile except aeronautical mobile S5.150
928 - 929	FIXED MOBILE except aeronautical mobile Radiolocation C5A
929 - 932	MOBILE except aeronautical mobile Fixed Radiolocation C5A
932 - 932.5	FIXED MOBILE except aeronautical mobile Radiolocation C5A
932.5 - 935	FIXED Mobile except aeronautical mobile Radiolocation C5A
935 - 941	MOBILE except aeronautical mobile Fixed Radiolocation C5A
941 - 941.5	FIXED MOBILE except aeronautical mobile Radiolocation C5A
941.5 - 942	FIXED Mobile except aeronautical mobile Radiolocation C5A
942 - 944	FIXED Mobile
944 - 952	MOBILE Fixed

952 - 956	FIXED MOBILE
956 - 960	FIXED Mobile
960 - 1 215	AERONAUTICAL RADIONAVIGATION S5.328
1 215 - 1 240	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) SPACE RESEARCH (active) S5.332
1 240 - 1 300	AERONAUTICAL RADIONAVIGATION S5.329 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Amateur S5.282 S5.332 S5.334 S5.335
1 300 - 1 350	AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation S5.149
1 350 - 1 370	AERONAUTICAL RADIONAVIGATION S5.334 FIXED C5 MOBILE C5 RADIOLOCATION S5.149
1 370 - 1 400	FIXED C5 MOBILE C5 RADIOLOCATION S5.149 S5.339 C27

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

1 400 - 1 427	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341
1 427 - 1 429	FIXED SPACE OPERATION (Earth-to-space) S5.341
1 429 - 1 452	FIXED MOBILE C34 S5.341
1 452 - 1 492	BROADCASTING S5.342 BROADCASTING-SATELLITE S5.342 FIXED Mobile S5.341 C28 C29 C30
1 492 - 1 515	FIXED MOBILE C34 S5.341
1 515 - 1 525	FIXED C31 MOBILE C34 MOBILE-SATELLITE (space-to-Earth) C32 S5.341 S5.348

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

1 525 - 1 530	MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Space Operation (space-to-Earth) S5.341 S5.351 S5.354
1 530 - 1 535	MOBILE-SATELLITE (space-to-Earth) S5.353A Earth Exploration-Satellite S5.341 S5.351 S5.354
1 535 - 1 559	MOBILE-SATELLITE (space-to-Earth) S5.341 S5.351 S5.353A S5.354 S5.356 S5.357 S5.357A S5.362A
1 559 - 1 610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.341
1 610 - 1 610.6	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) C48 S5.341 S5.364 S5.366 S5.367 S5.368 S5.372
1 610.6 - 1 613.8	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) C48 RADIO ASTRONOMY S5.341 S5.364 S5.366 S5.367 S5.368 S5.372
1 613.8 - 1 626.5	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) C48 Mobile-Satellite (space-to-Earth) S5.341 S5.364 S5.365 S5.366 S5.367 S5.368 S5.372

1 626.5 - 1 660	MOBILE-SATELLITE (Earth-to-space) S5.341 S5.351 S5.353A S5.354 S5.357A S5.362A S5.374 S5.375 S5.376
1 660 - 1 660.5	MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY S5.149 S5.341 S5.351 S5.354 S5.362A S5.376A
1 660.5 - 1 668.4	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed S5.149 S5.341 S5.379A
1 668.4 - 1 670	FIXED METEOROLOGICAL AIDS RADIO ASTRONOMY S5.149 S5.341
1 670 - 1 675	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) S5.341 C33
1 675 - 1 700	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (Earth-to-space) C32 S5.289 S5.341 S5.377
1 700 - 1 710	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) S5.289 S5.341

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

1 710 - 1 850	FIXED Mobile C5 S5.341 S5.385 S5.386 C33
1 850 - 1 970	FIXED MOBILE S5.388 C35
1 970 - 1 990	FIXED MOBILE S5.388 S5.389B C35
1 990 - 2 010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389A S5.389B C36
2 010 - 2 025	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389C S5.389D S5.389E S5.390 C36
2 025 - 2 110	EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED SPACE OPERATION (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space) Mobile C5 S5.391 S5.392
2 110 - 2 120	FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) S5.388 C35A

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

2 120 - 2 160	FIXED MOBILE S5.388 C35A
2 160 - 2 200	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.388 S5.389A S5.389C S5.389D S5.389E S5.390 C36
2 200 - 2 290	EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED SPACE OPERATION (space-to-Earth) (space-to-space) SPACE RESEARCH (space-to-Earth) (space-to-space) Mobile C5 S5.391 S5.392
2 290 - 2 300	FIXED SPACE RESEARCH (deep space) (space-to-Earth) Mobile C5
2 300 - 2 450	FIXED MOBILE S5.394 RADIOLOCATION Amateur S5.150 S5.282 S5.396 C37
2 450 - 2 483.5	FIXED MOBILE S5.394 RADIOLOCATION S5.150 C37

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

2 483.5 - 2 500	FIXED C38 MOBILE-SATELLITE (space-to-Earth) C48 RADIODETERMINATION-SATELLITE (space-to-Earth) S5.398 RADIOLOCATION S5.150 S5.402 C37
2 500 - 2 596	FIXED S5.416 S5.418 Mobile C5 C39
2 596 - 2 655	BROADCASTING Mobile C5 S5.339
2 655 - 2 686	BROADCASTING Earth Exploration-Satellite (passive) Mobile C5 Radio Astronomy Space Research (passive) S5.149 C39
2 686 - 2 690	FIXED S5.416 S5.418 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) S5.149 C39
2 690 - 2 700	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
2 700 - 2 850	AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation S5.423

2 850 - 2 900	AERONAUTICAL RADIONAVIGATION S5.337 MARITIME RADIONAVIGATION S5.424 C14 Radiolocation
2 900 - 3 100	RADIONAVIGATION S5.426 Radiolocation S5.425 S5.427
3 100 - 3 300	RADIOLOCATION S5.428 Earth Exploration-Satellite (active) Space Research (active) S5.149
3 300 - 3 400	RADIOLOCATION S5.433 C5 Amateur S5.149
3 400 - 3 500	FIXED C15 RADIOLOCATION S5.433 C5 Amateur S5.282
3 500 - 4 200	FIXED FIXED-SATELLITE (space-to-Earth)
4 200 - 4 400	AERONAUTICAL RADIONAVIGATION S5.438 S5.440
4 400 - 4 500	FIXED C25
4 500 - 4 800	FIXED FIXED-SATELLITE (space-to-Earth) S5.441 C25 C16A

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

4 800 - 4 825	FIXED Radio Astronomy
4 825 - 4 835	FIXED RADIO ASTRONOMY S5.443 S5.149
4 835 - 4 950	FIXED Radio Astronomy C25
4 950 - 4 990	FIXED RADIO ASTRONOMY S5.443 S5.149 S5.339 C25
4 990 - 5 000	FIXED RADIO ASTRONOMY Space Research (passive) S5.149
5 000 - 5 150	AERONAUTICAL RADIONAVIGATION S5.367 S5.444 S5.444A
5 150 - 5 250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) S5.447A S5.447B S5.447C C39A
5 250 - 5 255	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH S5.447D S5.448A C39A

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

5 255 - 5 350	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) S5.448A C39A
5 350 - 5 460	AERONAUTICAL RADIONAVIGATION S5.449 EARTH EXPLORATION-SATELLITE (active) S5.448B Radiolocation C39A
5 460 - 5 470	RADIONAVIGATION S5.449 Radiolocation
5 470 - 5 650	MARITIME RADIONAVIGATION Radiolocation S5.452
5 650 - 5 725	RADIOLOCATION Amateur Space Research (deep space) S5.282
5 725 - 5 850	RADIOLOCATION Amateur S5.150 C39A
5 850 - 5 925	FIXED FIXED-SATELLITE (Earth-to-space) Amateur Radiolocation S5.150

5 925 - 6 700	FIXED FIXED-SATELLITE (Earth-to-space) S5.149 S5.440 S5.458
6 700 - 7 075	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) S5.441 C40 S5.458 S5.458A S5.458B S5.458C C16A
7 075 - 7 250	FIXED S5.458 S5.459 S5.460
7 250 - 7 300	FIXED-SATELLITE (space-to-Earth) C49 MOBILE-SATELLITE S5.461 C50
7 300 - 7 450	FIXED FIXED-SATELLITE (space-to-Earth) C49 S5.461
7 450 - 7 550	FIXED FIXED-SATELLITE (space-to-Earth) C49 METEOROLOGICAL-SATELLITE (space-to-Earth) S5.461A
7 550 - 7 750	FIXED FIXED-SATELLITE (space-to-Earth) C49
7 750 - 7 850	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) S5.461B
7 850 - 7 900	FIXED
7 900 - 7 975	FIXED FIXED-SATELLITE (Earth-to-space) C49 S5.461

