



Industry
Canada

Industrie
Canada

RIC-2
Issue 5
July 2005

Spectrum Management and Telecommunications

Radiocommunication Information Circular

Standards for the Operation of Radio Stations in the Amateur Radio Service

Aussi disponible en français - CIR-2

Canada

Radiocommunication Information Circulars are issued for the guidance of those engaged in radiocommunications in Canada.

Comments and suggestions may be directed to the following address:

Industry Canada
Radiocommunications and
Broadcasting Regulatory Branch
300 Slater Street
Ottawa, Ontario
K1A 0C8

Attention: DOSP

All spectrum publications are available on the Spectrum Management and Telecommunications Web site at: <http://strategis.gc.ca/spectrum>.

Table of Contents

| | Page |
|--|----------|
| 1. Scope | 1 |
| 2. Definitions | 1 |
| 3. Frequency Bands and Qualifications | 1 |
| 4. Bandwidths | 1 |
| 5. Frequencies for Radio Control of Models | 2 |
| 6. Communications on behalf of Third Parties | 2 |
| 7. Operation Outside Canada | 2 |
| 8. Interference | 2 |
| 9. Station Identification | 2 |
| 10. Restrictions on Capacity and Power Output | 3 |
| 11. Unmodulated Carriers and Retransmission | 4 |
| 12. Amplitude Modulation and Frequency Stability | 4 |
| 13. Measurements | 4 |
| 14. Environmental Process, Radio Frequency Fields and Land-Use Consultation | 4 |
| 15. Change of Address | 5 |
| Schedule I - Frequency Bands and Bandwidths for Use by Amateur Stations Operating in Canada and in Region 2 | 6 |
| Schedule II - Frequency Bands and Bandwidths for Use by Amateur Stations Operating in Region 1 | 7 |
| Schedule III - Frequency Bands and Bandwidths for Use by Amateur Stations Operating in Region 3 | 8 |
| Schedule IV - Amateur Call Sign Prefixes | 9 |

1. Scope

This document sets out the standards for the operation of radio stations in the amateur radio service. Operators must comply with these provisions in accordance with sections 45, 52 and 53 of the *Radiocommunication Regulations*.

2. Definitions

For the purposes of this standard,

"amateur station" means a radio station operated in the amateur radio service;

"foreign amateur" means an individual who holds:

- (a) an amateur radio operator licence issued by the Government of the United States, where the holder is a citizen and resident of the United States; or
- (b) a ministerial authorization in accordance with the provisions of paragraph 42(i) of the *Radiocommunication Regulations*;

"Regulations" means the *Radiocommunication Regulations*.

3. Frequency Bands and Qualifications

An operator of an amateur station may operate within the frequency bands set out in the attached Schedules I, II and III in accordance with the operator's qualifications identified for the specified band.

3.1 Foreign Amateur Equivalencies

- 3.1.1 A foreign amateur who is not qualified to send and receive in Morse code may operate an amateur station in Canada in accordance with the provisions applicable to the holder of an Amateur Radio Operator Certificate with Basic Qualifications.
- 3.1.2 A foreign amateur who is qualified to send and receive in Morse code at a speed of at least 5 w.p.m. may operate an amateur station in Canada in accordance with the provisions applicable to the holder of an Amateur Radio Operator Certificate with Basic, Morse Code (5 w.p.m.) and Advanced Qualifications.

4. Bandwidths

- 4.1 The bandwidth of a transmitted signal shall be no greater than the maximum bandwidth set out in Column II of an item of Schedule I for the frequency band set out in Column I of that item.

- 4.2 The bandwidth of a signal shall be determined by measuring the frequency band occupied by that signal at a level that is 26 dB below the maximum amplitude of that signal.

5. Frequencies for Radio Control of Models

The frequency for the radio control of a model is limited to any frequency within the frequency bands above 30 MHz set out in Schedule I.

6. Communications on behalf of Third Parties

International third-party communication in case of emergencies or disaster relief is expressly permitted unless specifically prohibited by a foreign administration.

Any foreign administration may permit its amateur stations to communicate on behalf of third parties without having to enter into any special arrangements with Canada.

Canada does not prohibit international communications on behalf of third parties.

7. Operation Outside Canada

- 7.1 An amateur station that is operating on board a ship in international waters or on board an aircraft in international airspace may operate on any frequency within the frequency bands and corresponding bandwidths set out in Schedule I, II or III, as the case may be and subject to the requirements for operator qualifications.

