

QUEEN  
HE  
8679  
.C3  
T3  
1998  
c.2

Industry  
Canada

Industrie  
Canada

IC

# Canadian Table of Frequency Allocations

Revised 1998

Incorporating the Decisions of the  
1995 World Radiocommunication Conference

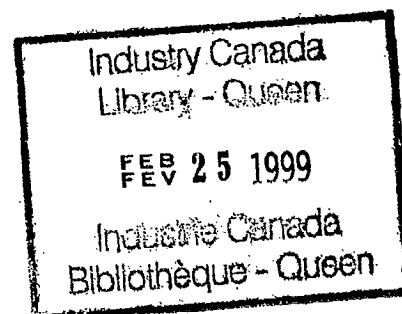
Canada

Queen  
HE.  
8679  
C3  
T3  
1998  
C.2

**CANADIAN TABLE OF  
FREQUENCY ALLOCATIONS  
9 kHz to 275 GHz**

Published 1995  
Revised 1998

Telecommunications Policy Branch  
Ottawa, 1998



Industry Canada, 1998

Available in Canada at the Regional Offices of the Spectrum, Information Technologies and  
Telecommunications at Moncton, Montréal, Toronto, Winnipeg and Vancouver

Spectrum and Radio Policy  
Telecommunications Policy Branch  
1610A, 300 Slater Street  
Ottawa, Ontario, Canada K1A 0C8

Catalogue No. Co23-1/1998E Canada:

ISBN 0-662-267753-3



## 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 1995 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

## TABLE OF CONTENTS

	Page
Foreword	iii
Definitions	2
1 - General Terms	2
2 - Radio Services	3
3 - Categories of Service	6
Canadian Allocation Table	8
International Footnotes	63
Canadian Footnotes	81
Chart of ITU Regions	85

## 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)<sup>1</sup> 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)<sup>2</sup> 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)<sup>1</sup> 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)<sup>2</sup> 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.

---

<sup>1</sup> (R): route

<sup>2</sup> (OR): off-route



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

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

**Radiodetermination-Satellite Service:** A radiocommunication service for the purpose of radiodetermination involving the use of one or 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, inter-communication 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.

kHz  
CANADIAN ALLOCATION TABLE

Below 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

kHz  
CANADIAN ALLOCATION TABLE

130-160	FIXED MARITIME MOBILE  S5.64
160-190	FIXED
190-200	AERONAUTICAL RADIONAVIGATION
200-285	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile
285-315	MARITIME RADIONAVIGATION (radiobeacons) S5.73 AERONAUTICAL RADIONAVIGATION
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

kHz  
CANADIAN ALLOCATION TABLE

415-495	MARITIME MOBILE S5.79 S5.81 S5.83
495-505	MOBILE (distress and calling) S5.82
505-510	MARITIME MOBILE S5.79 S5.81
510-525	MOBILE AERONAUTICAL RADIONAVIGATION
525-535	BROADCASTING S5.86 AERONAUTICAL RADIONAVIGATION
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

kHz  
CANADIAN ALLOCATION TABLE

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
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)



kHz  
CANADIAN ALLOCATION TABLE

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
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

kHz  
CANADIAN ALLOCATION TABLE

4 000-4 063	FIXED MARITIME MOBILE S5.127
4 063-4 438	MARITIME MOBILE 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
5 005-5 060	FIXED

kHz  
CANADIAN ALLOCATION TABLE

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)

kHz  
CANADIAN ALLOCATION TABLE

6 685-6 765	AERONAUTICAL MOBILE (OR) C5
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 S5.135 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)

kHz  
CANADIAN ALLOCATION TABLE

8 965-9 040	AERONAUTICAL MOBILE (OR) C5
9 040-9 400	FIXED
9 400-9 500	BROADCASTING S5.134 S5.135 FIXED S5.146 C9
9 500-9 900	BROADCASTING S5.147 S5.148
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

kHz  
CANADIAN ALLOCATION TABLE

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
11 600-11 650	BROADCASTING S5.134 S5.135 FIXED  S5.146 C9
11 650-12 050	BROADCASTING  S5.148
12 050-12 100	BROADCASTING S5.134 S5.135 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

kHz  
CANADIAN ALLOCATION TABLE

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 S5.135 FIXED MOBILE except aeronautical mobile (R)  S5.151 C9
13 600-13 800	BROADCASTING  S5.148
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



kHz  
CANADIAN ALLOCATION TABLE

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  S5.148
15 600-15 800	BROADCASTING S5.134 S5.135 FIXED  S5.146 C9
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

kHz  
CANADIAN ALLOCATION TABLE

17 480-17 550	BROADCASTING S5.134 S5.135 FIXED  S5.146 C9
17 550-17 900	BROADCASTING  S5.148
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 S5.135 FIXED  S5.146 C9

kHz  
CANADIAN ALLOCATION TABLE

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  S5.148
21 850-21 870	FIXED
21 870-21 924	FIXED S5.155B
21 924-22 000	AERONAUTICAL MOBILE (R)

kHz  
CANADIAN ALLOCATION TABLE

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
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

kHz  
CANADIAN ALLOCATION TABLE

25 210-25 550	FIXED MOBILE except aeronautical mobile
25 550-25 670	RADIO ASTRONOMY
25 670-26 100	BROADCASTING
26 100-26 175	MARITIME MOBILE S5.132
26 175-27 500	FIXED MOBILE except aeronautical mobile
S5.150	

MHz  
CANADIAN ALLOCATION TABLE

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

MHz  
CANADIAN ALLOCATION TABLE

40.98-41.015	MOBILE Fixed Space Research
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



