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## **Annapolis Valley Amateur Radio Club**

# **Introduction to Amateur Radio Chapter 1**

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VO1NO



# Objectives

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- Learn about the Radio Regulations structure.
- Learn about the Basic Qualification and exam procedure.
- Discuss study skills.

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# Radio Regulations - International

- Radio communications regulated at international level by the **International Telecommunication Union (ITU)**.
- Created by merger of International Telegraph Union (1865) and International Radiotelegraph Union (1906) in 1932.
- Became specialized agency of United Nations 1947.
- All sovereign nations have right to be represented and have opinion considered when new regulations or changes proposed.



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By 1865 it was agreed that a comprehensive agreement was needed in order to replace all previous telegraph agreements and create a framework to standardize telegraphy equipment, set uniform operating instructions, and lay down common international tariff and accounting rules. Between 1 March and 17 May 1865, the French Government hosted delegations from 20 European states at the first International Telegraph Conference in Paris. This meeting culminated in the International Telegraph Convention which was signed on 17 May 1865.

As a result of the 1865 Conference, the International Telegraph Union, the predecessor to the modern ITU, was founded as the first international standards organization. The Union was tasked with implementing basic principles for international telegraphy. This included: the use of the Morse code as the international telegraph alphabet, the protection of the secrecy of correspondence, and the right of everybody to use the international telegraphy.

Another predecessor to the modern ITU, the International Radiotelegraph Union, was established in 1906 at the first [International Radiotelegraph Convention](#) in Berlin. The conference was attended by representatives of 29 nations and culminated in the International Radiotelegraph Convention. An

annex to the convention eventually became known as [radio regulations](#). At the conference it was also decided that the Bureau of the International Telegraph Union would also act as the conference's central administrator.

Between 3 September and 10 December 1932, a joint conference of the International Telegraph Union and the International Radiotelegraph Union convened in order to merge the two organizations into a single entity, the International Telecommunication Union. The Conference decided that the Telegraph Convention of 1875 and the Radiotelegraph Convention of 1927 were to be combined into a single convention, the International Telecommunication Convention, embracing the three fields of telegraphy, telephony and radio.

On 15 November 1947, an agreement between ITU and the newly created [United Nations](#) recognized the ITU as the specialized agency for global telecommunications. This agreement entered into force on 1 January 1949, officially making the ITU an organ of the United Nations

# International Telecommunication Union

- The ITU:
  - coordinates the shared global use of the radio spectrum;
  - promotes international cooperation in assigning satellite orbits;
  - works to improve telecommunication infrastructure in the developing world; and
  - assists in the development and coordination of worldwide technical standards.

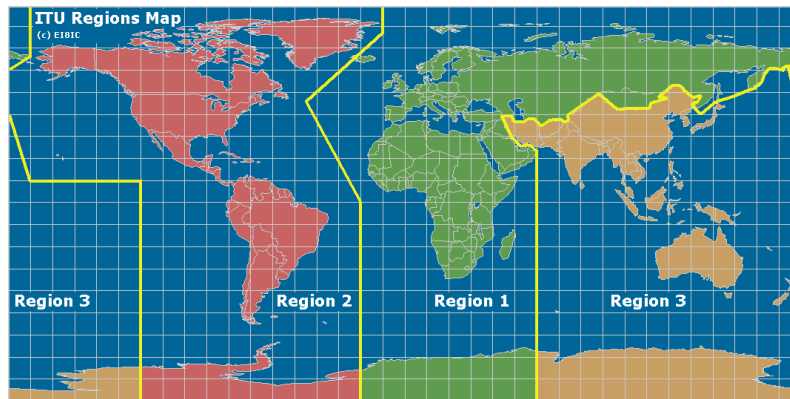


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The **International Telecommunication Union**, originally the **International Telegraph Union**, is a specialized agency of the United Nations that is responsible for issues that concern information and communication technologies. It is the oldest global international organization.

The ITU coordinates the shared global use of the radio spectrum, promotes international cooperation in assigning satellite orbits, works to improve telecommunication infrastructure in the developing world, and assists in the development and coordination of worldwide technical standards. The ITU is also active in the areas of broadband Internet, latest-generation wireless technologies, aeronautical and maritime navigation, radio astronomy, satellite-based meteorology, convergence in fixed-mobile phone, Internet access, data, voice, TV broadcasting, and next-generation networks.

# ITU Regions



- Canada is in ITU Region 2.
- If in territorial waters or airspace of another country, use that country's radio regulations.
- Most countries recognize 12 Nautical Mile territorial seas.

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The [International Telecommunication Union](#) (ITU), in its [International Radio Regulations](#), divides the world into three **ITU regions** for the purposes of managing the global [radio spectrum](#). Each region has its own set of [frequency allocations](#), the main reason for defining the regions.

## Boundaries

- **Region 1** comprises [Europe](#), [Africa](#), the [former Soviet Union](#), [Mongolia](#), and the [Middle East](#) west of the [Persian Gulf](#), including [Iraq](#).
- **Region 2** covers the [Americas](#) including [Greenland](#), and some of the eastern [Pacific Islands](#).
- **Region 3** contains most of non-[Former Soviet Union Asia](#) east of and including [Iran](#), and most of [Oceania](#).

Radio communications worldwide are regulated cooperatively by the ITU, the International Telecommunications Union, a branch of the United Nations. All sovereign countries have the right to be represented there and to have their opinion considered when new regulations or changes are being considered. Canada is represented on most working committees. A subset of a region is the countries within a region. So if one is operating outside of Canada one

must follow not only the ITU regulations but those of the country you are visiting.

From RBR-4:

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. I.E.: An amateur station in international waters or airspace must follow the frequency plans as laid down by the ITU for the ITU Region they are in.

If in another country or that country's waters or airspace – you must use the frequency plan laid down for that country PROVIDED you have permission to operate there.



# Radio Regulation in Canada

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- **Radiocommunication Act** gives Minister of Industry the authority to implement these international regulations, modified as necessary for Canadian requirements.
- **Innovation, Science and Economic Development (ISED) Canada** is responsible for administering the Radiocommunication Act.
- ISED still often called **Industry Canada (IC)**.