- 7.2 For the purposes of Schedules I, II and III, Regions 1, 2 and 3 are defined in Article 8 of the *Radio Regulations* of the International Telecommunication Union, as amended from time to time.

8. Interference

Transmissions from an amateur station shall not cause harmful interference to a station operating in another service nor be protected from interference caused by a station operating in another service in the same frequency band as set out in Column III of Schedule I in accordance with the provisions of sections 52 and 53 of the Regulations.

9. Station Identification

- 9.1 The operator of an amateur station in Canada shall identify the station by transmitting the call sign assigned to that station.

- 9.2 The operator of an amateur station licensed by the Government of the United States shall identify the station:
- (a) by transmitting the call sign assigned to the licensee's station by the Federal Communications Commission;
 - (b) if transmitting:
 - (i) by radiotelephony, by adding the word "mobile" or "portable", or
 - (ii) by radiotelegraphy, by adding an oblique character ("/"); and
 - (c) by adding the Canadian amateur call sign prefix set out in Column I of an item of Schedule IV for the geographical location of the station set out in Column II of that item.
- 9.3 The operator of any amateur station shall transmit the applicable identification referred to in subsection (9.1) or (9.2), in English or in French, at the beginning and at the end of each period of exchange of communication or test transmission, and at intervals of not more than 30 minutes throughout the period of exchange of communication.

10. Restrictions on Capacity and Power Output

The transmitting power of an amplifier installed at an amateur station shall not be capable of exceeding by more than 3 dB the limits on transmitting power described in this section.

10.1 Amateur Radio Operator Certificate with Basic Qualification

The holder of an Amateur Radio Operator Certificate with Basic Qualification is limited to a maximum transmitting power of:

- (a) where expressed as direct-current input power, 250 W to the anode or collector circuit of the transmitter stage that supplies radio frequency energy to the antenna; or
- (b) where expressed as radio frequency output power measured across an impedance-matched load,
 - (i) 560 W peak envelope power for transmitters that produce any type of single sideband emission, or
 - (ii) 190 W carrier power for transmitters that produce any other type of emission.

10.2 Amateur Radio Operator Certificate with Basic and Advanced Qualifications

The holder of an Amateur Radio Operator Certificate with Basic and Advanced Qualifications is limited to a maximum transmitting power of:

- (a) where expressed as direct-current input power, 1,000 W to the anode or collector circuit of the transmitter stage that supplies radio frequency energy to the antenna; or
- (b) where expressed as radio frequency output power measured across an impedance-matched load,
 - (i) 2,250 W peak envelope power for transmitters that produce any type of single sideband emission, or
 - (ii) 750 W carrier power for transmitters that produce any other type of emission.

11. Unmodulated Carriers and Retransmission

- 11.1 An unmodulated carrier in a frequency band below 30 MHz may be transmitted for brief tests.
- 11.2 Radiotelephone signals in a frequency band below 29.50 MHz cannot be automatically retransmitted unless these signals are received from a station operated by a person qualified to transmit on frequencies below 29.50 MHz.

12. Amplitude Modulation and Frequency Stability

- 12.1 An amateur station transmitting amplitude modulation is limited to 100 per cent modulation.
- 12.2 The frequency stability of an amateur station in a frequency band below 148.000 MHz shall be equal to or greater than that which is obtainable using crystal control.

13. Measurements

An amateur station shall be equipped with a means of:

- (a) determining the transmit frequency to the same degree of accuracy as would a crystal calibrator; and
- (b) indicating or preventing overmodulation of the transmitter in the case of a radiotelephone transmitter.

14. Environmental Process, Radio Frequency Fields and Land-Use Consultation

Industry Canada recognizes the importance of considering the potential impact of antennas and their supporting structures on their surroundings. As such, Amateur radio operators are responsible for complying with Client Procedures Circular 2-0-03 (CPC-2-0-03), *Environment Process, Radiofrequency Fields and Land-Use Consultation*, as may be amended from time to time.

15. Change of Address

The holder of an Amateur Radio Operator Certificate shall notify the Department within thirty (30) days with respect to a change of mailing address.