MHz  
CANADIAN ALLOCATION TABLE

76-108	BROADCASTING
108-117.975	AERONAUTICAL RADIONAVIGATION
117.975-137	AERONAUTICAL MOBILE (R)  S5.111 S5.199 S5.200 S5.203
137-137.025	MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE OPERATION (space-to-Earth) SPACE RESEARCH (space-to-Earth)  S5.208
137.025-137.175	METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 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) SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.208A S5.209 SPACE RESEARCH (space-to-Earth)  S5.208
138-144	FIXED LAND MOBILE Space Research (space-to-Earth)

MHz  
CANADIAN ALLOCATION TABLE

144-146	AMATEUR S5.120 AMATEUR-SATELLITE
146-148	AMATEUR
148-149.9	FIXED LAND MOBILE MOBILE-SATELLITE (Earth-to-space) S5.209  S5.218 S5.219 C26
149.9-150.05	LAND MOBILE-SATELLITE (Earth-to-space) S5.209 S5.224 RADIONAVIGATION SATELLITE  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

MHz  
CANADIAN ALLOCATION TABLE

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

MHz  
CANADIAN ALLOCATION TABLE

390-399.9	FIXED MOBILE  S5.254 C5
399.9-400.05	LAND MOBILE SATELLITE (Earth-to-space) S5.209 RADIONAVIGATION-SATELLITE  S5.220 S5.222 S5.224 S5.260 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	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite (Earth-to-space) Fixed Mobile except aeronautical mobile
402-403	METEOROLOGICAL AIDS Earth Exploration-Satellite (Earth-to-space) Fixed Mobile except aeronautical mobile
403-406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile

MHz  
CANADIAN ALLOCATION TABLE

406-406.1	MOBILE-SATELLITE (Earth-to-space)  S5.149 S5.266 S5.267
406.1-410	MOBILE except aeronautical mobile RADIO ASTRONOMY Fixed  S5.149
410-414	MOBILE except aeronautical mobile Fixed Space Research (space-to-space) S5.269
414-415	FIXED Mobile except aeronautical mobile Space Research (space-to-space) S5.269
415-419	MOBILE except aeronautical mobile Fixed Space Research (space-to-space) S5.269
419-420	FIXED Mobile except aeronautical mobile Space Research (space-to-space) S5.269
420-430	MOBILE except aeronautical mobile Fixed  C10
430-450	RADIOLOCATION S5.285 Amateur S5.284  S5.282 S5.286
450-455	MOBILE Fixed S5.286

MHz  
CANADIAN ALLOCATION TABLE

455-456	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.209 S5.286A S5.286B S5.286C C26A C26B
456-459	MOBILE S5.287 Fixed
459-460	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)  S5.209 S5.286A S5.286B S5.286C 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

MHz  
CANADIAN ALLOCATION TABLE

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

MHz  
CANADIAN ALLOCATION TABLE

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	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.333
1 240-1 300	RADIOLOCATION AERONAUTICAL RADIONAVIGATION Amateur S5.282 S5.333
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



MHz  
CANADIAN ALLOCATION TABLE

1 370-1 400	FIXED C5 MOBILE C5 RADIOLOCATION  S5.149 S5.339 C27
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 C 34  S5.341
1 515-1 525	FIXED C31 MOBILE C34 MOBILE-SATELLITE (space-to-Earth) C32  S5.341 S5.348

MHz  
CANADIAN ALLOCATION TABLE

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) Earth Exploration-Satellite  S5.341 S5.351 S5.353 S5.354
1 535-1 544	MOBILE-SATELLITE (space-to-Earth)  S5.341 S5.351 S5.353 S5.354
1 544-1 545	MOBILE-SATELLITE (space-to-Earth)  S5.341 S5.354 S5.356
1 545-1 555	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) Mobile-Satellite (space-to-Earth)  S5.341 S5.351 S5.354 S5.357 S5.358
1 555-1 559	MOBILE-SATELLITE (space-to-Earth)  S5.341 S5.351 S5.354 S5.357 S5.361
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

MHz  
CANADIAN ALLOCATION TABLE

1 610.6-1 613.8	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) C48 RADIOASTRONOMY  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
1 626.5-1 645.5	MOBILE-SATELLITE (Earth-to-space)  S5.341 S5.351 S5.353 S5.354
1 645.5-1 646.5	MOBILE-SATELLITE (Earth-to-space)  S5.341 S5.354 S5.375
1 646.5-1 656.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) Mobile-Satellite (Earth-to-space)  S5.341 S5.351 S5.354 S5.358 S5.376
1 656.5-1 660	MOBILE-SATELLITE (Earth-to-space)  S5.341 S5.351 S5.354 S5.361
1 660-1 660.5	MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY  S5.341 S5.351 S5.354 S5.361
1 660.5-1 668.4	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed  S5.149 S5.341 S5.379A

MHz  
CANADIAN ALLOCATION TABLE

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
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

MHz  
CANADIAN ALLOCATION TABLE

1 990-2 010	<p>FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)</p> <p>S5.388 S5.389A C35A C36</p>
2 010-2 025	<p>FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)</p> <p>S5.388 S5.389C S5.389D S5.389E C35A C36</p>
2 025-2 110	<p>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</p> <p>S5.391 S5.392</p>
2 110-2 120	<p>FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space)</p> <p>S5.388 C35A</p>
2 120-2 160	<p>FIXED MOBILE</p> <p>S5.388 C35A</p>
2 160-2 200	<p>FIXED MOBILE MOBILE-SATELLITE (space-to-Earth)</p> <p>S5.388 S5.389A S5.389C S5.389D S5.389E C35A C36</p>

MHz  
CANADIAN ALLOCATION TABLE

2 200-2 290	EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED SPACE RESEARCH (space-to-Earth) (space-to-space) SPACE OPERATION (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
2 483.5-2 500	MOBILE-SATELLITE (space-to-Earth) C48 RADIODETERMINATION-SATELLITE (space-to-Earth) S5.398 RADIOLOCATION FIXED C38  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