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The ***Radiocommunication Act*** is an [Act of Parliament](#) respecting [radiocommunication](#) in [Canada](#). It was enacted in 1985. The *Radiocommunication Act* is administered by the [Government of Canada's Innovation, Science and Economic Development Canada](#) department. It governs the licensing and regulation of radio equipment and the technical certification of radio communications equipment.

The Radiocommunication Act is the authority that allows ISED to draft documents that govern how radio is used in Canada.

# ISED / Industry Canada

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- ISED makes regulations that directly affect Amateur Radio.
- Responsible on a day-to-day basis for:
  - Operator testing;
  - Issuing callsigns;
  - Responding to interference complaints; and
  - Any and all operational issues.

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**Innovation, Science and Economic Development Canada (ISED;** legally, the **Department of Industry**; is the [department](#) of the [Government of Canada](#) with a mandate of fostering a growing, competitive, and knowledge-based Canadian economy. ISED specifically supports Canadian innovation efforts, trade and investment, enterprise growth, and customized economic development in Canadian communities.

ISED has three core responsibilities. These responsibilities are to oversee Canadian companies, investment and growth; people, skills and communities; and science, technology, research and commercialization. It addresses these responsibilities by doing work in four areas. These areas are research and development; economic development; market integrity, regulation, and competition; and internal services. This work is done by distributing grants and contributions, providing programs and services, managing federal activities, and overseeing relevant regulation and legislation.

# Amateur Radio

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- Amateur Radio Service is defined in the **Canadian Radiocommunication Regulations**.
- Radiocommunication service used by individuals without pecuniary interest for:
  - Self-training;
  - Intercommunication; and
  - Technical investigation.
- Difficult for individual Amateurs to have much influence on the rule-making process however.
- We have formed organizations that can represent and promote Amateur Radio with governments.

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From ISED Website: The "**amateur radio service**" is a radiocommunication service in which radio apparatus are used for the purpose of self-training, intercommunication or technical investigation by individuals who are interested in radio technique solely with a personal aim and without pecuniary interest.

# Amateur Radio Societies

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- **International Amateur Radio Union (IARU)**
  - Since 1925, the watchdog and spokesperson for the world Amateur Radio community.
- **Radio Amateurs of/du Canada (RAC)**
  - National Amateur Radio society of Canada.
- **American Radio Relay League (ARRL)**
  - National Amateur Radio society of the USA.
- **Radio Society of Great Britain (RSGB)**
  - National Amateur Radio society of the UK.

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# International Amateur Radio Union (IARU)

- **International confederation** of national Amateur Radio organizations.
- Allows a forum for common matters of concern and **collectively represents matters to the ITU.**
- Informal meeting in 1924 of representatives from France, UK, Belgium, Switzerland, Italy, Spain, Luxembourg, Newfoundland, Canada, and USA.
- Constitution ratified on April 18, 1925.
- Now has 172 **member societies.**



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Saudi Arabia and Seychelles added 23 October 2020

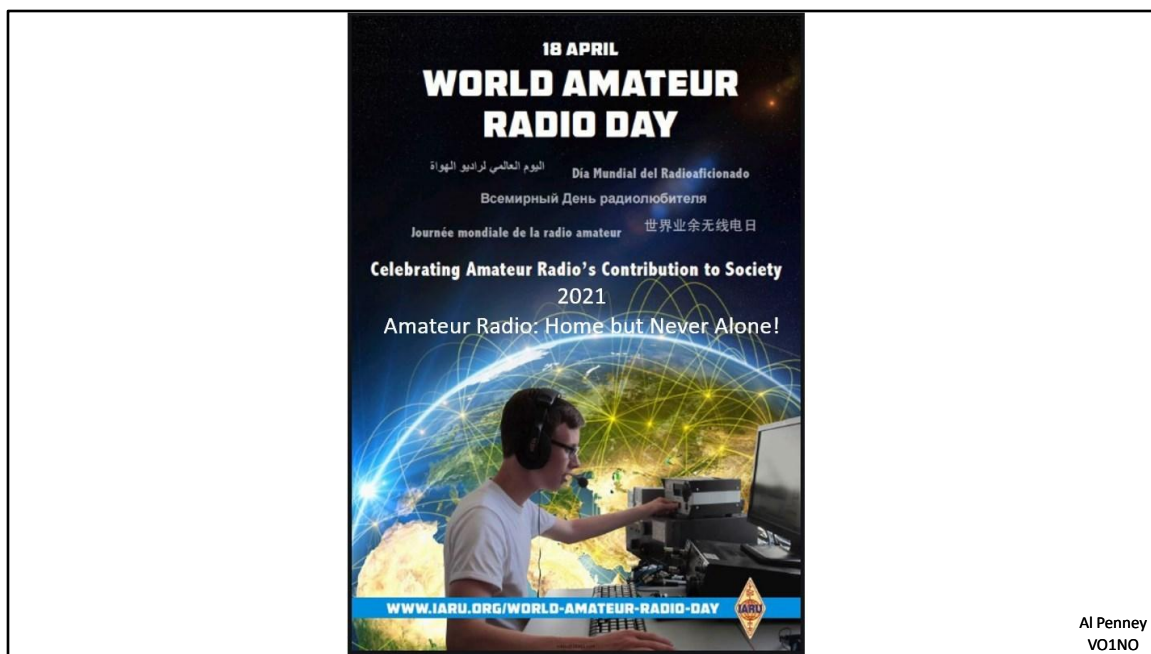
Created in Paris, France, the International Amateur Radio Union has been the watchdog and spokesman for the world Amateur Radio community since 1925. **The IARU Constitution**, last amended in 1989, organizes the Union into three Regional Organizations that correspond to the three radio regions of the **International Telecommunication Union** (ITU). The IARU Constitution also provides for an IARU Member Society to serve as the Union's **International Secretariat**.

The International Amateur Radio Union (IARU) is an organization consisting of over 160 national amateur radio societies around the world. The International Secretariat for the IARU from time to time receives inquiries from individual amateurs as to how they may join IARU. There are no individual members of the IARU. The best way to support the IARU is to maintain membership in one or more of the national amateur radio societies.