7 975 - 8 025	FIXED-SATELLITE (Earth-to-space) C49 MOBILE-SATELLITE S5.461 C50
8 025 - 8 175	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) C49 S5.463
8 175 - 8 215	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) C49 METEOROLOGICAL-SATELLITE (Earth-to-space) S5.463
8 215 - 8 400	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) C49 S5.463
8 400 - 8 500	FIXED SPACE RESEARCH (space-to-Earth) S5.465
8 500 - 8 550	RADIOLOCATION
8 550 - 8 650	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) S5.469A
8 650 - 8 750	RADIOLOCATION
8 750 - 8 850	AERONAUTICAL RADIONAVIGATION S5.470 RADIOLOCATION

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
MHz

8 850 - 9 000	MARITIME RADIONAVIGATION S5.472 RADIOLOCATION
9 000 - 9 200	AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation
9 200 - 9 300	MARITIME RADIONAVIGATION S5.472 RADIOLOCATION S5.474
9 300 - 9 500	RADIONAVIGATION S5.476 Radiolocation S5.427 S5.474 S5.475
9 500 - 9 800	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) S5.476A
9 800 - 10 000	RADIOLOCATION Fixed S5.479

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
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10 - 10.45	RADIOLOCATION Amateur S5.479
10.45 - 10.5	RADIOLOCATION Amateur Amateur-Satellite
10.5 - 10.55	FIXED RADIOLOCATION
10.55 - 10.6	FIXED
10.6 - 10.68	EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) S5.149 S5.482
10.68 - 10.7	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340
10.7 - 11.7	FIXED FIXED-SATELLITE (space-to-Earth) S5.441 S5.484A C41 C16 C16A C16C 16B
11.7 - 12.2	FIXED-SATELLITE (space-to-Earth) S5.484A S5.485 S5.486 S5.488 C16B

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
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12.2 - 12.7	BROADCASTING BROADCASTING-SATELLITE C43 C47 FIXED FIXED-SATELLITE (space-to-Earth) S5.487A S5.488 S5.490 S5.492 C16B
12.7 - 12.75	FIXED FIXED-SATELLITE (Earth-to-space)
12.75 - 13.25	FIXED FIXED-SATELLITE (Earth-to-space) S5.441 C16A C16C
13.25 - 13.4	AERONAUTICAL RADIONAVIGATION S5.497 EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) S5.498A
13.4 - 13.75	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) S5.501A Standard Frequency and Time Signal-Satellite (Earth-to-space) S5.501B
13.75 - 14	FIXED-SATELLITE (Earth-to-space) S5.484A C41 RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space) S5.502 S5.503 S5.503A C16B
14 - 14.47	FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 S5.504 C16B

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

14.47 - 14.5	FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 Radio Astronomy S5.149 C16B
14.5 - 15.35	FIXED Mobile C5 S5.339
15.35 - 15.4	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340
15.4 - 15.43	AERONAUTICAL RADIONAVIGATION S5.511D
15.43 - 15.63	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.511A S5.511C
15.63 - 15.7	AERONAUTICAL RADIONAVIGATION S5.511D
15.7 - 16.6	RADIOLOCATION C42
16.6 - 17.1	RADIOLOCATION Space Research (Earth-to-space) (deep space)
17.1 - 17.2	RADIOLOCATION

17.2 - 17.3	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) S5.513A
17.3 - 17.7	BROADCASTING-SATELLITE FIXED-SATELLITE (Earth-to-space) S5.516 Radiolocation S5.515 S5.517 C43 C44 C47
17.7 - 17.8	BROADCASTING-SATELLITE C46 FIXED C45 FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.516 S5.515 S5.517 C43 C44 C47
17.8 - 18.1	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.484A S5.516 C16A C43 C47
18.1 - 18.4	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.484A S5.520 S5.519 C16A C43 C47
18.4 - 18.6	FIXED FIXED-SATELLITE (space-to-Earth) S5.484A C16A
18.6 - 18.8	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) S5.523 SPACE RESEARCH (passive) S5.522 C16A

18.8 - 19.3	FIXED FIXED-SATELLITE (space-to-Earth) S5.523A C16A
19.3 - 19.7	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.523B S5.523C S5.523D S5.523E C16A
19.7 - 20.2	FIXED-SATELLITE (space-to-Earth) S5.484A MOBILE-SATELLITE (space-to-Earth) S5.525 S5.526 S5.527 S5.528 S5.529 C16B
20.2 - 21.2	FIXED-SATELLITE (space-to-Earth) C49 MOBILE-SATELLITE (space-to-Earth) C5 Standard Frequency and Time Signal-Satellite (space-to-Earth)
21.2 - 21.4	EARTH EXPLORATION-SATELLITE (passive) FIXED SPACE RESEARCH (passive) Mobile
21.4 - 22	FIXED Mobile
22 - 22.21	FIXED Mobile except aeronautical mobile S5.149
22.21 - 22.5	EARTH EXPLORATION-SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) Mobile except aeronautical mobile S5.532

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

22.5 - 22.55	FIXED Mobile
22.55 - 23.55	FIXED INTER-SATELLITE Mobile S5.149
23.55 - 23.6	FIXED Mobile
23.6 - 24	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340
24 - 24.05	AMATEUR AMATEUR-SATELLITE S5.150
24.05 - 24.25	RADIOLOCATION Amateur Earth Exploration-Satellite (active) S5.150
24.25 - 24.45	RADIONAVIGATION FIXED
24.45 - 24.65	INTER-SATELLITE S5.540 RADIONAVIGATION
24.65 - 24.75	INTER-SATELLITE RADIOLOCATION-SATELLITE (Earth-to-space)

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
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24.75 - 25.05	FIXED-SATELLITE (Earth-to-space) S5.542 C44 C47
25.05 - 25.25	FIXED FIXED-SATELLITE (Earth-to-space) S5.542 C44 C47
25.25 - 25.5	FIXED INTER-SATELLITE S5.533 MOBILE Earth Exploration-Satellite (space-to-Earth) Standard Frequency and Time Signal-Satellite (Earth-to-space) C47B
25.5 - 27	EARTH EXPLORATION-SATELLITE (space-to-Earth) S5.536A FIXED INTER-SATELLITE S5.533 MOBILE Standard Frequency and Time Signal-Satellite (Earth-to-space) C47B
27 - 27.5	FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE S5.533 S5.534 MOBILE C47A
27.5 - 29.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.484A S5.523A S5.523C S5.523E S5.535A S5.539 S5.541A MOBILE S5.538 S5.540 C16A C47A

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

29.5 - 30	FIXED-SATELLITE (Earth-to-space) S5.484A S5.539 MOBILE-SATELLITE (Earth-to-space) S5.525 S5.526 S5.527 S5.529 S5.535 S5.536 S5.537 C16A C16B
30 - 31	FIXED-SATELLITE (Earth-to-space) C49 MOBILE-SATELLITE (Earth-to-space) C50 Standard Frequency and Time Signal-Satellite (space-to-Earth)
31 - 31.3	FIXED MOBILE Space Research S5.544 Standard Frequency and Time Signal-Satellite (space-to-Earth) S5.149
31.3 - 31.8	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340
31.8 - 32	FIXED S5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) S5.547 S5.547B S5.548
32 - 32.3	FIXED S5.547A INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) S5.547 S5.547C S5.548
32.3 - 33	FIXED S5.547A INTER-SATELLITE RADIONAVIGATION S5.547 S5.547D S5.548

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
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33 - 33.4	FIXED S5.547A RADIONAVIGATION S5.547 S5.547E
33.4 - 34.2	RADIOLOCATION
34.2 - 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)
34.7 - 35.2	RADIOLOCATION Space Research
35.2 - 35.5	METEOROLOGICAL AIDS RADIOLOCATION S5.551
35.5 - 36	EARTH EXPLORATION-SATELLITE (active) METEOROLOGICAL AIDS RADIOLOCATION SPACE RESEARCH (active) S5.551A
36 - 37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.149
37 - 37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth)

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

37.5 - 38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)
38 - 39.5	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth) C51
39.5 - 40	FIXED FIXED-SATELLITE (space-to-Earth) C49 MOBILE MOBILE-SATELLITE (space-to-Earth) C50 Earth Exploration-Satellite (space-to-Earth) C51
40 - 40.5	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) C49 MOBILE MOBILE-SATELLITE (space-to-Earth) C50 SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)
40.5 - 42.5	BROADCASTING BROADCASTING-SATELLITE FIXED FIXED-SATELLITE (space-to-Earth) S5.551B S5.551E Mobile S5.551C

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

42.5 - 43.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149
43.5 - 47	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE S5.554
47 - 47.2	AMATEUR AMATEUR-SATELLITE
47.2 - 50.2	FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE S5.149 S5.340 S5.552A S5.555 C52
50.2 - 50.4	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) S5.340 S5.555A
50.4 - 51.4	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)
51.4 - 52.6	FIXED MOBILE S5.547 S5.556

52.6 - 54.25	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) S5.340 S5.556
54.25 - 55.78	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE S5.556A SPACE RESEARCH (passive)
55.78 - 56.9	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE S5.556A MOBILE S5.558 SPACE RESEARCH (passive) S5.547
56.9 - 57	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE S5.558A MOBILE S5.558 SPACE RESEARCH (passive) S5.547
57 - 58.2	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE S5.556A MOBILE S5.558 SPACE RESEARCH (passive) S5.547
58.2 - 59	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.547 S5.556