MHz  
CANADIAN ALLOCATION TABLE

2 655-2 686	<p>BROADCASTING Earth Exploration-Satellite (passive) Mobile C5 Radio Astronomy Space Research (passive)</p> <p>S5.149 C39</p>
2 686-2 690	<p>FIXED S5.416 S5.418 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive)</p> <p>S5.149 C39</p>
2 690-2 700	<p>EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)</p>
2 700-2 850	<p>AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation</p> <p>S5.423</p>
2 850-2 900	<p>AERONAUTICAL RADIONAVIGATION S5.337 MARITIME RADIONAVIGATION S5.424 C14 Radiolocation</p>
2 900-3 100	<p>RADIONAVIGATION S5.426 Radiolocation</p> <p>S5.425 S5.427</p>
3 100-3 300	<p>RADIOLOCATION S5.428</p> <p>S5.149 S5.333</p>
3 300-3 400	<p>RADIOLOCATION S5.433 C5 Amateur</p> <p>S5.149</p>

MHz  
CANADIAN ALLOCATION TABLE

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
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



MHz  
CANADIAN ALLOCATION TABLE

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
5 250-5 255	RADIOLOCATION Space Research  S5.333
5 255-5 350	RADIOLOCATION  S5.333
5 350-5 460	AERONAUTICAL RADIONAVIGATION S5.449 Radiolocation
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

MHz  
CANADIAN ALLOCATION TABLE

5 725-5 850	RADIOLOCATION Amateur  S5.150
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
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)

MHz  
CANADIAN ALLOCATION TABLE

7 550-7 750	FIXED FIXED-SATELLITE (space-to-Earth) C49
7 750-7 900	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
8 500-8 750	RADIOLOCATION  S5.333

## MHz

8 750-8 850

**AERONAUTICAL RADIONAVIGATION S5.470**  
**RADIOLOCATION**

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

RADIOLOCATION  
RADIONAVIGATION

**S5.333**

9 800-10 000

## RADIOLOCATION

### Fixed

S5.479

GHz  
CANADIAN ALLOCATION TABLE

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
10.7-11.45	FIXED FIXED-SATELLITE (space-to-Earth) S5.441  C16
11.45-11.7	FIXED FIXED-SATELLITE (space-to-Earth) C41
11.7-12.2	FIXED-SATELLITE (space-to-Earth)  S5.486 S5.488 C17

GHz  
CANADIAN ALLOCATION TABLE

12.2-12.7	BROADCASTING BROADCASTING-SATELLITE S5.488 S5.492 C43 C47 FIXED  S5.490
12.7-12.75	FIXED FIXED-SATELLITE (Earth-to-space)
12.75-13.25	FIXED FIXED-SATELLITE (Earth-to-space) S5.441
13.25-13.4	AERONAUTICAL RADIONAVIGATION S5.497  S5.498
13.4-13.75	RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research  S5.333
13.75-14	FIXED-SATELLITE (Earth-to-space) C41 RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space)  S5.333 S5.502 S5.503
14-14.47	FIXED-SATELLITE (Earth-to-space)  S5.506
14.47-14.5	FIXED-SATELLITE (Earth-to-space) Radio Astronomy  S5.506

GHz  
CANADIAN ALLOCATION TABLE

14.5-15.35	FIXED Mobile C5  S5.339
15.35-15.4	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  S5.340
15.4-15.7	FIXED-SATELLITE (space-to-Earth) S5.511A AERONAUTICAL RADIONAVIGATION S5.511B S5.511C
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	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active)
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

GHz  
CANADIAN ALLOCATION TABLE

17.8-18.1	<p>FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.516</p> <p>C43 C47 C48</p>
18.1-18.4	<p>FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.520</p> <p>S5.519 C43 C47 C48</p>
18.4-18.6	<p>FIXED FIXED-SATELLITE (space-to-Earth)</p> <p>C48</p>
18.6-18.8	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) S5.523 SPACE RESEARCH (passive)</p> <p>S5.522 C48</p>
18.8-19.3	<p>FIXED FIXED-SATELLITE (space-to-Earth) S5.523A</p>
19.3-19.7	<p>FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) S5.523B S5.523D</p> <p>S5.523C</p>
19.7-20.2	<p>FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)</p> <p>S5.525 S5.526 S5.527 S5.528 S5.529</p>
20.2-21.2	<p>FIXED-SATELLITE (space-to-Earth) C49 MOBILE-SATELLITE (space-to-Earth) C50 Standard Frequency and Time Signal-Satellite (space-to-Earth)</p>



GHz  
CANADIAN ALLOCATION TABLE

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
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

GHz  
CANADIAN ALLOCATION TABLE

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
24.45-24.65	INTER-SATELLITE S5.540 RADIONAVIGATION
24.65-24.75	INTER-SATELLITE RADIOLOCATION-SATELLITE (Earth-to-space)
24.75-25.25	FIXED-SATELLITE (Earth-to-space)  S5.542 C44 C47
25.25-27	FIXED INTER-SATELLITE S5.533 MOBILE Earth Exploration-Satellite (space-to-Earth) Standard Frequency and Time Signal-Satellite (Earth-to-space)
27-27.5	FIXED FIXED-SATELLITE (Earth to space) INTER-SATELLITE S5.533 S5.534 MOBILE

GHz  
CANADIAN ALLOCATION TABLE

27.5-29.5	<p>MOBILE FIXED FIXED-SATELLITE (Earth-to-space) S5.523A</p> <p>S5.523C S5.535A S5.538 S5.540 S5.541A</p>
29.5-30	<p>FIXED-SATELLITE (Earth-to-space) S5.539 MOBILE-SATELLITE (Earth-to-space)</p> <p>S5.525 S5.526 S5.527 S5.529 S5.535 S5.536 S5.537</p>
30-31	<p>FIXED-SATELLITE (Earth-to-space) C49 MOBILE-SATELLITE (Earth-to-space) C50 Standard Frequency and Time Signal-Satellite (space-to-Earth)</p>
31-31.3	<p>FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research S5.544</p> <p>S5.149</p>
31.3-31.8	<p>EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)</p> <p>S5.340</p>
31.8-32	<p>RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)</p> <p>S5.548</p>
32-32.3	<p>INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth)</p> <p>S5.548</p>