The IARU is governed by the **IARU Administrative Council** (AC). The AC consists of the IARU President, Vice-President, Secretary and two representatives from

each of the **three IARU regional organizations**. IARU Region 1 is Europe, Africa and the Middle East and parts of Asia. IARU Region 2 is North, South and Central America. IARU Region 3 is most of Asia and the Pacific. The AC determines the policy for the IARU. All of the members of the IARU AC are volunteers as are the officers and directors of the IARU regional organizations.

The **International Amateur Radio Union (IARU)** is an international confederation of national organisations that allows a forum for common matters of concern to **amateur radio** operators worldwide, and collectively represents matters to the **International Telecommunication Union (ITU)**. The International Amateur Radio Union was founded in 1925 and, as of July 2021, it is composed of 172 national member societies.



## World Amateur Radio Day

Every April 18, radio amateurs worldwide take to the airwaves in celebration of World Amateur Radio Day. It was on this day in 1925 that the International Amateur Radio Union was formed in Paris.

Amateur Radio experimenters were the first to discover that the short wave spectrum — far from being a wasteland — could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was “in grave danger of being pushed aside,” the IARU’s history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio worldwide.

Just two years later, at the International Radiotelegraph Conference, Amateur Radio gained the allocations still recognized today — 160, 80, 40, 20, and 10 meters. Since its founding, the IARU has worked tirelessly to defend and expand the frequency allocations for Amateur Radio. Thanks to the support of enlightened administrations in every part of the globe, radio amateurs are now able to experiment and communicate in frequency bands strategically located throughout the radio spectrum. From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions. IARU Region 1 includes Europe, Africa, the Middle East, and Northern Asia. Region 2 covers the Americas, and Region 3 is comprised of Australia, New Zealand, the Pacific island nations, and most of Asia.

The International Telecommunication Union (ITU) has recognized the IARU as representing the interests of Amateur Radio.

Today, Amateur Radio is more popular than ever, with more than 3,000,000 licensed operators!

World Amateur Radio Day is the day when IARU Member-Societies can show our capabilities to the public and enjoy global friendship with other Amateurs worldwide.





**Radio Amateurs  
of  
du Canada**

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**Radio Amateurs of Canada (RAC)**, known in [French](#) as **Radio Amateurs du Canada**, is the national association for [Amateur Radio](#) in Canada. It is a not-for-profit membership association with headquarters in Ottawa, Ontario, Canada, representing the interests of Amateur Radio all across Canada. Speaking on behalf of Canadian Radio Amateurs, RAC provides liaison with government agencies and carries the Amateur voice about regulatory and spectrum issues to the discussion table with government and industry leaders, nationally and internationally.

RAC is the Canadian voting member society of the [International Amateur Radio Union](#). RAC also provides many services, publications and supplies to its members to enhance their enjoyment of Amateur Radio.

The organization publishes a bimonthly [magazine](#) distributed to members called *The Canadian Amateur*.

# Radio Amateurs of/du Canada

- **National Amateur Radio society of Canada.**
- Represents the interests of Amateur Radio in Canada.
- **Provides liaison** with government agencies and carries the amateur voice about regulatory and spectrum issues to the discussion table with government and industry leaders, nationally and internationally.
- **Represents Canadian Amateurs at IARU.**
- Headquarters in Ottawa.



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Photo: Mike Kelly, VE3FFK, of Ottawa, Ontario, recipient of the RAC Amateur of the Year Award for 2024, in the RAC HQ Station, VE3RHQ.

# RAC Services

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- The **Canadian Amateur** (TCA) magazine;
- The **Affiliated Club Program**;
- The **Affiliated Club Liability Insurance Program**;
- The **QSL Bureau System**;
- The **Youth Education Program**;
- The **Foundation Program**;
- The **Field Organization** ;
- The **Certified Emergency Coordinator Program**;
- Sponsors **Canada Day** and **Canada Winter Contests**;
- Sponsors several **Operating Awards**;
- Maintains an **Extensive Web Page**; and
- Runs the **Auxiliary Communications Service**.

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## Services

The Radio Amateur of Canada club offers programs and publications to "promote excellence, the state of the art, and the interests of Amateur Radio's many varied activities".

RAC members have access to services including:

- **The Canadian Amateur** (TCA) magazine, Canada's premiere national magazine devoted to Amateur Radio, is published six times per year and is available in both print and digital (eTCA) formats
- **The Affiliated Club Program** provides documents and other useful material to help local Amateur Radio clubs to be more efficient and provide more useful programs for their members.
- **The Affiliated Club Liability Insurance Program** provides affordable \$5 million liability insurance for RAC-affiliated Amateur Radio clubs and their members.
- **The QSL Bureau System** distributes reception report (QSL) cards for RAC member to countries around the world
- **The Youth Education Program** provides support to teachers and schools wishing to implement an Amateur Radio program or project as a way to promote [science](#) and [technology](#) education.

- The **Foundation Program** applies member donations to provide financial support through scholarships, research and equipment grants.
- The **Field Organization** coordinates traffic handling and emergency communications across Canada. Help your community by joining the RAC-sponsored Amateur Radio Emergency Service (ARES) and/or the National Traffic System (NTS).
- The **Certified Emergency Coordinator Program** provides certificates to ARES Emergency Coordinators who pass a rigorous examination on emergency measures structures and procedures. RAC issues the CEPT and IARP international permits so you can operate your station in many countries without additional permission. Note: CEPT and IARP FAQ info is provided [here](#).
- Two annual contests: the **Canada Day Contest** on July 1 and the **Canada Winter Contest** in late December.
- The **Operating Awards** the **Canadaward**, **Transcanada**, **St. Lawrence Seaway** and **Provincial Capitals**.
- The club website has Amateur Radio news, info, call sign directory, antenna programs and links to other resources.

The Radio Amateur of Canada offers programs and publications to "promote excellence, the state of the art, and the interests of Amateur Radio's many varied activities".<sup>[3]</sup> The RAC maintains a Field Organization for [public service](#). Radio Amateurs of Canada also has a Youth Education Program to encourage use of amateur radio in [schools](#) across Canada, as a way to promote [science](#) and [technology](#) education. RAC offers technical and some financial assistance through this program.