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

59 - 59.3	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE S5.556A MOBILE S5.558 RADIOLOCATION S5.559 SPACE RESEARCH (passive)
59.3 - 64	FIXED INTER-SATELLITE MOBILE S5.558 RADIOLOCATION S5.559 S5.138
64 - 65	FIXED INTER-SATELLITE MOBILE except aeronautical mobile S5.547 S5.556
65 - 66	EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH S5.547
66 - 71	INTER-SATELLITE MOBILE S5.553 S5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE
71 - 74	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) S5.149 S5.556

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

74 - 75.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space Research (space-to-Earth)
75.5 - 76	AMATEUR AMATEUR-SATELLITE Space Research (space-to-Earth)
76 - 81	RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) S5.560
81 - 84	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Space Research (space-to-Earth)
84 - 86	BROADCASTING BROADCASTING-SATELLITE FIXED MOBILE S5.561
86 - 92	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
92 - 94	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION S5.149 S5.556

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

94 - 94.1	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) S5.562
94.1 - 95	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION
95 - 100	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation S5.149 S5.554 S5.555
100 - 102	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.341
102 - 105	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE S5.341
105 - 116	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

116 - 126	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE S5.558 SPACE RESEARCH (passive) S5.138 S5.341
126 - 134	FIXED INTER-SATELLITE MOBILE S5.558 RADIOLOCATION S5.559
134 - 142	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation S5.149 S5.340 S5.554
142 - 144	AMATEUR AMATEUR-SATELLITE
144 - 149	RADIOLOCATION Amateur Amateur-Satellite S5.149
149 - 150	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
150 - 151	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) S5.149

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

151 - 156	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
156 - 158	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
158 - 164	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
164 - 168	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
168 - 170	FIXED MOBILE
170 - 174.5	FIXED INTER-SATELLITE MOBILE S5.558 S5.149
174.5 - 176.5	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE S5.558 SPACE RESEARCH (passive) S5.149
176.5 - 182	FIXED INTER-SATELLITE MOBILE S5.558 S5.149

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

182 - 185	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.149
185 - 190	FIXED INTER-SATELLITE MOBILE S5.558 S5.149
190 - 200	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE S5.341 S5.554
200 - 202	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) S5.341
202 - 217	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE S5.341
217 - 231	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341
231 - 235	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation

CANADIAN TABLE OF FREQUENCY ALLOCATIONS
GHz

235 - 238	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive)
238 - 241	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation
241 - 248	RADIOLOCATION Amateur Amateur-Satellite S5.138
248 - 250	AMATEUR AMATEUR-SATELLITE
250 - 252	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) C23 C24
252 - 265	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE S5.149 S5.554 C23
265 - 275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY S5.149
275 - 400	(not allocated)

INTERNATIONAL FOOTNOTES

The following is a current listing of all footnotes contained in the International Tables of Frequency Allocations. It should be noted that some of the international footnotes applicable to Canada have been suppressed in the Canadian Allocation Table in favour of a specific Canadian footnote which incorporates the ITU provisions and responds to specific Canadian spectrum requirements. In addition, other Canadian footnotes have been developed to respond to such domestic requirements.

S5.53 Administrations authorizing the use of frequencies below 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated.

S5.54 Administrations conducting scientific research using frequencies below 9 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.

S5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Russian Federation, Tajikistan, Turkmenistan and Ukraine, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-97)

S5.57 The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 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.

S5.60 In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (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.

S5.61 In Region 2, the establishment and operation of stations in the maritime radionavigation service in the bands 70-90 kHz and 110-130 kHz shall be subject to agreement obtained under No. **S9.21** with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

S5.62 Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.

S5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

S5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)

S5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.

S5.78 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.

S5.79 The use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.

S5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution **339** (**Rev. WRC-97**)). (WRC-97)

S5.80 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.

S5.81 The bands 490-495 kHz and 505-510 kHz shall be subject to the provisions of Appendix **S13**, §151), Part A2. (WRC-97)

S5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution **331** (**Rev. WRC-97**)), 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 **S31** and **S52**. 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. (WRC-97)

S5.83 The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles **S31** and **S52**, and in Appendix **S13**.

S5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **S31** and **S52** and in Appendix **S13**. (WRC-97)

S5.86 In Region 2, in the band 525-535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

S5.89 In Region 2, the use of the band 1 605-1 705 kHz by stations of the broadcasting service is subject to the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

The examination of frequency assignments to stations of the fixed and mobile services in the band 1 625-1 705 kHz shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

S5.90 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.

S5.105 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 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 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. **S52.165**.

S5.106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the

frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.

S5.108 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 **S31** and **S52** and in Appendix **S13**.

S5.109 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 **S31**.

S5.110 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 **S31**.

S5.111 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 Article **S31** and in Appendix **S13**.

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.

S5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 kHz by the broadcasting service, see Nos. **S5.16** to **S5.20**, **S5.21** and **S23.3** to **S23.10**.

S5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article **S31** and Appendix **S13** by stations of the maritime mobile service engaged in coordinated search and rescue operations.

S5.116 Administrations are urged to authorize the use of the band 3 155-3 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs.

It should be noted that frequencies in the range 3 000 kHz to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

S5.118 Additional allocation: in the United States, Japan, Mexico, Peru and Uruguay, the band 3 230-3 400 kHz is also allocated to the radiolocation service on a secondary basis.

S5.120 For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz, 24.89 MHz and 144 MHz in the event of natural disasters, see Resolution **640***.

* This Resolution was abrogated by WRC-97.

S5.124 Additional allocation: in Canada, the band 3 950-4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of broadcasting stations operating in this band shall not exceed that necessary for a national service within the frontier of this country and shall not cause harmful interference to other services operating in accordance with the Table.

S5.127 The use of the band 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using

radiotelephony (see No. **S52.220** and Appendix **S17**).

S5.129 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

S5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles **S31** and **S52** and in Appendix **S13**.

S5.131 The frequency 4 209.5 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 techniques. (WRC-97)

S5.132 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 international frequencies for the transmission of maritime safety information (MSI) (see Appendix **S17**).

S5.134 The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz by the broadcasting service is limited to single-sideband emissions with the characteristics specified in Appendix **S11** or to any other spectrum-efficient modulation techniques recommended by ITU-R. Access to these bands shall be subject to the decisions of a competent conference. (WRC-97)

S5.135 (SUP - WRC-97)

S5.136 The band 5 900-5 950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution **21** (**Rev. WRC-95**). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200-6 213.5 kHz and 6 220.5-6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.

S5.138 The following bands:

6 765-6 795 kHz	(centre frequency 6 780 kHz),
433.05-434.79 MHz	(centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. **S5.280**,
61-61.5 GHz	(centre frequency 61.25 GHz),
122-123 GHz	(centre frequency 122.5 GHz), and
244-246 GHz	(centre frequency 245 GHz)

are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations.

S5.142 The use of the band 7 100-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

S5.143 The band 7 300-7 350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution **21** (**Rev. WRC-95**). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles **S31** and **S52** and in Appendix **S13**.

S5.146 The bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution **21** (**Rev. WRC-95**). After 1 April 2007, frequencies in these bands may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

S5.148 (SUP - WRC-97)

S5.149 In making assignments to stations of other services to which the bands:

13 360-13 410 kHz,
25 550-25 670 kHz,
37.5-38.25 MHz,
73-74.6 MHz in Regions 1 and 3,
150.05-153 MHz in Region 1,
322-328.6 MHz*,
406.1-410 MHz,
608-614 MHz in Regions 1 and 3,
1 330-1 400 MHz*,
1 610.6-1 613.8 MHz*,
1 660-1 670 MHz,
1 718.8-1 722.2 MHz*,
2 655-2 690 MHz,
3 260-3 267 MHz*,
3 332-3 339 MHz*,
3 345.8-3 352.5 MHz*,
4 825-4 835 MHz*,
4 950-4 990 MHz,
4 990-5 000 MHz,
6 650-6 675.2 MHz*,
10.6-10.68 GHz,
14.47-14.5 GHz*,
22.01-22.21 GHz*,
22.21-22.5 GHz,
22.81-22.86 GHz*,
23.07-23.12 GHz*,
31.2-31.3 GHz,
31.5-31.8 GHz in Regions 1 and 3,
36.43-36.5 GHz*,
42.5-43.5 GHz,
42.77-42.87 GHz*,
43.07-43.17 GHz*,
43.37-43.47 GHz*,
48.94-49.04 GHz*,
72.77-72.91 GHz*,
93.07-93.27 GHz*,
97.88-98.08 GHz*,
140.69-140.98 GHz*,
144.68-144.98 GHz*,
145.45-145.75 GHz*,
146.82-147.12 GHz*,
150-151 GHz*,
174.42-175.02 GHz*,
177-177.4 GHz*,
178.2-178.6 GHz*,
181-181.46 GHz*,
186.2-186.6 GHz*,
250-251 GHz*,
257.5-258 GHz*,
261-265 GHz,
262.24-262.76 GHz*,
265-275 GHz,
265.64-266.16 GHz*,
267.34-267.86 GHz*,
271.74-272.26 GHz*

are allocated (* indicates radio astronomy use for spectral line observations), administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **S4.5** and **S4.6** and Article **S29**). (WRC-97)

S5.150 The following bands:

13 553-13 567 kHz	(centre frequency 13 560 kHz),
26 957-27 283 kHz	(centre frequency 27 120 kHz),
40.66-40.70 MHz	(centre frequency 40.68 MHz),
902-928 MHz	in Region 2 (centre frequency 915 MHz),
2 400-2 500 MHz	(centre frequency 2 450 MHz),
5 725-5 875 MHz	(centre frequency 5 800 MHz), and
24-24.25 GHz	(centre frequency 24.125 GHz)

are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. **S15.13**.

