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

## **Preface**

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## 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 Section 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, *Radiocommunication and Broadcasting Antenna Systems* (CPC-2-0-03) 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**

	<b>Column I</b>	<b>Column II</b>	<b>Column III</b>	<b>Column IV</b>
<b>Item</b>	<b>Frequency Band</b>	<b>Maximum Bandwidth</b>	<b>Operating Provisions</b>	<b>Operator Qualifications</b>
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**

	<b>Column I</b>	<b>Column II</b>	<b>Column III</b>
<b>Item</b>	<b>Frequency Band</b>	<b>Maximum Bandwidth</b>	<b>Operator Qualifications</b>
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**

	<b>Column I</b>	<b>Column II</b>	<b>Column III</b>
<b>Item</b>	<b>Frequency Band</b>	<b>Maximum Bandwidth</b>	<b>Operator Qualifications</b>
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**

<b>Column I</b>		<b>Column II</b>
<b>Item</b>	<b>Amateur Call Sign Prefix</b>	<b>Geographical Location</b>
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.