### **Emergency services**[\[edit\]](#)

Canadian Amateur Radio operators also provide [emergency communications](#) through the [Amateur Radio Emergency Service](#) organized in Canada by the Radio Amateurs of Canada.<sup>[4]</sup> RAC has an understanding with [The Canadian Red Cross Society](#) to assist with communications in the event of an emergency or disaster.<sup>[5]</sup>

# Canadian Amateur Radio Advisory Board

- A non-profit consultative group consisting of members of the **Radio Amateurs of Canada (RAC)** and the **Spectrum Management Operations Branch** of ISED.
- Function is to provide a consultative forum between Canadian radio amateurs and ISED.
- Can raise important issues, plan future work, provide update on internal changes in both groups.
- Agenda set in advance, both sides make presentations.
- Agreed-upon action is not binding on either RAC or ISED.

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The Canadian Amateur Radio Advisory Board (CARAB) is a non-profit consultative group consisting of members of the Radio Amateurs of Canada (RAC) and the Spectrum Management Operations Branch of Innovation, Science and Economic Development Canada (IC) (*formerly* Industry Canada). Its function is to provide a consultative forum between Canadian Radio Amateurs and the regulator. Other than provided herein, CARAB is acknowledged as a consultative entity. It is understood that agreed-upon action is not binding on either the RAC or IC.

## **Composition**

### **a) Chairs**

CARAB is co-chaired by the President of RAC and the Senior Director of Spectrum Management Operations, Spectrum Management Operations Branch of IC.

### **b) Membership**

CARAB membership comprises the co-chairs, the RAC Vice President for Regulatory Affairs, the Manager of Operational Policies, Spectrum Management Operations (IC) and such staff of either organization as agreed to by both co-chairs.

## **Meetings**

CARAB meets in person for one-half day once annually in the spring, using an agenda prearranged by the co-chairs. An optional second meeting, either in person or using electronic means, may be held during the fall at the call of either co-chair. The co-chairs preside over alternate meetings. Every attempt is made to hold meetings coincident with RAC Board or National Executive meetings.

The summary record is to be prepared within 30 days of the meeting by the meeting chair's organization, and approved by the co-chairs before being distributed to IC staff, RAC members and other parties as deemed appropriate.

From time to time, matters may be raised at CARAB meetings or elsewhere to be followed up at special-topic meetings or teleconferences. These meetings are held on an as-required basis between the appropriate staff members of both organizations, at times and places agreed upon by the participants. The outcomes of these meetings will be reported on at the next CARAB meeting.

#### **Termination**

The agreement to continue CARAB remains in effect until one or both parties give notice of at least 60 days that it intends to withdraw.

#### **Approval**

These terms of reference were approved by the President of RAC and the Director General, Spectrum Management Operations of IC.

# Classes of Certificates

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- Since 2005, two classes of certificates;
  - **Basic Certificate**
  - **Advanced Certificate**
- Pass mark for Basic exam is **70%**.
- A mark **of 80%** or more is an **Honours Pass** and grants extra privileges.
- Morse Code qualification is voluntary.

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# Basic Qualification

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- First step – all that many need.
- Following privileges:
  - Access to all bands above 30 MHz
  - Max transmitter power of 250 watts input
  - May build/operate commercial kits
- **Honours pass** gives access to bands below 30 MHz.
- **5 wpm Morse Certificate** also gives access to bands below 30 MHz.

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# Advanced Qualification

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- Emphasis is on **technical subjects**.
- Must pass the Basic Qualification first.
- Extra privileges:
  - Can build and operate transmitters;
  - Can operate repeaters and automated stations;
  - Can use higher power; and
  - Can sponsor club stations,
- This course is for the Basic Qualification only.

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# Eligibility

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- No age or nationality restrictions.
- Must have a valid Canadian address.
- Must provide Photo ID to write the exam.
- Exam available in English or French.
- Oral examination is possible.
- Examiners are **no longer** limited to own geographic area, but **both** the examiner and candidate must be in Canada at the time of the exam.
- **NO EXEMPTIONS** to passing the exam.

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# General Rules for Amateur Radio

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- **Not** to be used for **business** or **commercial** purposes.
- The use of encryption or secret codes is **not permitted UNLESS** the key has been publicly published.
- Amateurs may only communicate with other, **similarly licensed**, stations.
- Family members and friends **may not use your equipment** to talk to you unless they have the proper Amateur Radio qualifications.
- Family members and friends may use your station to communicate with others as long as they are **supervised by an operator** who has the proper Amateur Radio qualifications.

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# The Exam!

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- 100 question multiple choice exam.
- Pass mark 70%, Honours Pass 80%.
- **ENTIRE QUESTION BANK** is available on the ISED website!  
<https://ised-isde.canada.ca/site/amateur-radio-operator-certificate-services/en/amateur-radio-exam-generator/print-all-basic-questions>
- ISED website has a practice exam generator  
<https://ised-isde.canada.ca/site/amateur-radio-operator-certificate-services/en/amateur-radio-exam-generator>
- A RAC committee recently reviewed the Basic question bank, and submitted suggested updates to ISED.
- That updated question bank has been in effect since 15 July 2025.

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# Online Exams

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- ISED has approved an exam process delivered by video.
- Now a standard way to deliver exams since the pandemic.
- Can only conduct one exam at a time.
- Don't worry however – there are plenty of Accredited Examiners able to give exams.

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# Online Exams

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- A list of examiners able to conduct online exams will be sent during the course.
- Contact any of those examiners to schedule an exam.
- Not necessary to use an examiner in your area – can select any examiner.
- Let me know of other examiners willing to conduct exams online to add to list.

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# Online Exam Procedure

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- 100 questions from Question Bank.
- Same questions I use at end of class!
- Examiner will schedule session using Zoom or other teleconferencing services.
- Examiner will share screen with questions.
- You give answers, and you and the examiner records them on an official answer sheet.
- Exam corrected while you wait.

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# Exam Procedure

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- Only the ISED reference material allowed.
- Scratch paper and **non-programmable** calculators permitted.
- Need photo ID, birthdate, mailing address, e-mail address.
- Your camera must remain on during exam.
- Need to scan room with camera before starting the exam.