S5.151 The bands 13 570-13 600 kHz and 13 800-13 870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution **21** (**Rev. WRC-95**). After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that

harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

S5.153 In Region 3, the stations of those services to which the band 15 995-16 005 kHz is allocated may transmit standard frequency and time signals.

S5.155B The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

S5.156A The use of the band 23 200-23 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

S5.157 The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

S5.172 Different category of service: in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54-68 MHz to the fixed and mobile services is on a primary basis (see No. **S5.33**).

S5.173 Different category of service: in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68-72 MHz to the fixed and mobile services is on a primary basis (see No. **S5.33**).

S5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.
Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.

S5.185 Different category of service: in the United States, the French Overseas Departments in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76-88 MHz to the fixed and mobile services is on a primary basis (see No. **S5.33**).

S5.198 Additional allocation: the band 117.975-136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under No. **S9.21**. (WRC-97)

S5.199 The bands 121.45-121.55 MHz and 242.95-243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Appendix **S13**).

S5.200 In the band 117.975-136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article **S31** and Appendix **S13** for distress and safety purposes with stations of the aeronautical mobile service.

S5.203 In the band 136-137 MHz, existing operational meteorological satellites may continue to operate, under the conditions defined in No. **S4.4** with respect to the aeronautical mobile service, until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service. (WRC-97)

S5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. (WRC-97)

S5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in Table 1 of Recommendation ITU-R RA.769-1. (WRC-97)

S5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)

S5.218 Additional allocation: the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. **S9.21**. The bandwidth of any individual transmission shall not exceed ±25 kHz.

S5.219 The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.

S5.220 The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz. (WRC-97)

S5.221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo, the Republic of Korea, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, the Islamic Republic of Iran, Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Russian Federation, Senegal, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Yugoslavia, Zambia, and Zimbabwe. (WRC-97)

S5.222 Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.

S5.223 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. **S4.4**.

S5.224 (SUP - WRC-97)

S5.224A The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015.

(WRC-97)

S5.224B The allocation of the bands 149.9-150.05 MHz and 399.9-400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015. (WRC-97)

S5.226 The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article **S31** and Appendix **S13**.

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 **S31** and **S52**, and Appendix **S13**).

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 radio-communication 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.

S5.227 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. The conditions for the use of this frequency are prescribed in Articles **S31** and **S52**, and Appendices **S13** and **S18**.

S5.241 In Region 2, no new stations in the radiolocation service may be authorized in the band 216-225 MHz. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis.

S5.242 Additional allocation: in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary basis.

S5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. **S9.21**, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations.

S5.255 The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. **S9.11A**.

S5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Appendix **S13**).

S5.257 The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. **S9.21**.

S5.258 The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).

S5.260 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. **S4.4**.

S5.261 Emissions shall be confined in a band of ±25 kHz about the standard frequency 400.1 MHz.

S5.263 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.

S5.264 The use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. The power flux-density limit indicated in Annex 1 of Appendix **S5** shall apply until such time as a competent world radiocommunication conference revises it.

S5.266 The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Article **S31** and Appendix **S13**).

S5.267 Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited.

S5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed !153 dB(W/m^2) for 0° # * # 5°, !153 + 0.077 (* - 5) dB(W/m^2) for 5° # * # 70° and !148 dB(W/m^2) for 70° # * # 90°, where * is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. **S4.10** does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)

S5.269 Different category of service: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. **S5.33**).

S5.281 Additional allocation: in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.

S5.282 In the bands 435-438 MHz, 1 260-1 270 MHz, 2 400-2 450 MHz, 3 400-3 410 MHz (in Regions 2 and 3 only) and 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. **S5.43**). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. **S25.11**. The use of the bands 1 260-1 270 MHz and 5 650-5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

S5.284 Additional allocation: in Canada, the band 440-450 MHz is also allocated to the amateur service on a secondary basis.

S5.285 Different category of service: in Canada, the allocation of the band 440-450 MHz to the radiolocation service is on a primary basis (see No. **S5.33**).

S5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. **S9.21**.

S5.286A The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. (WRC-97)

S5.286B The use of the band 454-455 MHz in the countries listed in No. **S5.286D**, 455-456 MHz and 459-460

MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. **S5.286E**, by stations in the mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

S5.286C The use of the band 454-455 MHz in the countries listed in No. **S5.286D**, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. **S5.286E**, by stations in the mobile-satellite service, shall not constrain the development and use of the fixed and mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

S5.286D Additional allocation: in Canada, the United States, Mexico and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-97)

S5.286E Additional allocation: in Cape Verde, Indonesia, Nepal, Nigeria and Papua New Guinea, the bands 454-456 MHz and 459-460 MHz are also allocated to the mobile-satellite (Earth-to-space) service on a primary basis. (WRC-97)

S5.287 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174 (see Resolution **341** (**WRC-97**)). (WRC-97)

S5.288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174.

S5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.

S5.311 Within the frequency band 620-790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions **33** (**Rev. WRC-97**) and **507**). Such stations shall not produce a power flux-density in excess of the value -129 dB (W/m^2) for angles of arrival less than 20° (see Recommendation **705**) within the territories of other countries without the consent of the administrations of those countries.

S5.317 Additional allocation: in Region 2 (except Brazil and the United States), the band 806-890 MHz is also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **S9.21**. The use of this service is intended for operation within national boundaries.

S5.318 Additional allocation: in Canada, the United States and Mexico, the bands 849-851 MHz and 894-896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 849-851 MHz is limited to transmissions from aeronautical stations and the use of the band 894-896 MHz is limited to transmissions from aircraft stations.

S5.321 Alternative allocation: in Italy, the band 838-854 MHz is allocated to the broadcasting service on a primary basis as from 1 January 1995.

S5.328 The band 960-1 215 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based facilities.

S5.329 Use of the radionavigation-satellite service in the band 1 215-1 260 MHz shall be subject to the condition that no harmful interference is caused to the radionavigation service authorized under No. **S5.331**.

S5.332 In the band 1 215-1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-97)

S5.333 (SUP - WRC-97)

S5.334 Additional allocation: in Canada and the United States, the bands 1 240-1 300 MHz and 1 350-1 370 MHz are also allocated to the aeronautical radionavigation service on a primary basis.

S5.335 In Canada and the United States in the band 1 240-1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service. (WRC-97)

S5.337 The use of the bands 1 300-1 350 MHz, 2 700-2 900 MHz and 9 000-9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

S5.339 The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary basis.

S5.340 All emissions are prohibited in the following bands:

1 400 - 1 427 MHz,	
2 690 - 2 700 MHz	except those provided for by Nos. **S5.421** and **S5.422**,
10.68 - 10.7 GHz	except those provided for by No. **S5.483**,
15.35 - 15.4 GHz	except those provided for by No. **S5.511**,
23.6 - 24 GHz,	
31.3 - 31.5 GHz,	
31.5 - 31.8 GHz	in Region 2,
48.94 - 49.04 GHz	from airborne stations,
50.2 - 50.4[2] GHz	except those provided for by No. **S5.555A**,
52.6 - 54.25 GHz,	
86 - 92 GHz,	
105 - 116 GHz,	
140.69 - 140.98 GHz	from airborne stations and from space stations in the space-to-Earth direction,
182 - 185 GHz	except those provided for by No. **S5.563**,
217 - 231 GHz.	

[2]**S5.340.1** The allocation to the earth exploration-satellite service (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands. (WRC-97)

S5.341 In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

S5.342 Additional allocation: in Belarus, Russian Federation and Ukraine, the band 1 429-1 535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1 452-1 492 MHz is subject to agreement between the administrations concerned.

S5.343 In Region 2, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

S5.345 Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution **528** (**WARC-92**).

S5.348 The use of the band 1 492-1 525 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A**. However, no coordination threshold in Article **S21** for space stations of the mobile-satellite service with respect to terrestrial services shall apply to the situation referred to in No. **S5.343**. With respect to the situation referred to in No. **S5.343**, the requirement for coordination in the band

1 492-1 525 MHz will be determined by band overlap.

S5.348A In the band 1 492-1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. **S9.11A** for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be -150 dB (W/m^2) in any 4 kHz band for all angles of arrival, instead of those given in Table S5-2 of Appendix **S5**. The above threshold level of the power flux-density shall apply until it is changed by a competent world radiocommunication conference.