**Schedule I - Frequency Bands and Bandwidths for Use by Amateur
Stations Operating in Canada and in Region 2**

| | Column I | Column II | Column III | Column IV |
|-------------|-----------------------|--------------------------|-----------------------------|--------------------------------|
| Item | Frequency Band | Maximum Bandwidth | Operating Provisions | Operator Qualifications |
| 1 | 1.800 - 2.000 MHz | 6 kHz | | B and 5, B/H, B&A |
| 2 | 3.500 - 4.000 MHz | 6 kHz | | B and 5, B/H, B&A |
| 3 | 7.000 - 7.300 MHz | 6 kHz | | B and 5, B/H, B&A |
| 4 | 10.100 - 10.150 MHz | 1 kHz | | B and 5, B/H, B&A |
| 5 | 14.000 - 14.350 MHz | 6 kHz | | B and 5, B/H, B&A |
| 6 | 18.068 - 18.168 MHz | 6 kHz | | B and 5, B/H, B&A |
| 7 | 21.000 - 21.450 MHz | 6 kHz | | B and 5, B/H, B&A |
| 8 | 24.890 - 24.990 MHz | 6 kHz | | B and 5, B/H, B&A |
| 9 | 28.000 - 29.700 MHz | 20 kHz | | B and 5, B/H, B&A |
| 10 | 50.000 - 54.000 MHz | 30 kHz | | B |
| 11 | 144.000 - 148.000 MHz | 30 kHz | | B |
| 12 | 220.000 - 225.000 MHz | 100 kHz | | B |
| 13 | 430.000 - 450.000 MHz | 12 MHz | 1 | B |
| 14 | 902.000 - 928.000 MHz | 12 MHz | 1 | B |
| 15 | 1.240 - 1.300 GHz | Not specified | 1 | B |
| 16 | 2.300 - 2.450 GHz | Not specified | 1 | B |
| 17 | 3.300 - 3.500 GHz | Not specified | 1 | B |
| 18 | 5.650 - 5.925 GHz | Not specified | 1 | B |
| 19 | 10.000 - 10.500 GHz | Not specified | 1 | B |
| 20 | 24.000 - 24.050 GHz | Not specified | | B |
| 21 | 24.050 - 24.250 GHz | Not specified | 1 | B |
| 22 | 47.000 - 47.200 GHz | Not specified | | B |
| 23 | 75.500 - 76.000 GHz | Not specified | | B |
| 24 | 76.000 - 81.000 GHz | Not specified | 1 | B |
| 25 | 142.000 - 144.000 GHz | Not specified | | B |
| 26 | 144.000 - 149.000 GHz | Not specified | 1 | B |
| 27 | 241.000 - 248.000 GHz | Not specified | 1 | B |
| 28 | 248.000 - 250.000 GHz | Not specified | | B |

Note: In Column III, "1" means that transmissions may not cause interference nor be protected from interference from stations licensed in other services operating in that band, and in Column IV, "B" means an Amateur Radio Operator Certificate with Basic Qualification, "B/H" means Basic with honours (score of 80% or above), "5" means an Amateur Radio Operator Certificate with Morse Code (5 w.p.m.) Qualification, and "A" means an Advanced Amateur Radio Operator Certificate.

**Schedule II - Frequency Bands and Bandwidths for Use by
Amateur Stations Operating in Region 1**

| | Column I | Column II | Column III |
|-------------|-----------------------|--------------------------|--------------------------------|
| Item | Frequency Band | Maximum Bandwidth | Operator Qualifications |
| 1 | 1.810 - 1.850 MHz | 6 kHz | B and 5, B/H, B&A |
| 2 | 3.500 - 3.800 MHz | 6 kHz | B and 5, B/H, B&A |
| 3 | 7.000 - 7.100 MHz | 6 kHz | B and 5, B/H, B&A |
| 4 | 10.100 - 10.150 MHz | 1 kHz | B and 5, B/H, B&A |
| 5 | 14.000 - 14.350 MHz | 6 kHz | B and 5, B/H, B&A |
| 6 | 18.068 - 18.168 MHz | 6 kHz | B and 5, B/H, B&A |
| 7 | 21.000 - 21.450 MHz | 6 kHz | B and 5, B/H, B&A |
| 8 | 24.890 - 24.990 MHz | 6 kHz | B and 5, B/H, B&A |
| 9 | 28.000 - 29.700 MHz | 20 kHz | B and 5, B/H, B&A |
| 10 | 144.000 - 146.000 MHz | 30 kHz | B |
| 11 | 430.000 - 440.000 MHz | Not specified | B |
| 12 | 1.240 - 1.300 GHz | Not specified | B |
| 13 | 2.300 - 2.450 GHz | Not specified | B |
| 14 | 5.650 - 5.850 GHz | Not specified | B |
| 15 | 10.000 - 10.500 GHz | Not specified | B |
| 16 | 24.000 - 24.250 GHz | Not specified | B |
| 17 | 47.000 - 47.200 GHz | Not specified | B |
| 18 | 75.500 - 81.000 GHz | Not specified | B |
| 19 | 142.000 - 149.000 GHz | Not specified | B |
| 20 | 241.000 - 250.000 GHz | Not specified | B |