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# Exam Procedure

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- If you pass, examiner submits results to ISED.
- ISED contacts you via e-mail, and asks for your choice of callsigns.
- Once ISED confirms callsign, you are able to get on the air.
- Certificate will follow by mail. If not, contact the Amateur Radio Service Center:  
[https://www.ic.gc.ca/eic/site/025.nsf/eng/h\\_00010.html](https://www.ic.gc.ca/eic/site/025.nsf/eng/h_00010.html)
- It is possible to have a callsign and be on the air within 2 hours of starting the exam!

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# Free RAC Membership

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- All new Amateurs are entitled to a **complimentary 1-year RAC membership.**
- Mailed Certificate from ISED will also include link to special RAC webpage.
- Go to that link so that necessary information can be collected automatically.
- Once your complimentary membership expires, **please continue to support our national organization!**

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# Canadian Amateur Prefixes

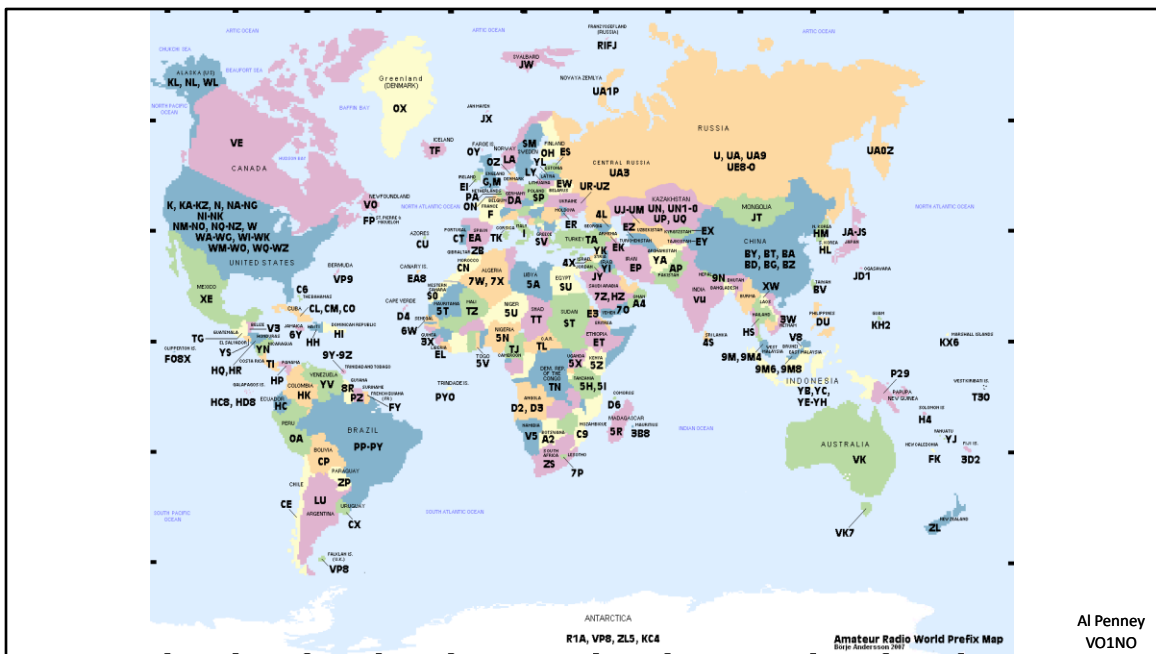
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- CY0 Sable Is
- CY9 St-Paul Is
- VA1 Nova Scotia
- VA2 Quebec
- VA3 Ontario
- VA4 Manitoba
- VA5 Saskatchewan
- VA6 Alberta
- VA7 British Columbia
- VE0 Stations at sea
- VE1 Nova Scotia
- VE2 Quebec
- VE3 Ontario
- VE4 Manitoba
- VE5 Saskatchewan
- VE6 Alberta
- VE7 British Columbia
- VE8 Northwest Territories
- VE9 New Brunswick
- VO1 Newfoundland
- VO2 Labrador
- VY0 Nunavut
- VY1 Yukon VY2 Prince Edward Is
- VY9 Government of Canada

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Amateur radio call signs are allocated to amateur radio operators around the world. The call signs are used to legally identify the station or operator, with some countries requiring the station call sign to always be used and others allowing the operator call sign instead.





**Amateur radio call signs** are allocated to **amateur radio** operators around the world. The call signs are used to legally identify the station or operator, with some countries requiring the station call sign to always be used and others allowing the operator call sign instead.

The **International Telecommunication Union (ITU)** allocates **call sign prefixes** for **radio** and **television** stations of all types. Since 1927 these have been used to uniquely identify operators and locate amateur stations within a geographical region or country of the world. Call signs meant for **amateur radio** follow the ITU's Article 19, specifically 19.68 and 19.69.

Prefixes are assigned internationally, and a separating numeral plus suffix are added by a national body to produce this unique identifier. These prefixes are agreed upon internationally, and are a form of **country code**. Each country must only assign call signs to its nationals or operators under its jurisdiction that begin with the characters allocated for use in that country or its territories.

# Phonetic Alphabet

Letter	Word	Pronunciation	Letter	Word	Pronunciation
A	ALPHA	<u>AL</u> -FAH	N	NOVEMBER	NO-VEM-BER
B	BRAVO	<u>BRAH</u> -VOH	O	OSCAR	<u>OSS</u> -CAHR
C	CHARLIE	<u>CHAR</u> -LEE	P	PAPA	<u>PAH</u> -PAH
D	DELTA	<u>DELL</u> -TAH	Q	QUEBEC	KEH- <u>BECK</u>
E	ECHO	<u>ECK</u> -OH	R	ROMEO	<u>ROW</u> -ME-OH
F	FOXTROT	<u>FOKS</u> -TROT	S	SIERRA	SEE- <u>AIR</u> -RAH
G	GOLF	GOLF	T	TANGO	<u>TANG</u> -GO
H	HOTEL	HOH- <u>TELL</u>	U	UNIFORM	<u>YOU</u> -NEE-FORM
I	INDIA	<u>IN</u> -DEE-AH	V	VICTOR	<u>VIK</u> -TAHR
J	JULIET	<u>JEW</u> -LEE-ETT	W	WHISKEY	<u>WISS</u> -KEY
K	KILO	<u>KEY</u> -LOH	X	X-RAY	<u>ECKS</u> -RAY
L	LIMA	<u>LEE</u> -MAH	Y	YANKEE	<u>YANG</u> -KEY
M	MIKE	MIKE	Z	ZULU	<u>ZOO</u> -LOO

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# Study Skills

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- Select a suitable study location.
- Schedule time to study. Take breaks as necessary.
- Read the material before class.
- Review the material the day after class, and again a week later.
- Do the practice questions – they are the ones on the exam!
- Research the topics – use the Internet, YouTube, libraries etc. Remember that US regulations are not the same as Canadian however!