S5.351 The bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 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.

S5.352 (SUP - WRC-97)

S5.353 (SUP - WRC-97)

S5.353A In applying the procedures of No. **S9.11A** to the mobile-satellite service in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (See Resolution **218** (**WRC-97**).) (WRC-97)

S5.354 The use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite services is subject to coordination under No. **S9.11A**.

S5.356 The use of the band 1 544-1 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article **S31**).

S5.357 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.

S5.357A In applying the procedures of No. **S9.11A** to the mobile-satellite service in the bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article **S44**. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **S44** shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **S44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (See Resolution **218** (**WRC-97**).) (WRC-97)

S5.358 (SUP - WRC-97)

S5.360 (SUP - WRC-97)

S5.361 (SUP - WRC-97)

S5.362A In the United States, in the bands 1 555-1 559 MHz and 1 656.5-1 660.5 MHz, the aeronautical mobile-satellite (R) service shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **S44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (WRC-97)

S5.364 The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. **S9.11A**. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB (W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. **S5.366** (to which No. **S4.10** applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed -3 dB (W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. **S5.366** and stations in the fixed service operating in accordance with the provisions of No. **S5.359**. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. **S5.366**.

S5.365 The use of the band 1 613.8-1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. **S9.11A**.

S5.366 The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. **S9.21**.

S5.367 Additional allocation: The bands 1 610-1 626.5 MHz and 5 000-5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. **S9.21**.

S5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. **S4.10** do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

S5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. **S29.13** applies).

S5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. **S5.359**. (WRC-97)

S5.375 The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article **S31**).

S5.376 Transmissions in the band 1 646.5-1 656.5 MHz from aircraft stations in 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.

S5.376A Mobile earth stations operating in the band 1 660-1 660.5 MHz shall not cause harmful interference

to stations in the radio astronomy service. (WRC-97)

S5.377 In the band 1 675-1 710 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, the meteorological-satellite and meteorological aids services (see Resolution **213** (**Rev. WRC-95**)) and the use of this band shall be subject to coordination under No. **S9.11A**.

S5.379A Administrations are urged to give all practicable protection in the band 1 660.5-1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4-1 668.4 MHz as soon as practicable.

S5.380 The bands 1 670-1 675 MHz and 1 800-1 805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1 670-1 675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1 800-1 805 MHz is limited to transmissions from aircraft stations.

S5.385 Additional allocation: the bands 1 718.8-1 722.2 MHz, 150-151 GHz, 174.42-175.02 GHz, 177-177.4 GHz, 178.2-178.6 GHz, 181-181.46 GHz, 186.2-186.6 GHz and 257.5-258 GHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations.

S5.386 Additional allocation: the band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. **S9.21**, having particular regard to troposcatter systems.

S5.388 The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution **212** (**Rev. WRC-97**). (WRC-97)

S5.389A The use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service is subject to coordination under No. **S9.11A** and to the provisions of Resolution **716** (**WRC-95**). The use of these bands shall not commence before 1 January 2000; however the use of the band 1 980-1 990 MHz in Region 2 shall not commence before 1 January 2005.

S5.389B The use of the band 1 980-1 990 MHz by the mobile-satellite service shall not cause harmful interference to or constrain the development of the fixed and mobile services in Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

S5.389C The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the mobile-satellite service shall not commence before 1 January 2002 and is subject to coordination under No. **S9.11A** and to the provisions of Resolution **716** (**WRC-95**). (WRC-97)

S5.389D In Canada and the United States the use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service shall not commence before 1 January 2000.

S5.389E The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

S5.390 In Argentina, Brazil, Chile, Colombia, Cuba, Ecuador and Suriname, the use of the bands 2 010-2 025

MHz and 2 160-2 170 MHz by the mobile-satellite services shall not cause harmful interference to stations in the fixed and mobile services before 1 January 2005. After this date, the use of these bands is subject to coordination under No. **S9.11A** and to the provisions of Resolution **716** (**WRC-95**). (WRC-97)

S5.391 In making assignments to the mobile service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)

S5.392 Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.

S5.394 In the United States, the use of the band 2 300-2 390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2 300-2 483.5 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services.

S5.396 Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. **S5.393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution **33** (**Rev. WRC-97**). Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

S5.398 In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. **S4.10** do not apply.

S5.402 The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. **S9.11A**. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 MHz band allocated to the radio astronomy service worldwide.

S5.403 Subject to agreement obtained under No. **S9.21**, the band 2 520-2 535 MHz (until 1 January 2005 the band 2 500-2 535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. **S9.11A** apply.

S5.407 In the band 2 500-2 520 MHz, the power flux-density at the surface of the Earth from space stations operating in the mobile-satellite (space-to-Earth) service shall not exceed -152 dB (W/m^2/4 kHz) in Argentina, unless otherwise agreed by the administrations concerned.

S5.409 Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500-2 690 MHz.

S5.410 The band 2 500-2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. **S9.21**.

S5.411 When planning new tropospheric scatter radio-relay links in the band 2 500-2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the

geostationary-satellite orbit.

S5.413 In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690-2 700 MHz.

S5.414 The allocation of the frequency band 2 500-2 520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under No. **S9.11A**.

S5.415 The use of the bands 2 500-2 690 MHz in Region 2 and 2 500-2 535 MHz and 2 655-2 690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under No. **S9.21**, giving particular attention to the broadcasting-satellite service in Region 1. In the direction space-to-Earth, the power flux-density at the Earth's surface shall not exceed the values given in Article **S21**, Table **S21-4**.

S5.416 The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. **S9.21**. The power flux-density at the Earth's surface shall not exceed the values given in Article **S21**, Table **S21-4**.

S5.418 Additional allocation: in Bangladesh, Belarus, China, Rep. of Korea, India, Japan, Pakistan, Russian Federation, Singapore, Sri Lanka, Thailand and Ukraine the band 2 535-2 655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to provisions of Resolution **528** (**WARC-92**). The provisions of No. **S5.416** and Article **S21**, Table **S21-4**, do not apply to this additional allocation.

S5.419 The allocation of the frequency band 2 670-2 690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. **S9.11A**.

S5.420 The band 2 655-2 670 MHz (until 1 January 2005 the band 2 655-2 690 MHz) may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. **S9.21**. The coordination under No. **S9.11A** applies.

S5.423 In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

S5.424 Additional allocation: in Canada, the band 2 850-2 900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

S5.425 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.

S5.426 The use of the band 2 900-3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

S5.427 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. **S4.9**.

S5.428 Additional allocation: in Azerbaijan, Bulgaria, Cuba, Kazakstan, Mongolia, Poland, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-97)

S5.433 In Regions 2 and 3, in the band 3 400-3 600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

S5.438 Use of the band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

S5.440 The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ±2 MHz of these frequencies, subject to agreement obtained under No. **S9.21**.

S5.441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix **S30B**. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix **S30B**. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by non-geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Resolution **130** (**WRC-97**). (WRC-97)

S5.442 In the bands 4 825-4 835 MHz and 4 950-4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.

S5.443 Different category of service: in Argentina, Australia and Canada, the allocation of the bands 4 825-4 835 MHz and 4 950-4 990 MHz to the radio astronomy service is on a primary basis (see No. **S5.33**).

S5.444 The band 5 000-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. **S5.444A** and Resolution **114** (**WRC-95**) apply.

S5.444A Additional allocation: the band 5 091-5 150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary mobile-satellite systems and is subject to coordination under No. **S9.11A**.

In the band 5 091-5 150 MHz, the following conditions also apply:

- prior to 1 January 2010, the use of the band 5 091-5 150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution **114** (**WRC-95**);

- prior to 1 January 2010, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5 000-5 091 MHz band, shall take precedence over other uses of this band;

- after 1 January 2008, no new assignments shall be made to stations providing feeder links of non-geostationary mobile-satellite systems;

- after 1 January 2010, the fixed-satellite service will become secondary to the aeronautical radionavigation service.

S5.446 Additional allocation: in the countries listed in Nos. **S5.369** and **S5.400**, the band 5 150-5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. **S9.21**. 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. **S5.369** and **S5.400**, 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.

S5.447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. **S9.11A**.

S5.447B Additional allocation: the band 5 150-5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. **S9.11A**. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed -164 dB(W/m^2) in any 4 kHz band for all angles of arrival.

S5.447C Administrations responsible for fixed-satellite service networks in the band 5 150-5 250 MHz operated under Nos. **S5.447A** and **S5.447B** shall coordinate on an equal basis in accordance with No. **S9.11A** with administrations responsible for non-geostationary-satellite networks operated under No. **S5.446** and brought into use prior to 17 November 1995. Satellite networks operated under No. **S5.446** brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. **S5.447A** and **S5.447B**.

S5.447D The allocation of the band 5 250-5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

S5.448A The use of the frequency band 5 250-5 350 MHz by the earth exploration-satellite (active) and space research (active) services shall not constrain the future development and deployment of the radiolocation service. (WRC-97)

S5.448B The earth exploration-satellite (active) service operating in the band 5 350-5 460 MHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

S5.449 The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

S5.452 Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

S5.458 In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 025 MHz and 7 075-7 250 MHz.