GHz  
CANADIAN ALLOCATION TABLE

32.3-33	INTER-SATELLITE RADIONAVIGATION  S5.548
33-33.4	RADIONAVIGATION
33.4-34.2	RADIOLOCATION
34.2-34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)
34.7-35.2	RADIOLOCATION Space Research
35.2-36	METEOROLOGICAL AIDS RADIOLOCATION  S5.551
36-37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)  S5.149
37-37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth)
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration Satellite (space-to-Earth)

GHz  
CANADIAN ALLOCATION TABLE

38-39.5	<p>FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)</p>
39.5-40	<p>FIXED FIXED-SATELLITE (space-to-Earth) C49 MOBILE MOBILE-SATELLITE (space-to-Earth) C50 Earth Exploration-Satellite (space-to-Earth)</p>
40-40.5	<p>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)</p>
40.5-42.5	<p>BROADCASTING-SATELLITE BROADCASTING FIXED Mobile</p>
42.5-43.5	<p>FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY</p> <p>S5.149</p>
43.5-47	<p>MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE</p> <p>S5.554</p>
47-47.2	<p>AMATEUR AMATEUR-SATELLITE</p>

GHz  
CANADIAN ALLOCATION TABLE

47.2-50.2	<p>FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE</p> <p>S5.149 S5.340 S5.555</p>
50.2-50.4	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)</p>
50.4-51.4	<p>FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)</p>
51.4-54.25	<p>EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)</p> <p>S5.556</p>
54.25-58.2	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE S5.558 SPACE RESEARCH (passive)</p>
58.2-59	<p>EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)</p> <p>S5.340 S5.556</p>
59-64	<p>FIXED INTER-SATELLITE MOBILE S5.558 RADIOLOCATION S5.559</p> <p>S5.138</p>

GHz  
CANADIAN ALLOCATION TABLE

64-65	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)  S5.340 S5.556
65-66	EARTH EXPLORATION-SATELLITE SPACE RESEARCH Fixed Mobile
66-71	MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE
71-74	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space)  S5.149 S5.556
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

GHz  
CANADIAN ALLOCATION TABLE

81-84	<p>FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Space Research (space-to-Earth)</p>
84-86	<p>BROADCASTING BROADCASTING-SATELLITE FIXED MOBILE</p> <p>S5.561</p>
86-92	<p>EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)</p>
92-95	<p>FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION</p> <p>S5.149</p>
95-100	<p>MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation</p> <p>S5.149 S5.554 S5.555</p>
100-102	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)</p> <p>S5.341</p>



GHz  
CANADIAN ALLOCATION TABLE

102-105	<p>FIXED FIXED-SATELLITE (space-to-Earth) MOBILE</p> <p>S5.341</p>
105-116	<p>EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)</p> <p>S5.340 S5.341</p>
116-126	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE S5.558 SPACE RESEARCH (passive)</p> <p>S5.138S5.341</p>
126-134	<p>FIXED INTER-SATELLITE MOBILE S5.558 RADIOLOCATION S5.559</p>
134-142	<p>MOBILE S5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation</p> <p>S5.149 S5.340 S5.554</p>
142-144	<p>AMATEUR AMATEUR-SATELLITE</p>
144-149	<p>RADIOLOCATION Amateur Amateur-Satellite</p> <p>S5.149</p>

GHz  
CANADIAN ALLOCATION TABLE

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
151-156	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
156-158	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE EARTH EXPLORATION-SATELLITE (passive)
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

GHz  
CANADIAN ALLOCATION TABLE

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
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

GHz  
CANADIAN ALLOCATION TABLE

202-217	<p>FIXED FIXED-SATELLITE (Earth-to-space) MOBILE</p> <p>S5.341</p>
217-231	<p>EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)</p> <p>S5.340 S5.341</p>
231-235	<p>FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation</p>
235-238	<p>EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive)</p>
238-241	<p>FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation</p>
241-248	<p>RADIOLOCATION Amateur Amateur-Satellite</p> <p>S5.138</p>
248-250	<p>AMATEUR AMATEUR-SATELLITE</p>

GHz  
CANADIAN ALLOCATION TABLE

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.
- S5.57** 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 Article 14/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** In the band 285 - 325 kHz (283.5 - 325 kHz in Region 1), in the maritime radionavigation service, radiobeacon stations may also transmit supplementary navigational information using narrow-band techniques, on condition that the prime function of the beacon is not significantly degraded.
- 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.
- S5.79** 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.
- S5.80** 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 No. 3018/Appendix S13 until the entry into force of the reduced guardband in accordance with Resolution 210 (Mob-87).
- S5.82** In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Mob-87)), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles N38/S31 and 60/S52, and Resolution 339 (WRC-95). 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.
- 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 N38/S31 and 60/S52, and in Articles 37 and 38/Appendix S13.

- S5.84** The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **N38/S31** and **60/S52** and in Article **38/Appendix S13** (see Resolution **339 (WRC-95)**).
- 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.
- S5.106** 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 **N38/S31** and **60/S52** and in Articles **37** and **38/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 **N38/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 **N38/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 **N38/S31** and in Article **38/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  $\pm 3$  kHz about the frequency.
- S5.115** The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article **N38/S31** and Article **38/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.
- S5.120** 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**.
- 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. **4374/S52.220** and Appendix **16/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 **N38/S31** and **60/S52** and in Articles **37** and **38/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 (see Resolution **339 WRC-95**).