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# Study Skills

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- Take a few notes in class – don't try to write down everything however!
- Don't fall behind!
- Don't get psyched out by math!
- Ask questions in class!
- Some of the material is pure memorization – make flash cards to study with.
- Participate in the activities of local clubs – you will pick up a lot of background knowledge.

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# Resources

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- PowerPoint presentations and links to YouTube videos available on AVARC website.
- Coax Publications website has material to assist students – need your invoice number.
- ISED website has question bank and practice exam generator.
- ANKI flashcards on Discord server.
- Members of AVARC are ready, willing and able to assist you through the Facebook group.

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# Questions?

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# Review Question 1

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Which document assigns the authority to make Canadian regulations governing radiocommunications?

- A The International Telecommunication Union's Radio Regulations
- B The Radiocommunication Act
- C The Broadcasting Act
- D The Standards for the Operation of Radio Stations in the Amateur Radio Service

Al Penney  
VO1NO

B

# Review Question 1

---

Which document assigns the authority to make Canadian regulations governing radiocommunications?

- A The International Telecommunication Union's Radio Regulations
  - B The Radiocommunication Act
  - C The Broadcasting Act
  - D The Standards for the Operation of Radio Stations in the Amateur Radio Service
- 
- B The Radiocommunication Act

Al Penney  
VO1NO

B

## Review Question 2

---

Which department is responsible for the administration of the Radiocommunication Act?

- A Innovation, Science and Economic Development Canada
- B Transport Canada
- C Communications Security Establishment Canada
- D National Defence

AI Penney  
VO1NO

A

## Review Question 2

---

Which department is responsible for the administration of the Radiocommunication Act?

- A Innovation, Science and Economic Development Canada
  - B Transport Canada
  - C Communications Security Establishment Canada
  - D National Defence
- 
- A Innovation, Science and Economic Development Canada

AI Penney  
VO1NO

A

## Review Question 3

---

An Amateur Radio Operator Certificate is valid for:

- A three years
- B one year
- C life
- D five years

Al Penney  
VO1NO

B

## Review Question 3

---

An Amateur Radio Operator Certificate is valid for:

- A three years
  - B one year
  - C life
  - D five years
- 
- C life

Al Penney  
VO1NO

C



## Review Question 4

---

What is the fee for a first Amateur Radio Operator Certificate?

- A \$10
- B \$24
- C Free
- D \$32

Al Penney  
VO1NO

C

## Review Question 4

---

What is the fee for a first Amateur Radio Operator Certificate?

- A \$10
  - B \$24
  - C Free
  - D \$32
- 
- C Free

Al Penney  
VO1NO

C

## Review Question 5

---

Which examination must be passed before an Amateur Radio Operator Certificate is issued?

- A Basic Qualification
- B A practical test
- C Morse code
- D Advanced Qualification

Al Penney  
VO1NO

A

## Review Question 5

---

Which examination must be passed before an Amateur Radio Operator Certificate is issued?

- A Basic Qualification
  - B A practical test
  - C Morse code
  - D Advanced Qualification
- 
- A Basic Qualification

Al Penney  
VO1NO

A

## Review Question 6

---

After an Amateur Radio Operator Certificate with Basic Qualification is issued, the holder may be examined for additional qualifications in the following order:

- A Morse code after passing the Basic with Honours
- B Advanced after passing Morse code
- C any order
- D Morse code after passing the Advanced

Al Penney  
VO1NO

C

## Review Question 6

---

After an Amateur Radio Operator Certificate with Basic Qualification is issued, the holder may be examined for additional qualifications in the following order:

- A Morse code after passing the Basic with Honours
  - B Advanced after passing Morse code
  - C any order
  - D Morse code after passing the Advanced
- 
- C any order

Al Penney  
VO1NO

C

## Review Question 7

---

How old must you be to hold an Amateur Radio Operator Certificate with Basic Qualification?

- A There are no age limits
- B 70 years or younger
- C 18 years or older
- D 14 years or older

Al Penney  
VO1NO

A

## Review Question 7

---

How old must you be to hold an Amateur Radio Operator Certificate with Basic Qualification?

- A There are no age limits
  - B 70 years or younger
  - C 18 years or older
  - D 14 years or older
- 
- A There are no age limits

Al Penney  
VO1NO

A



## Review Question 8

---

The call sign of a Canadian amateur radio station would normally start with the letters:

- A VA, VE, VO or VY
- B GA, GE, MO or VQ
- C A, K, N or W
- D EA, EI, RO or UY

Al Penney  
VO1NO

A

## Review Question 8

---

The call sign of a Canadian amateur radio station would normally start with the letters:

- A    VA, VE, VO or VY
- B    GA, GE, MO or VQ
- C    A, K, N or W
- D    EA, EI, RO or UY
  
- A    VA, VE, VO or VY

Al Penney  
VO1NO

A

## Review Question 9

---

What sending and receiving speed, in words per minute (wpm), must you achieve to be granted the Morse code Qualification?

- A 7 wpm
- B 15 wpm
- C 5 wpm
- D 12 wpm

Al Penney  
VO1NO

C

## Review Question 9

---

What sending and receiving speed, in words per minute (wpm), must you achieve to be granted the Morse code Qualification?

- A 7 wpm
- B 15 wpm
- C 5 wpm
- D 12 wpm
  
- C 5 wpm

Al Penney  
VO1NO

C

## Review Question 10

---

What conditions must candidates for amateur radio certification meet?