S5.458A In making assignments in the band 6 700-7 075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6 650-6 675.2 MHz from harmful interference from unwanted emissions.

S5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. **S9.11A**. The use of the band 6 700-7 075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. **S22.2**.

S5.458C Administrations making submissions in the band 7 025-7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.

S5.459 Additional allocation: in Russian Federation, the frequency bands 7 100-7 155 MHz and 7 190-7 235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. **S9.21**. (WRC-97)

S5.460 Additional allocation: the band 7 145-7 235 MHz is also allocated to the space research (Earth-to-space) service on a primary basis, subject to agreement obtained under No. **S9.21**. The use of the band 7 145-7 190 MHz is restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz.

S5.461 Additional allocation: the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **S9.21**.

S5.461A The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)

S5.461B The use of the band 7 750-7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)

S5.463 Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz. (WRC-97)

S5.465 In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.

S5.469A In the band 8 550-8 650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)

S5.470 The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.

S5.472 In the bands 8 850-9 000 MHz and 9 200-9 225 MHz, the maritime radionavigation service is limited to shore-based radars.

S5.474 In the band 9 200-9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article **S31**).

S5.475 The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9 300-9 500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

S5.476 In the band 9 300-9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

S5.476A In the band 9 500-9 800 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radionavigation and radiolocation services. (WRC-97)

S5.479 The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

S5.482 In the band 10.6-10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed -3 dBW. These limits may be exceeded subject to agreement obtained under No. **S9.21**. However, in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, China, the United Arab Emirates, Georgia, India, Indonesia, the Islamic Republic of Iran, Iraq, Japan, Kazakstan, Kuwait, Latvia, Lebanon, Moldova, Nigeria, Uzbekistan, Pakistan, the Philippines, Qatar, Syria, Kyrgyzstan, Russian Federation, Tajikistan, Turkmenistan and Ukraine, the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable.

S5.484A The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by non-geostationary and geostationary-satellite systems in the fixed-satellite service is subject to the provisions of Resolution **130** (**WRC-97**). The use of the band 17.8-18.1 GHz (space-to-Earth) by non-geostationary fixed-satellite service systems is also subject to the provisions of Resolution **538** (**WRC-97**). (WRC-97)

S5.485 In Region 2, in the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.

S5.486 Different category of service: in Mexico and the United States, the allocation of the band 11.7-12.1 GHz to the fixed service is on a secondary basis (see No. **S5.32**).

S5.487A Additional allocation: in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to the provisions of Resolution **538** (**WRC-97**). (WRC-97)

S5.488 The use of the bands 11.7-12.2 GHz by the fixed-satellite service in Region 2 and 12.2-12.7 GHz by the broadcasting-satellite service in Region 2 is limited to national and subregional systems. The use of the band 11.7-12.2 GHz by the fixed-satellite service in Region 2 is subject to previous agreement between the administrations concerned and those having services, operating or planned to operate in accordance with the Table, which may be affected (see Articles **S9** and **S11**). For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix **S30**.

S5.490 In Region 2, in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to the space services operating in conformity with the broadcasting-satellite Plan for Region 2 contained in Appendix **S30**.

S5.492 Assignments to stations of the broadcasting-satellite service in conformity with the appropriate regional Plan in Appendix **S30** may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference or require more protection from interference than the broadcasting-satellite service transmissions operating in conformity with this Plan. With respect to the space services, this band shall be used principally for the broadcasting-satellite service. (WRC-97)

S5.497 The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.

S5.498 (SUP - WRC-97)

S5.498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

S5.501A The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

S5.501B In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)

S5.502 In the band 13.75-14 GHz, the e.i.r.p. of any emission from an earth station in the fixed-satellite service shall be at least 68 dBW, and should not exceed 85 dBW, with a minimum antenna diameter of 4.5 m. In addition the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services towards the geostationary-satellite orbit shall not exceed 59 dBW.

S5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. The e.i.r.p. density of emissions from any earth station in the fixed-satellite service shall not exceed 71 dBW in any 6 MHz band in the frequency range 13.772-13.778 GHz until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band. Automatic power control may be used to increase

the e.i.r.p. density above 71 dBW in any 6 MHz band in this frequency range to compensate for rain attenuation, to the extent that the power-flux density at the fixed-satellite service space station does not exceed the value resulting from use of an e.i.r.p. of 71 dBW in any 6 MHz band in clear sky conditions.

S5.503A Until 1 January 2000, stations in the fixed-satellite service shall not cause harmful interference to non-geostationary space stations in the space research and Earth exploration-satellite services. After that date, these non-geostationary space stations will operate on a secondary basis in relation to the fixed-satellite service. Additionally, when planning earth stations in the fixed-satellite service to be brought into service between 1 January 2000 and 1 January 2001, in order to accommodate the needs of spaceborne precipitation radars operating in the band 13.793-13.805 GHz, advantage should be taken of the consultation process and the information given in Recommendation ITU-R SA.1071.

S5.504 The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.

S5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.

S5.510 The use of the band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe.

S5.511A Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth (see Resolution **123** (**WRC-97**)) and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. **S9.11A**. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. Also in the space-to-Earth direction, harmful interference shall not be caused to stations of the radio astronomy service using the band 15.35-15.4 GHz. The threshold levels of interference and associated power flux-density limits which are detrimental to the radio astronomy service are given in Recommendation ITU-R RA.769-1. Special measures will need to be employed to protect the radio astronomy service in the band 15.35-15.4 GHz. (WRC-97)

S5.511B (SUP - WRC-97)

S5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. **S4.10** applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)

S5.511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of -146 dB ($W/m^2/MHz$) for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed -146 dB ($W/m^2/MHz$) for any angle of arrival, it shall coordinate under No. **S9.11A** with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. **S4.10** applies). (WRC-97)

S5.513 Additional allocation: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. **S5.512**.

S5.513A Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)

S5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix **S30A/30A**.

S5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article **S11**. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to the provisions of Resolution **538** (**WRC-97**). (WRC-97)

S5.517 In Region 2, the allocation to the broadcasting-satellite service in the band 17.3-17.8 GHz shall come into effect on 1 April 2007. After that date, use of the fixed-satellite (space-to-Earth) service in the band 17.7-17.8 GHz shall not claim protection from and shall not cause harmful interference to operating systems in the broadcasting-satellite service.

S5.518 Different category of service: in Region 2, the allocation of the band 17.7-17.8 GHz to the mobile service is on a primary basis until 31 March 2007.

S5.519 Additional allocation: the band 18.1-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article **S21**, Table **S21-4**.

S5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.

S5.522 In making assignments to stations in the fixed and mobile services, administrations are invited to take account of passive sensors in the Earth-exploration satellite and space research services operating in the band 18.6-18.8 GHz. In this band, administrations should endeavour to limit as far as possible both the power delivered by the transmitter to the antenna and the e.i.r.p. in order to reduce the risk of interference to passive sensors to the minimum.

S5.523 In assigning frequencies to stations in the fixed-satellite service in the direction space-to-Earth, administrations are requested to limit as far as practicable the power flux-density at the Earth's surface in the band 18.6-18.8 GHz, in order to reduce the risk of interference to passive sensors in the earth exploration-satellite and space research services.

S5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. **S9.11A** and No. **S22.2** does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. **S9.11A** with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete

Appendix **S4** notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

S5.523B The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. **S9.11A**, and No. **S22.2** does not apply.

S5.523C No. **S22.2** of the Radio Regulations shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **S4** coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

S5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. **S9.11A**, but not subject to the provisions of No. **S22.2**. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. **S5.523C** and **S5.523E**, is not subject to the provisions of No. **S9.11A** and shall continue to be subject to Articles **S9** (except No. **S9.11A**) and **S11** procedures, and to the provisions of No. **S22.2**. (WRC-97)

S5.523E No. **S22.2** of the Radio Regulations shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix **S4** coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

S5.525 In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.

S5.526 In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.

S5.527 In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No. **S4.10** do not apply with respect to the mobile-satellite service.

S5.528 The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1 GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. **S5.524**.

S5.529 The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. **S5.526**.

S5.532 The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.

S5.533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.

S5.534 Additional allocation: in Japan, the band 24.65-25.25 GHz is also allocated to the radionavigation service on a primary basis until 2008.

S5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

S5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. **S9.11A**, but not subject to the provisions of No. **S22.2**, except as indicated in Nos. **S5.523C** and **S5.523E** where such use is not subject to the provisions of No. **S9.11A** and shall continue to be subject to Articles **S9** (except No. **S9.11A**) and **S11** procedures, and to the provisions of No. **S22.2**. (WRC-97)

S5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

S5.536A Administrations installing earth exploration-satellite earth stations cannot claim protection from fixed and mobile stations operated by neighbouring administrations. In addition, earth stations operating in the earth exploration-satellite service should take into account Recommendation ITU-R SA.1278. (WRC-97)

S5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. **S22.2**.

S5.538 Additional allocation: the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500-27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in Article **S21**, Table **S21-4** on the Earth's surface.

S5.539 The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.

S5.540 Additional allocation: the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.