- 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 Resolution 333 (Mob-87) and Appendix 31/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 45/S11 to the Radio Regulations.
- S5.135** 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 shall be subject to the planning procedures to be drawn up by a competent world radio conference.
- 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 - 61.50 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 N38/S31 and 60/S52 and in Article 38/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** The bands 9 775 - 9 900 kHz, 11 650 - 11 700 kHz, 11 975 - 12 050 kHz, 13 600 - 13 800 kHz, 15 450 - 15 600 kHz, 17 550 - 17 700 kHz and 21 750 - 21 850 kHz are allocated to the fixed service on a primary basis subject to the procedure described in Resolution 8. The use of these bands by the broadcasting service shall be subject to provisions established by the World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (see Resolution 508). The provisions of Resolution 512 (HFBC-87) also apply. Within these bands, the date of commencement of operations in the broadcasting service on a planned channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution 8, of all assignments to stations in the fixed service operating in accordance with the Table and other provisions of the Radio Regulations, which are recorded in the Master Register and which may be affected by broadcasting operations on that channel.

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

13 360 - 13 410 kHz,	4 825 - 4 835 MHz*,	140.69 - 140.98 GHz*,
25 550 - 25 670 kHz,	4 950 - 4 990 MHz,	144.68 - 144.98 GHz*,
37.5 - 38.25 MHz,	4 990 - 5 000 MHz,	145.45 - 145.75 GHz*,
73 - 74.6 MHz in	6 650 - 6 675.2 MHz*,	146.82 - 147.12 GHz*,
Regions 1 and 3,	10.6 - 10.68 GHz,	150 - 151 GHz*,
79.75 - 80.25 MHz in	14.47 - 14.5 GHz*,	174.42 - 175.02 GHz*,
Region 3,	22.01 - 22.21 GHz*,	177 - 177.4 GHz*,
150.05 - 153 MHz in	22.21 - 22.5 GHz,	178.2 - 178.6 GHz*,
Region 1,	22.81 - 22.86 GHz*,	181 - 181.46 GHz*,
322 - 328.6 MHz*,	23.07 - 23.12 GHz*,	186.2 - 186.6 GHz*,
406.1 - 410 MHz,	31.2 - 31.3 GHz,	250 - 251 GHz*,
608 - 614 MHz in	31.5 - 31.8 GHz in	257.5 - 258 GHz*,
Regions 1 and 3,	Regions 1 and 3,	261 - 265 GHz,
1 330 - 1 400 MHz*,	36.43 - 36.5 GHz*,	262.24 - 262.76 GHz*,
1 610.6 - 1 613.8 MHz*,	42.5 - 43.5 GHz,	265 - 275 GHz,
1 660 - 1 670 MHz,	42.77 - 42.87 GHz*,	265.64 - 266.16 GHz*,
1 718.8 - 1 722.2 MHz*,	43.07 - 43.17 GHz*,	267.34 - 267.86 GHz*,
2 655 - 2 690 MHz,	43.37 - 43.47 GHz*,	271.74 - 272.26 GHz*
3 260 - 3 267 MHz*,	48.94 - 49.04 GHz*,	
3 332 - 3 339 MHz*,	72.77 - 72.91 GHz*,	
3 345.8 - 3 352.5 MHz*,	93.07 - 93.27 GHz*,	
	97.88 - 98.08 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. 343/S4.5 and 344/S4.6 and Article 36/S29).

**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. 1815/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.

- S5.155B** 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 - 137 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under Article 14/No. **S9.21**.
- 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 Nos. **3259** and **3267/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 **N38/S31** and Article **38/Appendix S13** for distress and safety purposes with stations of the aeronautical mobile service.
- S5.203** *Additional allocation:* the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a secondary basis (see Resolution **408 (Mob-87)**).
- S5.208** The use of the band 137 - 138 MHz by the mobile-satellite service is subject to coordination under Resolution **46 (Rev.WRC-95)/No. S9.11A**. The power flux-density limit indicated in Annex 2 of Resolution **46 (Rev. WRC-95)/ Annex 1 of Appendix S5** shall apply until such time as a competent world radiocommunication conference revises it. Additionally, until that time, the provisions of Resolution **714 (WRC-95)** apply.
- 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. For information, the threshold levels of interference detrimental to the radio astronomy service to be protected are shown in Table 1 of Recommendation ITU-R RA.769-1.
- S5.209** The use of the bands 137 - 138 MHz, 148 - 149.9 MHz, 400.15 - 401 MHz, 455 - 456 MHz and 459 - 460 MHz by the mobile-satellite service and the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz by the land mobile-satellite service is limited to non-geostationary-satellite systems.
- 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 Article 14/No. **S9.21**. The bandwidth of any individual transmission shall not exceed  $\pm 25$  kHz.
- S5.219** The use of the band 148 - 149.9 MHz by the mobile-satellite service is subject to coordination under Resolution **46 (Rev.WRC-95)/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 land mobile-satellite service is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A. The land 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.
- 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, Burkina Faso, Cameroon, Canada, China, Cyprus, Colombia, Congo, the Republic of Korea, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Honduras, Hungary, India, Indonesia, 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, Russia, Senegal, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Yugoslavia, Zambia, and Zimbabwe.
- 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. 342/S4.4.
- S5.224** In the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz, the allocation to the land mobile-satellite service shall be on a secondary basis until 1 January 1997.
- 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 N38/S31 and Article 38/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 N38/S31 and 60/S52 and Article 38/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 (see Resolution 323 (Mob-87)). The conditions for the use of this frequency are prescribed in Articles N38/S31 and 60/S52 and Article 38/Appendix S13 and Appendix 18/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 Article 14/ 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 Resolution 46 (Rev.WRC-95)/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 Article 38/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 Article 14/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. 342/S4.4.
- S5.261** Emissions shall be confined in a band of  $\pm 25$  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 Resolution 46 (Rev. WRC-95)/No. S9.11A. The power flux-density limit indicated in Annex 2 of Resolution 46 (Rev. WRC-95)/Annex 1 of Appendix S5 shall apply until such time as a competent world radio-communication 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 N38/S31 and Article 38/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.
- 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. 2741/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 Article 14/No. S9.21.
- S5.286A** The use of the bands 455 - 456 MHz and 459 - 460 MHz by the mobile-satellite service is subject to coordination under Resolution 46 (Rev. WRC-95)/No. S9.11A.
- S5.286B** Stations in the mobile-satellite service in the bands 455 - 456 MHz and 459 - 460 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services.
- S5.286C** Stations in the mobile-satellite service in the bands 455 - 456 MHz and 459 - 460 MHz shall not constrain the development and use of the fixed and mobile services.
- 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. 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.