- A Be a Canadian citizen
- B Be a Canadian citizen or permanent resident
- C Be at least 14 years of age and a Canadian citizen or permanent resident
- D Have a valid address in Canada

Al Penney  
VO1NO

D

## Review Question 10

---

What conditions must candidates for amateur radio certification meet?

- A Be a Canadian citizen
  - B Be a Canadian citizen or permanent resident
  - C Be at least 14 years of age and a Canadian citizen or permanent resident
  - D Have a valid address in Canada
- 
- D Have a valid address in Canada

Al Penney  
VO1NO

D

## Review Question 11

---

The transmission of a secret code by the operator of an amateur radio station:

- A is not permitted
- B is permitted for contests
- C must be approved by Innovation, Science and Economic Development Canada
- D is permitted for third-party traffic

Al Penney  
VO1NO

A

## Review Question 11

---

The transmission of a secret code by the operator of an amateur radio station:

- A is not permitted
  - B is permitted for contests
  - C must be approved by Innovation, Science and Economic Development Canada
  - D is permitted for third-party traffic
- 
- A is not permitted

Al Penney  
VO1NO

A



## Review Question 12

---

- Which of the following topics is prohibited on an amateur radio club net?
- A Business planning
- B Recreation planning
- C Code practice planning
- D Emergency planning

Al Penney  
VO1NO

A

## Review Question 12

---

- Which of the following topics is prohibited on an amateur radio club net?
  - A Business planning
  - B Recreation planning
  - C Code practice planning
  - D Emergency planning
- 
- A Business planning

Al Penney  
VO1NO

A

## Review Question 13

---

An amateur radio station may be used to communicate with:

- A Armed Forces stations during contests and exercises
- B any station transmitting in amateur radio bands
- C stations operated under similar authorizations
- D any stations which are identified for special contests

Al Penney  
VO1NO

C

## Review Question 13

---

An amateur radio station may be used to communicate with:

- A Armed Forces stations during contests and exercises
  - B any station transmitting in amateur radio bands
  - C stations operated under similar authorizations
  - D any stations which are identified for special contests
- 
- C stations operated under similar authorizations

Al Penney  
VO1NO

C

## Review Question 14

---

What minimum qualifications must an amateur radio operator hold to assemble commercially available transmitter kits of professional design?

- A Basic
- B Basic with Honours
- C Basic and Morse code
- D Basic and Advanced

Al Penney  
VO1NO

A

## Review Question 14

---

What minimum qualifications must an amateur radio operator hold to assemble commercially available transmitter kits of professional design?

- A Basic
  - B Basic with Honours
  - C Basic and Morse code
  - D Basic and Advanced
- 
- A Basic

Al Penney  
VO1NO

A

## Review Question 15

---

What minimum qualifications must an amateur radio operator hold to install or operate a transmitter or RF amplifier that is neither professionally designed nor commercially manufactured for use in the amateur radio service?

- A Basic and Morse code
- B Basic, Advanced and Morse code
- C Basic and Advanced
- D Basic with Honours

Al Penney  
VO1NO

C

## Review Question 15

---

What minimum qualifications must an amateur radio operator hold to install or operate a transmitter or RF amplifier that is neither professionally designed nor commercially manufactured for use in the amateur radio service?

- A Basic and Morse code
  - B Basic, Advanced and Morse code
  - C Basic and Advanced
  - D Basic with Honours
- 
- C Basic and Advanced

Al Penney  
VO1NO

C



## Review Question 16

---

Which of the following call signs is a valid Canadian amateur radio call sign?

- A VA3RAC
- B SM2CAN
- C BY7HY
- D KA9OLS

Al Penney  
VO1NO

A

## Review Question 16

---

Which of the following call signs is a valid Canadian amateur radio call sign?

- A VA3RAC
  - B SM2CAN
  - C BY7HY
  - D KA9OLS
- 
- A VA3RAC

Al Penney  
VO1NO

A

## Review Question 17

---

In which region of the International Telecommunication Union is Canada located?

- A    Region 4
- B    Region 3
- C    Region 1
- D    Region 2

Al Penney  
VO1NO

D

## Review Question 17

---

In which region of the International Telecommunication Union is Canada located?

- A    Region 4
  - B    Region 3
  - C    Region 1
  - D    Region 2
- 
- D    Region 2

Al Penney  
VO1NO

D

## Review Question 18

---

A Canadian amateur radio operator, operating their station in the state of Florida, is subject to which frequency band limits?

- A Those applicable in International Telecommunication Union region 3
- B Those applicable in International Telecommunication Union region 1
- C Those applicable to United States amateur radio operators
- D Those applicable in International Telecommunication Union region 2

Al Penney  
VO1NO

C

## Review Question 18

---

A Canadian amateur radio operator, operating their station in the state of Florida, is subject to which frequency band limits?

- A Those applicable in International Telecommunication Union region 3
  - B Those applicable in International Telecommunication Union region 1
  - C Those applicable to United States amateur radio operators
  - D Those applicable in International Telecommunication Union region 2
- 
- C Those applicable to United States amateur radio operators

Al Penney  
VO1NO

C

## Review Question 19

---

A Canadian amateur radio operator, operating their station 7 kilometres offshore from the coast of Florida, is subject to which frequency band limits?

- A Those applicable in International Telecommunication Union region 1
- B Those applicable in International Telecommunication Union region 2
- C Those applicable to United States amateur radio operators
- D Those applicable to Canadian amateur radio operators

Al Penney  
VO1NO

C

## Review Question 19

---

A Canadian amateur radio operator, operating their station 7 kilometres offshore from the coast of Florida, is subject to which frequency band limits?

- A Those applicable in International Telecommunication Union region 1
  - B Those applicable in International Telecommunication Union region 2
  - C Those applicable to United States amateur radio operators
  - D Those applicable to Canadian amateur radio operators
- 
- C Those applicable to United States amateur radio operators

Al Penney  
VO1NO

C



## Review Question 20

---

In which region of the International Telecommunication Union are Australia, Japan, and Southeast Asia located?

- A     Region 2
- B     Region 4
- C     Region 3
- D     Region 1

AI Penney  
VO1NO

C

## Review Question 20

---

In which region of the International Telecommunication Union are Australia, Japan, and Southeast Asia located?