S5.541 In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.

S5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station

transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix **S4** coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix **S4** information for coordination before this date are encouraged to utilize these techniques to the extent practicable. These methods are also subject to review by ITU-R (see Resolution **121** (**Rev. WRC-97**)). (WRC-97)

S5.542 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, the Islamic Republic of Iran, Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Pakistan, the Philippines, Qatar, Syria, Democratic People's Republic of Korea, Somalia, Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. **S21.3** and **S21.5** shall apply. (WRC-97)

S5.543 The band 29.95-30 GHz may be used for space-to-space links in the Earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

S5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article **S21**, Table S21-4 shall apply to the space research service.

S5.547 The bands 31.8-33.4 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution **726** (**WRC-97**)). (WRC-97)

S5.547A Use of the band 31.8-33.4 GHz by the fixed service shall be in accordance with Resolution **126** (**WRC-97**). (WRC-97)

S5.547B Alternative allocation: in the United States, the band 31.8-32 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

S5.547C Alternative allocation: in the United States, the band 32-32.3 GHz is allocated to the inter-satellite, radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

S5.547D Alternative allocation: in the United States, the band 32.3-33 GHz is allocated to the inter-satellite and radionavigation services on a primary basis. (WRC-97)

S5.547E Alternative allocation: in the United States, the band 33-33.4 GHz is allocated to the radionavigation service on a primary basis. (WRC-97)

S5.548 In designing systems for the inter-satellite and radionavigation services in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation **707**).

S5.551 (SUP - WRC-97)

S5.551A In the band 35.5-36.0 GHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the meteorological aids service and other services allocated on a primary basis. (WRC-97)

S5.551B The use of the band 41.5-42.5 GHz by the fixed-satellite service (space-to-Earth) is subject to

Resolution **128** (**WRC-97**). (WRC-97)

S5.551C Alternative allocation: in the French overseas territories in Regions 2 and 3, the Republic of Korea and India, the band 40.5-42.5 GHz is allocated to the broadcasting, broadcasting-satellite and fixed services on a primary basis. (WRC-97)

S5.551E Use of the band 40.5-42.5 GHz by the fixed-satellite service shall be in accordance with Resolution **134** (**WRC-97**). (WRC-97)

S5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.

S5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution **122** (**WRC-97**). (WRC-97)

S5.553 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 134-142 GHz, 190-200 GHz and 252-265 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. **S5.43**).

S5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 134-142 GHz, 190-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

S5.555 Additional allocation: the bands 48.94-49.04 GHz, 97.88-98.08 GHz, 140.69-140.98 GHz, 144.68-144.98 GHz, 145.45-145.75 GHz, 146.82-147.12 GHz, 250-251 GHz and 262.24-262.76 GHz are also allocated to the radio astronomy service on a primary basis.

S5.555A The band 50.2-50.4 GHz is also allocated, on a primary basis, to the fixed and mobile services until 1 July 2000. (WRC-97)

S5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz, 64-65 GHz, 72.77-72.91 GHz and 93.07-93.27 GHz, radio astronomy observations may be carried out under national arrangements.

S5.556A Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB (W/m^2/100 MHz) for all angles of arrival. (WRC-97)

S5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 116-134 GHz, 170-182 GHz and 185-190 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **S5.43**). (WRC-97)

S5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed -147 dB (W/m^2/100 MHz) for all angles of arrival. (WRC-97)

S5.559 In the bands 59-64 GHz and 126-134 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **S5.43**).

S5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

S5.561 In the band 84-86 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to broadcasting-satellite stations operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service.

S5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)

S5.565 The frequency band 275-400 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

- radio astronomy service: 278-280 GHz and 343-348 GHz;

- Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 300-302 GHz, 324-326 GHz, 345-347 GHz, 363-365 GHz and 379-381 GHz.

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the next competent world radiocommunication conference.

CANADIAN TABLE OF FREQUENCY ALLOCATIONS

CANADIAN FOOTNOTES

The complete set of Canadian footnotes to the Canadian Table of Frequency Allocations are listed hereafter. This includes the new Canadian footnotes and any modifications or suppression of footnotes. Changes to the Canadian footnotes are identified by the indicator **(CAN-00)**.

C1 Users of frequencies below 9 kHz shall ensure that no harmful interference is caused to the services to which the bands above 9 kHz are allocated.

C2 Scientific researchers using frequencies below 9 kHz are urged to advise the Department in order that such research may be afforded all practicable protection from harmful interference.

C3 Provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within Canada's national borders, and whose mean power does not exceed 50 watts.

C4 Provided no harmful interference is caused to the maritime mobile service, the bands 6 200 - 6 213.5 kHz and 6 220.5 - 6 525 kHz may be used exceptionally by stations of the fixed service communicating only within Canada's national borders, and whose mean power does not exceed 50 watts.

C5 For the exclusive use of the Government of Canada.

C5A The use of the radiolocation service is limited to Government of Canada shipborne radars. These operations are not permitted on inland waters of Canada.

C6 The band 10 100 - 10 150 kHz is allocated to the fixed service on a primary basis worldwide. In Canada, the band is allocated exclusively to the Amateur service. Canadian Amateur operations shall not cause interference to fixed service operations of other administrations and if such interference should occur, the Amateur service may be required to cease operations. The Amateur service in Canada may not claim protection from interference by the fixed service operations of other administrations.

C8 Radio astronomy observations are carried out in the band 322 - 328.6 MHz and such operations will be protected from interference to the extent possible.

C9 **(CAN-94)** Within Canada and after 1 April 2007, existing services may continue to operate, providing that harmful interference is not caused to existing or planned broadcasting services.

C10 On the condition that harmful interference is not caused to the mobile or the fixed services, the Department may authorize frequencies between 420 and 430 MHz for use on a non-protected basis by the radiolocation service in coastal and off-shore regions of Canada where such radio-location operations may not be fully accommodated in the 430 - 450 MHz frequency band.

C11 Television broadcast stations licensed prior to January 1, 1979, to operate in the frequency band 806 - 890 MHz (channels 70 to 83) will continue to operate on a primary basis until their reassignment to a lower frequency.

C14 Maritime radionavigation operations in the band 2 850 - 2 900 MHz are limited to shore based radars.

C15 **(CAN-97)** In the band 3 400 - 3 500 MHz, in certain locations in Canada the radiolocation service has priority over the fixed service. Consequently, the deployment of fixed systems will be subject to successful coordination with radar facilities operated by the Government of Canada.

C16 Users are urged, in their planning of operations in the band 10.7 - 10.95 GHz for the fixed-satellite

service, to give all practicable protection to the passive operations in the adjacent band 10.6 -10.7 GHz.

C16A **(CAN-00)** The use of spectrum for fixed satellite services in the bands 4500-4800 MHz, 10.7-11.45 GHz and 17.8-19.7 GHz in the space-to-Earth direction and 6725-7025 MHz, 12.75-13.25 GHz, and 28.35-29.5 GHz in the Earth-to-space direction, is presently limited to large antenna earth stations located in areas outside of urban centres. Domestic implementation of fixed-satellite services in these bands will be governed by spectrum utilization policies which will be formulated in the future. These policies will consider existing services, ITU Radio Regulations and operating criteria for sharing between services and systems.

C16B **(CAN-00)** Geostationary orbit networks principally providing domestic fixed satellite services utilize the conventional bands 11.45-12.2 GHz and 19.7-20.2 GHz in the space-to-Earth direction and paired, respectively, with the bands 13.75-14.50 GHz and 29.5-30.0 GHz in the Earth-to-space direction. Broadcasting satellite networks providing domestic services utilize the band 12.2-12.7 GHz in the space-to-Earth direction. Domestic implementation of non-geostationary fixed-satellite services in these bands will conform to future ITU Radio Regulations and operating criteria for sharing between services and systems. In addition, non-geostationary FSS use of the band 11.45-11.7 GHz which is shared with the fixed service on a coordinated basis will be governed by spectrum utilization policies which will be formulated in future.

C16C **(CAN-00)** Fixed-satellite service use of the bands 10.7 - 10.95 GHz in the space-to-Earth direction and 13.0 - 13.15 GHz and 13.2 - 13.25 GHz in the Earth-to-space direction includes feeder links for mobile-satellite space stations.

C19 The operation of low-power mobile or fixed communications equipment is permitted in the band but, this equipment must not cause interference to the radionavigation-satellite or land mobile-satellite services.

C20 **(CAN-98)** SUP (see S5.492)

C21 **(CAN-94)** SUP (see C49 and C50)

C22 In the band 164 - 168 GHz, all emissions are prohibited.

C23 The bands 250 - 251 GHz and 262.24 - 262.76 GHz are also allocated to the radio astronomy service on a primary basis for spectral line observations.

C24 In the band 250 - 252 GHz all emissions are prohibited.

C25 The bands 4 460 - 4 540 MHz and 4 900 - 4 990 MHz are also allocated to the fixed and mobile services on a primary basis, for the exclusive use of the Government of Canada.

C26 **(CAN-94)** In the band 148 - 149.9 MHz, applicants for a licence to provide mobile satellite service in Canada must demonstrate that they have adopted measures to avoid causing harmful interference to fixed and mobile services.