- 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** and **507**). Such stations shall not produce a power flux-density in excess of the value  $-129 \text{ dB(W/m}^2\text{)}$  for angles of arrival less than  $20^\circ$  (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 Article **14/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**.
- S5.333** In the bands 1 215 - 1 300 MHz, 3 100 - 3 300 MHz, 5 250 - 5 350 MHz, 8 550 - 8 650 MHz, 9 500 - 9 800 MHz and 13.4 - 14.0 GHz, radiolocation stations installed on spacecraft may also be employed for the earth exploration-satellite and space research services on a secondary basis.
- 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.
- S5.337** 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. <b>S5.421</b> and <b>S5.422</b> ,             |
| 10.68 - 10.7 GHz    | except those provided for by No. <b>S5.483</b> ,                                |
| 15.35 - 15.4 GHz    | except those provided for by No. <b>S5.511</b> ,                                |
| 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,   |
| 51.4 - 54.25 GHz,   |   |
| 58.2 - 59 GHz,      |   |
| 64 - 65 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. <b>S5.563</b> ,                                |
| 217 - 231 GHz.      |   |
- 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.
- S5.343** 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 Resolution 46 (Rev.WRC-95)/ 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 Resolution 46 (Rev.WRC-95)/S.9.11A 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  $-150 \text{ dB(W/m}^2 \text{)}$  in any 4 kHz band for all angles of arrival, instead of those given in Annex 2 to Resolution 46 (Rev.WRC-95)/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** The use of the bands 1 525 - 1 530 MHz, 1 533 - 1 544 MHz, 1 626.5 - 1 631.5 MHz and 1 634.5 - 1 645.5 MHz by the land mobile-satellite service is limited to non-speech low bit-rate data transmissions.
- S5.353** *Additional allocation:* in Argentina, Australia, Brazil, Canada, the United States, Malaysia and Mexico, the band 1 530 - 1 544 MHz is also allocated to the mobile-satellite service (space-to-Earth), and the band 1 631.5 - 1 645.5 MHz is also allocated to the mobile-satellite service (Earth-to-space), on a primary basis subject to the following conditions: maritime mobile-satellite distress and safety communications shall have priority access and immediate availability over all other mobile-satellite communications operating under this provision. Communications of mobile-satellite system stations not participating in the global maritime distress and safety system (GMDSS) shall operate on a secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services.
- 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 Resolution 46 (Rev. WRC-95)/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 N38/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.
- S5.358** Notwithstanding any other provisions of the Radio Regulations relating to restrictions in the use of the bands allocated to the aeronautical mobile-satellite (R) service for public correspondence, the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz may be authorized by administrations for public correspondence with aircraft earth stations. Such communications must cease immediately, if necessary, to permit transmission of messages with priority 1 to 6 in Article 51/S44.
- S5.360** In the bands 1 555 - 1 559 MHz and 1 656.5 - 1 660.5 MHz administrations may also authorize aircraft earth stations and ship earth stations to communicate with space stations in the land mobile-satellite service (see Resolution 208 (Mob-87)).
- S5.361** *Alternative allocation:* in Australia, Canada and Mexico, the band 1 555 - 1 559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1 656.5 - 1 660 MHz is allocated to the mobile-satellite (Earth-to-space) service, and the band 1 660 - 1 660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and the radio astronomy services, on a primary basis.
- 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 Resolution 46 (Rev.WRC-95)/ 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  $-15 \text{ dB(W/4 kHz)}$  in the part of the band used by systems operating in accordance with the provisions of No. S5.366 (to which No. 953/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 Resolution **46 (Rev. WRC-95)/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 Article **14/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 Article **14/No. S9.21**.
- S5.368** With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. **953/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. **2904/S29.13** applies).
- S5.374** Land earth stations and ship 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 the stations in the fixed service operating in the countries listed in No. **S5.359**.
- 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 **N38/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.
- S5.377** 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 Resolution **46 (Rev.WRC-95)/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 Article **14/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 the future public land mobile telecommunication systems (FPLMTS). Such use does not preclude the use of these bands by other services to which these bands are allocated. The bands should be made available for FPLMTS in accordance with Resolution **212 (Rev.WRC-95)**.
- 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 Resolution **46 (Rev.WRC-95)/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 2005 and is subject to coordination under Resolution 46 (Rev.WRC-95)/ No. S9.11A and to the provisions of Resolution 716 (WRC-95).
- 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.
- S5.391** In making assignments to the mobile service in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, administrations shall take into account Resolution 211 (WARC-92).
- 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. 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. 953/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 Resolution 46 (Rev.WRC-95)/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 Article 14/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 Resolution 46 (Rev.WRC-95)/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  $-152 \text{ dB(W/m}^2\text{4 kHz)}$  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 Article 14/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 2500 - 2520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A.
- S5.415** The use of the bands 2500 - 2690 MHz in Region 2 and 2500 -2535 MHz and 2655 - 2690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under Article 14/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 2520 - 2670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under Article 14/No. S9.21. The power flux-density at the Earth's surface shall not exceed the values given in Article S21, Table S21-4.
- S5.419** The allocation of the frequency band 2670 - 2690 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 Resolution 46 (Rev.WRC-95)/No. S9.11A.
- S5.420** The band 2655 - 2670 MHz (until 1 January 2005 the band 2655 -2690 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 Article 14/No. S9.21. The coordination under Resolution 46 (Rev.WRC-95)/No. S9.11A applies.
- S5.423** In the band 2700 - 2900 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 2850 - 2900 MHz is also allocated to the maritime radio-navigation service, on a primary basis, for use by shore-based radars.
- S5.425** In the band 2900 - 3100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2930 -2950 MHz.
- S5.426** The use of the band 2900 - 3100 MHz by the aeronautical radionavigation service is limited to ground-based radars.
- S5.427** In the bands 2900 - 3100 MHz and 9300 - 9500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 347/S4.9 of these Regulations.
- S5.433** In Regions 2 and 3, in the band 3400 - 3600 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 4200 - 4400 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 4202 MHz for space-to-Earth transmissions and the frequency 6427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of  $\pm 2$  MHz of these frequencies, subject to agreement obtained under Article 14/No. S9.21.
- S5.441** The use of the bands 4500 - 4800 MHz (space-to-Earth), 6725 -7025 MHz (Earth-to-space), 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 the fixed-satellite service shall be in accordance with the provisions of Appendix 30B/S30B.
- S5.442** In the bands 4825 - 4835 MHz and 4950 - 4990 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 4825 -4835 MHz and 4950 - 4990 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 Resolution **46 (Rev.WRC-95)/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 Article **14/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  $-159 \text{ dBW/m}^2$  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 Resolution **46 (Rev.WRC-95)/ 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 Resolution **46 (Rev.WRC-95)/ 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  $-164 \text{ dB(W/m}^2\text{)}$  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 Resolution **46 (Rev. WRC-95)/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**.
- S5.449** 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 Resolution 46 (Rev.WRC-95)/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 **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 Region 2, the band 7 125 - 7 155 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under Article 14/No. **S9.21**.
- 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 Article 14/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 Article 14/ No. **S9.21**.
- S5.463** In Region 2, aircraft stations are not permitted to transmit in the band 8 025 - 8 400 MHz.
- S5.465** In the space research service, the use of the band 8 400 - 8 450 MHz is limited to deep space.
- 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 **N38/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.
- S5.479** The band 9 975 - 10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.
- S5.485** 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.
- S5.488** 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 11, 13 and 14/**S9** and **S11**). For the use of the band 12.2 - 12.7 GHz by the broadcasting-satellite service in Region 2, see Article 15/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 **30/S30**.
- S5.492** In Region 2, in the band 12.2 - 12.7 GHz, assignments to stations of the broadcasting-satellite service in the Plan for Region 2 contained in Appendix **30/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 the Region 2 Plan. With respect to the space services, this band shall be used principally for the broadcasting-satellite service.