Note: "B" means an Amateur Radio Operator Certificate with Basic Qualification, "B/H " means Basic with honours (score of 80% or above), "5" means an Amateur Radio Operator Certificate with Morse Code (5 w.p.m.) Qualification, and "A" means an Advanced Amateur Radio Operator Certificate.

**Schedule III - Frequency Bands and Bandwidths for
Use by Amateur Stations Operating in Region 3**

| Item | Column I Frequency Band | Column II Maximum Bandwidth | Column III Operator Qualifications |
|-------------|------------------------------------|--|---|
| 1 | 1.800 - 2.000 MHz | 6 kHz | B and 5, B/H, B&A |
| 2 | 3.500 - 3.900 MHz | 6 kHz | B and 5, B/H, B&A |
| 3 | 7.000 - 7.100 MHz | 6 kHz | B and 5, B/H, B&A |
| 4 | 10.100 - 10.150 MHz | 1 kHz | B and 5, B/H, B&A |
| 5 | 14.000 - 14.350 MHz | 6 kHz | B and 5, B/H, B&A |
| 6 | 18.068 - 18.168 MHz | 6 kHz | B and 5, B/H, B&A |
| 7 | 21.000 - 21.450 MHz | 6 kHz | B and 5, B/H, B&A |
| 8 | 24.890 - 24.990 MHz | 6 kHz | B and 5, B/H, B&A |
| 9 | 28.000 -29.700 MHz | 20 kHz | B and 5, B/H, B&A |
| 10 | 50.000 - 54.000 MHz | 30 kHz | B |
| 11 | 144.000 - 148.000 MHz | 30 kHz | B |
| 12 | 430.000 - 440.000 MHz | Not specified | B |
| 13 | 1.240 - 1.300 GHz | Not specified | B |
| 14 | 2.300 - 2.450 GHz | Not specified | B |
| 15 | 3.300 - 3.500 GHz | Not specified | B |
| 16 | 5.650 - 5.850 GHz | Not specified | B |
| 17 | 10.000 - 10.500 GHz | Not specified | B |
| 18 | 24.000 - 24.250 GHz | Not specified | B |
| 19 | 47.000 - 47.200 GHz | Not specified | B |
| 20 | 75.500 - 81.000 GHz | Not specified | B |
| 21 | 142.000 - 149.000 GHz | Not specified | B |
| 22 | 241.000 - 250.000 GHz | Not specified | B |

Note: "B" means an Amateur Radio Operator Certificate with Basic Qualification, "B/H " means Basic with honours (score of 80% or above), "5" means an Amateur Radio Operator Certificate with Morse Code (5 w.p.m.) Qualification, and "A" means an Advanced Amateur Radio Operator Certificate.

Schedule IV - Amateur Call Sign Prefixes

| Item | Column I Amateur Call Sign Prefix | Column II Geographical Location |
|------|--------------------------------------|------------------------------------|
| 1 | VE1-VA1 | Nova Scotia |
| 2 | VE2-VA2 | Quebec |
| 3 | VE3-VA3 | Ontario |
| 4 | VE4-VA4 | Manitoba |
| 5 | VE5-VA5 | Saskatchewan |
| 6 | VE6-VA6 | Alberta |
| 7 | VE7-VA7 | British Columbia |
| 8 | VE8 | Northwest Territories |
| 9 | VE9 | New Brunswick |
| 10 | VE0* | International Waters |
| 11 | V01 | Newfoundland |
| 12 | V02 | Labrador |
| 13 | VY1 | Yukon Territory |
| 14 | VY2 | Prince Edward Island |
| 15 | VY0 | Nunavut Territory |

- * VE0 call signs are only intended for use when the amateur radio station is operated from vessels that make international voyages.