C26A **(CAN-00)** In the bands 454 - 456 MHz and 459 - 460 MHz, applicants for a licence to provide mobile-satellite service in Canada must demonstrate that they have adopted measures to avoid causing harmful interference to the fixed and mobile services.

C26B **(CAN-00)** In the bands 454 - 456 MHz and 459 - 460 MHz, stations of the mobile service have priority over stations of the fixed service in access to spectrum.

C27 **(CAN-94)** In the band 1 370 - 1 400 MHz the fixed and mobile services must take into account existing and future high power radar systems.

C28 **(CAN-94)** In the band 1 452 - 1 492 MHz, until at least 1 January 2000, the broadcasting-satellite service shall not cause harmful interference to the fixed service. After this date, the fixed service may continue to operate provided that it neither causes harmful interference to, nor is affected by the broadcasting-satellite service beam assignments when the broadcasting-satellite service is implemented in Canada. This footnote will be reviewed prior to 1 January 2000.

C29 **(CAN-94)** Existing fixed stations may continue to use the band 1 452 - 1 492 MHz provided they protect, and not claim protection from, stations operating in the broadcasting service which are in accordance with a domestic allotment plan.

C30 **(CAN-94)** Stations in the broadcasting service shall be implemented in accordance with a domestic allotment plan which takes into account stations in the fixed service, to the extent possible.

C31 **(CAN-98)** In the band 1 515 - 1 525 MHz, the implementation of the mobile-satellite service in Canada is subject to future policy review.

C32 **(CAN-98)** In the band 1 675 - 1 700 MHz, the implementation of a portion of the mobile satellite allocation is subject to future policy review.

C33 **(CAN-94)** In the bands 1 670 - 1 675 MHz and 1 800 - 1 805 MHz, the use of aeronautical public correspondence in accordance with No. S5.380 may be the subject of a future policy review.

C34 **(CAN-98)** The use of the bands 1 429 - 1 452 MHz and 1 492 - 1 525 MHz by the mobile-satellite services is withheld.

C35 **(CAN-94)** Existing fixed stations operating in the band 1 850 - 1 990 MHz will have priority over the mobile service until 1 July 1997. After this date, specific fixed stations will need to be displaced where necessary to enable the implementation of new mobile systems such as personal communications. The displacement of fixed stations as well as the implementation of new mobile systems will be governed by spectrum utilization policies.

C35A **(CAN-98)** In the band 2 110 - 2 160 MHz, the implementation of the mobile service will be the subject of future policy review.

C36 **(CAN-00)** In the bands 1 990 - 2 025 MHz and 2 160 - 2 200 MHz, a moratorium has been placed on the licensing of new systems in the fixed service. Existing fixed service systems operating in these bands will have priority over the mobile-satellite service until January 1, 2003. After this date, specific fixed service stations will be displaced, according to the transition policy, to enable the implementation of mobile-satellite service systems in certain sub-bands. The earliest mandatory date for fixed service frequency assignments that may be subject to displacement will be January 1, 2003.

C37 **(CAN-94)** Station operators in the band 2 400 - 2 500 MHz should be aware of the potential interference from microwave ovens and licence-exempt low power radio devices, particularly in urban areas.

C38 **(CAN-94)** In the band 2 483.5 - 2 500 MHz, the fixed service may be reduced to secondary status upon implementation of the mobile satellite service in Canada.

C39 **(CAN-94)** The use of the bands 2 500 - 2 520 MHz and 2 670 - 2 690 MHz, by the mobile satellite service which was allocated at **WARC-92**, may be the subject of a future policy review for use in Canada after 2005.

C39A **(CAN-00)** The bands 5150 - 5250 MHz, 5250 - 5350 MHz and 5725 - 5825 MHz are also designated for use by licence exempt wireless local area networks and devices with established maximum power levels and based upon not interfering with or claiming protection from licensed services.

C40 **(CAN-94)** Feeder links to broadcasting-satellite (sound) space stations operating in the band 1 452 -1 492 MHz shall be implemented in the band 7 025 - 7 075 MHz to the extent possible before a different fixed-satellite (Earth-to-space) band is so used. Use of the fixed-satellite (Earth-to-space) allocation in the 7 025 - 7 075 MHz band is limited to this application, except for general fixed-satellite use by inter-Regional fixed-satellite networks.

C41 **(CAN-94)** In the use of the fixed-satellite service by networks that are used principally for domestic fixed-satellite applications, the band 13.75 - 14.0 GHz in the Earth-to-space direction shall be used in conjunction with the band 11.45 - 11.7 GHz in the space-to-Earth direction.

C42 **(CAN-94)** The band 15.7 - 16.2 GHz is also allocated on a primary basis to the radionavigation service, the use of which is limited to Airport Surface Detection Equipment (ASDE).

C43 **(CAN-94)** In the bands 17.3 - 17.8 GHz and 17.9 - 18.4 GHz the fixed-satellite service (Earth-to-space) is limited to feeder links to broadcasting-satellite space stations operating in the 12.2 - 12.7 GHz band (See C47).

C44 **(CAN-00)** Feeder links to broadcasting-satellite space stations operating in the band 17.3 -17.8 GHz shall be implemented in the band 24.75 - 25.25 GHz. In areas where fixed systems have been licensed using a competitive process, future earth stations (Earth-to-space) in the band 25.05 - 25.25 GHz will be permitted provided that such installations will not cause interference to any fixed service to be deployed in the authorized service area.

C45 **(CAN-94)** In the band 17.7 - 17.8 GHz Canadian stations in the fixed service shall not claim protection from and shall not cause harmful interference to Canadian domestic stations operating in the broadcasting-satellite service after 1 April 2007. In addition, to protect broadcasting-satellite receiving stations in Canada and in the United States, the aggregate power flux density from fixed systems of one country shall not be greater than -109 dB (W/m2) over any 1 MHz band in any area within the other country where the broadcasting-satellite service is used.

C46 **(CAN-94)** In the band 17.7 - 17.8 GHz Canadian broadcasting-satellite space stations shall not radiate into territory of the United States administration a power flux density greater than that specified by ITU Regulation No. **2578**. Similarly, to protect Canadian fixed systems, transmissions from broadcasting-satellite space stations of United States operators can be expected to be limited in the same way in Canadian territory.

C47 **(CAN-94)** Feeder links to broadcasting-satellite systems operating in the 12.2 - 12.7 GHz band are limited to the band 17.3 - 17.8 GHz, unless it is necessary to use another band because of the operation or planned operation of a (downlink) broadcasting-satellite system in the 17.3 - 17.8 GHz band. The choice of which feeder-link band to use shall take into account the planned lifetime of the associated space-station. If for the above reason the band 17.3 - 17.8 GHz is not available, either the band 17.9 - 18.4 GHz or the band 24.75 - 25.25 GHz shall be used. The choice between these latter two bands should take into account the need to coordinate the band 17.9 - 18.4 GHz with other primary services, and the need to use the band 24.75 - 25.25 GHz for the provision of feeder links to broadcasting-satellite systems operating in the band 17.3 - 17.8 GHz.

C47A **(CAN-00)** The band 27.35 – 28.35 GHz is being licensed for local multipoint communication systems

(LMCS) in the fixed service, which will be given priority over fixed-satellite service systems sharing this spectrum on a co-primary basis. Fixed-satellite service implementation in this band will be limited to applications which will pose minimal constraints upon the deployment of fixed service systems, such as a small number of large antennas for feeder links.

C47B **(CAN-00)** The band 25.35 - 27.5 GHz has been designated for Local Multipoint Communications Systems (LMCS) in the fixed service. Recommendations are under development within the ITU-R on sharing with the inter-satellite service.

C48 **(CAN-98)** SUP (see S5.523B and S5.535A)

C49 **(CAN-94)** In the bands 7 250 - 7 750 MHz and 7 900 - 8 400 MHz, and in all or a portion of the bands 20.2 - 21.2 GHz, 30 - 31 GHz and 39.5 - 40.5 GHz as required, the fixed-satellite service is limited to use by the Government of Canada.

C50 **(CAN-94)** In the bands 7 250 - 7 300 MHz, 7 975 - 8 025 MHz, and 43.5 - 45.5 GHz, and in all or a portion of the bands 20.2 - 21.2 GHz, 30 - 31 GHz and 39.5 - 40.5 GHz as required, the mobile-satellite service is limited to use by the Government of Canada.

C51 **(CAN-00)** The band 38.6 – 40 GHz is being licensed for high density applications in the fixed service operating on an area basis (point-to-multipoint), which will be given priority over fixed-satellite service systems sharing this spectrum on a co-primary basis. Fixed-satellite service implementation in this spectrum will be limited to applications which will pose minimal constraints upon the deployment of fixed service systems, such as a small number of large antennas for feeder links.

C52 **(CAN-00)** Use of the band 47.2 - 48.2 GHz by high altitude platform systems (HAPS) will be governed by spectrum utilization policies which will be formulated in the future.

The shaded part represents the Tropical Zones as defined in Nos. **S5.16** to **S5.20** and **S5.21**