- 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** The band 13.25 - 13.4 GHz may also be used in the space research service (Earth-to-space) on a secondary basis, subject to agreement obtained under Article 14/No. S9.21.
- 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 metres. 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 (see Recommendation 708).
- 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 15.4 - 15.7 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under Resolution 46 (Rev. WRC-95)/No. S9.11A. Emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of  $-146 \text{ dB(W/m}^2\text{/MHz)}$  in the bands 15.4 - 15.45 GHz and 15.65 - 15.7 GHz, and  $-111 \text{ dB(W/m}^2\text{/MHz)}$  in the band 15.45 - 15.65 GHz, for all angles of arrival. These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions. In the band 15.45 - 15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed  $-146 \text{ dB(W/m}^2\text{/MHz)}$  for all angles of arrival, it shall coordinate with affected administrations. Moreover, 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. The power flux-density limits and coordination threshold in this footnote shall apply, subject to review by ITU-R and based on the studies referred to in Resolution 116 (WRC-95), until changed by a future competent world radiocommunication conference.
- S5.511B** Aircraft stations are not permitted to transmit in the band 15.45 - 15.65 GHz.
- S5.511C** *Additional allocation:* the band 15.45 - 15.65 GHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. Such use is limited to feeder links of non-geostationary systems in the mobile-satellite service and is subject to coordination under Resolution 46 (Rev. WRC-95)/ No. S9.11A. Until such time as the studies called for in Resolution 117 (WRC-95) are completed: 1) administrations operating stations in the aeronautical radionavigation service are urged to limit the average e.i.r.p. to 42 dBW; 2)

stations in the fixed-satellite service shall not cause harmful interference to stations in the aeronautical radionavigation service (No. 953/ S4.10 applies).

- 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**.
- S5.515** 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 section 1 of Annex 4 of Appendix 30/S30A.
- S5.516** The use of the band 17.3 - 18.1 GHz by 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 the feeder links for the broadcasting-satellite service in the band 12.2 - 12.7 GHz, see Article 15A/S11.
- 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 and 28.6 - 29.1 GHz by the FSS shall be in accordance with Resolution 118 (WRC-95).
- S5.523B** The use of the band 19.3 - 19.6 GHz (Earth-to-space) by the FSS is limited to feeder links for non-GSO systems in the MSS. Such use is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/ No. S9.11A, and No. S22.2 does not apply.
- S5.523C** The use of the bands 19.3 - 19.7 GHz and 29.1 - 29.5 GHz by the FSS shall be in accordance with Resolution 120 (WRC-95).
- S5.523D** The use of the band 19.3 - 19.6 GHz (space-to-Earth) by GSO/FSS systems and by the feeder links for non-geostationary satellite systems in the MSS is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A, but not subject to the provisions of No. S22.2. The use of this band for other non-GSO/FSS systems is not subject to the provisions of Resolution 46 (Rev.WRC-95)/No. S9.11A and shall continue to be subject to Articles 11/S9 (except No. S9.11A) and 13/S11 procedures, and to the provisions of No. S22.2.
- 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. 953/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.
- S5.535** 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 - 29.4 GHz (Earth-to-space) by the FSS is limited to GSO satellite systems and feeder links to non-GSO satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of Resolution 46 (Rev.WRC-95)/No. **S9.11A**, but not subject to the provisions of No. **S22.2**.
- 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.
- S5.537** 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-GSO/MSS networks and GSO/FSS networks operating in the band 29.1 - 29.4 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 it is 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 the ITU-R (see Resolution **121 (WRC-95)**).
- 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.
- S5.548** 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** Radars located on spacecraft may be operated on a primary basis in the band 35.5 - 35.6 GHz.
- 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.
- S5.553** 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.
- S5.556** 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.
- S5.558** In the bands 54.25 - 58.2 GHz, 59 - 64 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**).
- 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.
- S5.565** 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;
  - space research service (passive) and earth exploration-satellite 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 radio conference.