- A     Region 2
  - B     Region 4
  - C     Region 3
  - D     Region 1
- 
- C     Region 3

Al Penney  
VO1NO

C

## Review Question 21

---

- In which region of the International Telecommunication Union are Europe and Africa located?
- A     Region 3
- B     Region 4
- C     Region 1
- D     Region 2

Al Penney  
VO1NO

C

## Review Question 21

---

- In which region of the International Telecommunication Union are Europe and Africa located?
- A     Region 3
- B     Region 4
- C     Region 1
- D     Region 2
  
- C     Region 1

Al Penney  
VO1NO

C

## Review Question 22

---

- Which of these statements is NOT correct?
- A An accredited examiner may recover the cost of administering an examination
- B An accredited examiner must hold an Amateur Radio Operator Certificate with Basic, Advanced, and Morse code qualifications
- C There are no fees for taking an examination for an Amateur Radio Operator Certificate at an Innovation, Science and Economic Development Canada office
- D The fee for taking an examination for an Amateur Radio Operator Certificate at an Innovation, Science and Economic Development Canada office is \$5 per qualification

Al Penney  
VO1NO

D

## Review Question 22

---

- Which of these statements is NOT correct?
- A An accredited examiner may recover the cost of administering an examination
- B An accredited examiner must hold an Amateur Radio Operator Certificate with Basic, Advanced, and Morse code qualifications
- C There are no fees for taking an examination for an Amateur Radio Operator Certificate at an Innovation, Science and Economic Development Canada office
- D The fee for taking an examination for an Amateur Radio Operator Certificate at an Innovation, Science and Economic Development Canada office is \$5 per qualification
- D The fee for taking an examination for an Amateur Radio Operator Certificate at an Innovation, Science and Economic Development Canada office is \$5 per qualification

Al Penney  
VO1NO

D

## Review Question 23

---

In the International Telecommunication Union phonetic alphabet, what is the code word for the letter A?

- A Alfa
- B Able
- C Adam
- D America

AI Penney  
VO1NO

A

## Review Question 23

---

In the International Telecommunication Union phonetic alphabet, what is the code word for the letter A?

- A Alfa
  - B Able
  - C Adam
  - D America
- 
- A Alfa

AI Penney  
VO1NO

A



## Review Question 24

---

In the International Telecommunication Union phonetic alphabet, what is the code word for the letter R?

- A     Romeo
- B     Roger
- C     Radio
- D     Romania

Al Penney  
VO1NO

A

## Review Question 24

---

In the International Telecommunication Union phonetic alphabet, what is the code word for the letter R?

- A     Romeo
- B     Roger
- C     Radio
- D     Romania
  
- A     Romeo

Al Penney  
VO1NO

A

## Review Question 25

---

Why can't family members without qualifications transmit using your amateur radio station if they are alone with your equipment?

- A They must first know how to use the right abbreviations and Q signals
- B They must first know the right frequencies and emission modes for transmitting
- C They must hold suitable amateur radio qualifications before they are allowed to be control operators
- D They must not use your equipment without your permission

Al Penney  
VO1NO

C

## Review Question 25

---

Why can't family members without qualifications transmit using your amateur radio station if they are alone with your equipment?

- A They must first know how to use the right abbreviations and Q signals
  - B They must first know the right frequencies and emission modes for transmitting
  - C They must hold suitable amateur radio qualifications before they are allowed to be control operators
  - D They must not use your equipment without your permission
- 
- C They must hold suitable amateur radio qualifications before they are allowed to be control operators

Al Penney  
VO1NO

C

## For Next Class:

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- Review Chapter 1 of Study Guide;
- Read Chapter 2 of Study Guide; and
- Read information on ISED website:
  - **FAQs about the Amateur Radio Service:**
    - <https://ised-isde.canada.ca/site/amateur-radio-operator-certificate-services/en/frequently-asked-questions>
  - **RIC-3, Information on the Amateur Radio Service:**
    - <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/licences-and-certificates/radiocom-information-circulars-ric/ric-3-information-amateur-radio-service>

Al Penney  
VO1NO

# Questions?

Al Penney  
VO1NO

# Field Day!



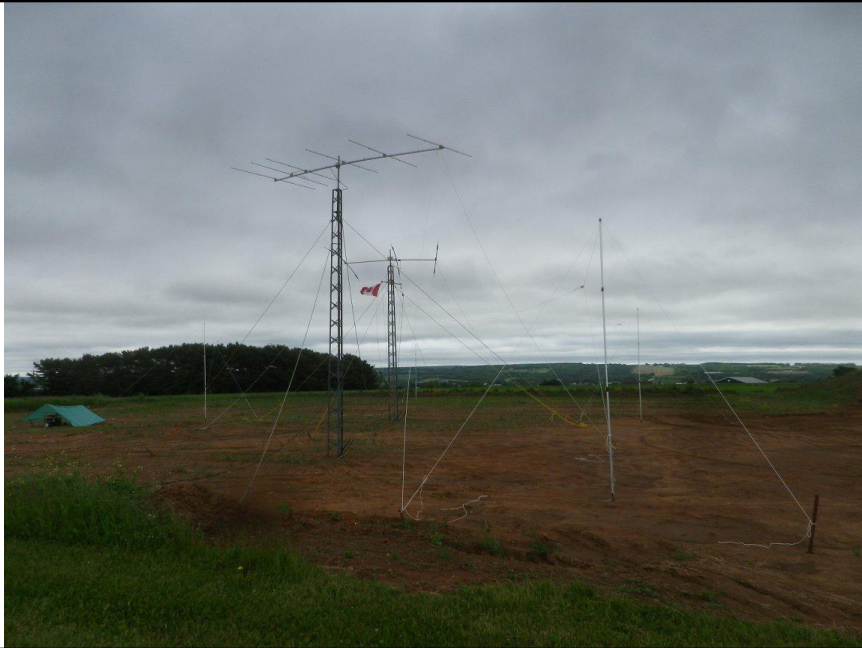
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VO1NO

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VO1NO

# Winter Field Day

Al Penney  
VO1NO



Al Penney  
VO1NO





Al Penney  
VO1NO



Al Penney  
VO1NO

# Questions?

Al Penney  
VO1NO