## 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-98)**.

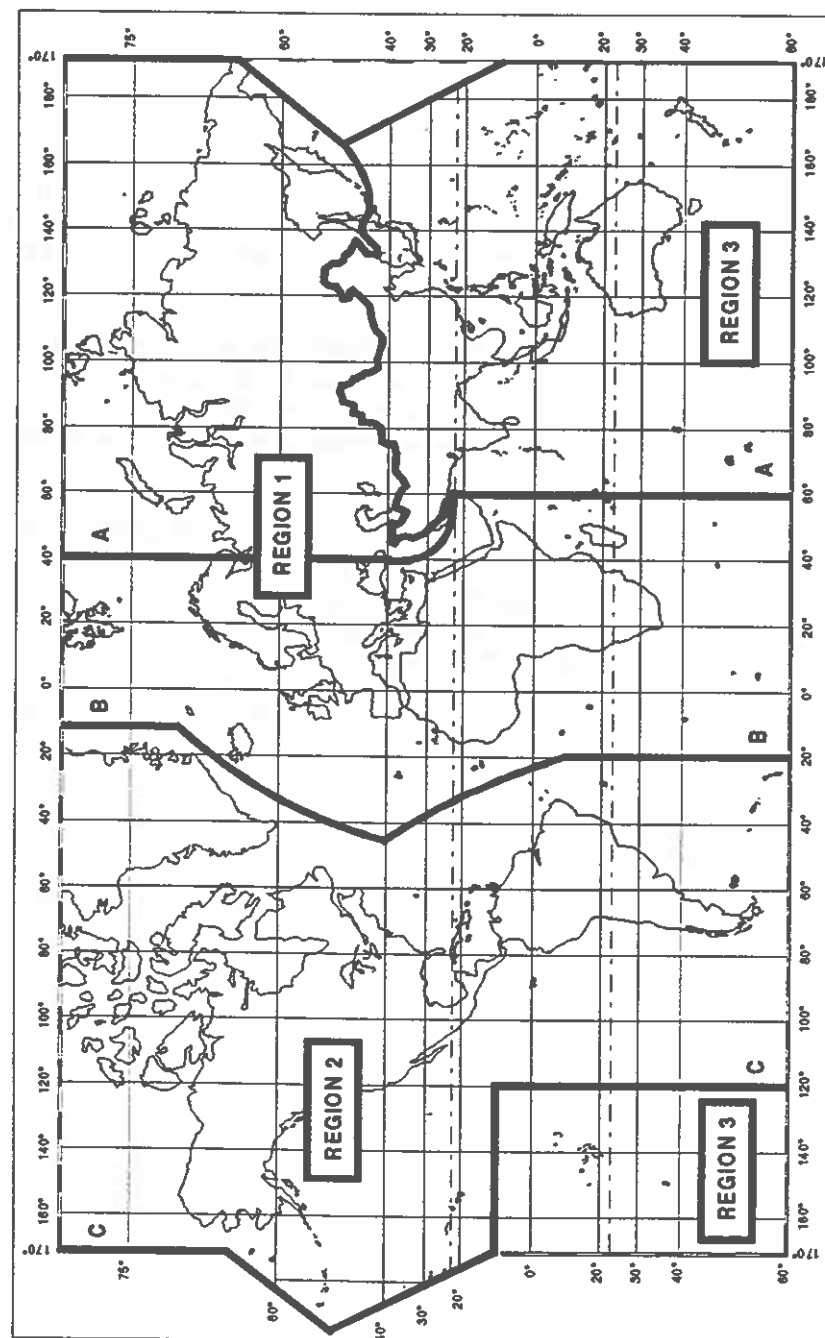
- C1** Users of frequencies below 9 kHz shall ensure that no harmful interference is caused to the services to which the bands above 9 kHz are allocated.
- C2** Scientific researchers using frequencies below 9 kHz are urged to advise the Department in order that such research may be afforded all practicable 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.
- C7** **(CAN-94)** SUP
- 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.
- C12** **(CAN-94)** SUP
- C12A** **(CAN-94)** SUP
- C13** **(CAN-94)** SUP



- 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.
- C17** **(CAN-98)** SUP (see S5.485)
- C18** **(CAN-98)** SUP
- 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 radioastronomy 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-98)** In the bands 455 - 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-98)** In the bands 455 - 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 bands 1 990 - 2 025 MHz and 2 110 - 2 200 MHz, the implementation of the mobile service will be the subject of future policy review.
- C36** (CAN-94) In the bands 1 990 - 2 010 MHz and 2 160 - 2 200 MHz, the fixed service may become secondary to the mobile-satellite service in certain sub-bands as may be determined by future policy review.
- 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.
- 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-94) 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.
- 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/m<sup>2</sup>) 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.
- 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.



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

QUEEN HE 8679 .C3 T3 1998 c.  
Canada. Telecommunications P  
Canadian table of frequency

---

INDUSTRY CANADA/INDUSTRIE CANADA



131572

---