

# Objectives

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- Learn about the Rules and Regulations, both national and international, that govern Amateur Radio in Canada.

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## Sources

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- The first section of this presentation is based on the excellent regulations summary in the May and June 2018 editions of **The Communicator**, the monthly newsletter of the **Surrey Amateur Radio Club**.
- The second part is based on the lesson available from the **Toronto Emergency Communications Group**.

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# Radio Regulations - International

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- Radio communications regulated at international level by the **International Telecommunications 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 Telecommunications Union



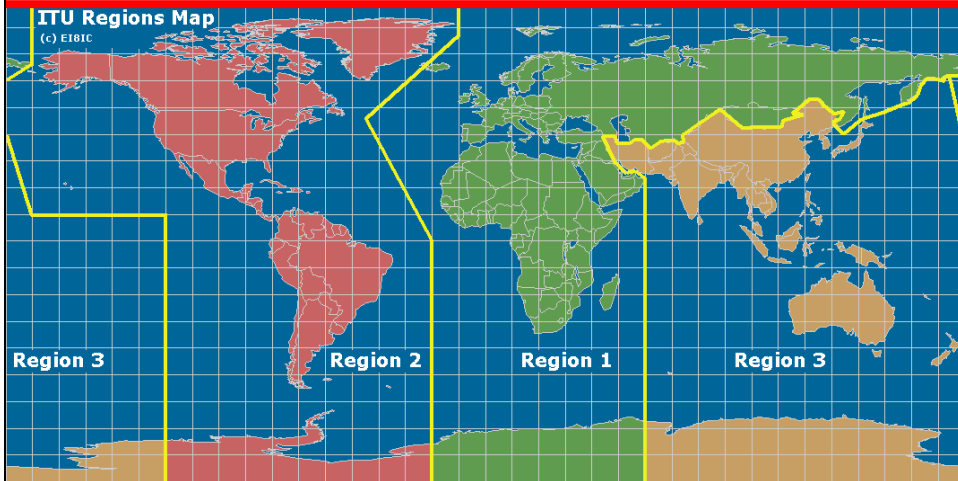
- The ITU:
  - coordinates the shared global use of the radio spectrum;
  - promotes international cooperation in assigning satellite orbits;
  - works to improve telecommunication infrastructure in the developing world; and
  - assists in the development and coordination of worldwide technical standards.

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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.

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

- **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**.
- Individuals without pecuniary interest for:
  - Self-training;
  - Intercommunication; and
  - Technical investigation.
- Amateurs do not have access to the rule-making process however.
- All conflicts and concerns are resolved through recognized third parties.

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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.

## 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 DC input, or 560 watts PEP on SSB**
  - 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 before you can operate on the air.
- Extra privileges:
  - Can **build** and operate transmitters;
  - Can operate **repeaters** and **automated** stations;
  - Can use **higher power**; and
  - Can **sponsor** club stations,

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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 limited to own geographic area.
- **NO EXEMPTIONS** to writing the exam.

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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 Industry Canada website!
  - [http://www.ic.gc.ca/eic/site/025.nsf/eng/h\\_00043.html](http://www.ic.gc.ca/eic/site/025.nsf/eng/h_00043.html)
- IC website has a practice exam generator
  - [http://www.ic.gc.ca/eic/site/025.nsf/eng/h\\_00040.html](http://www.ic.gc.ca/eic/site/025.nsf/eng/h_00040.html)

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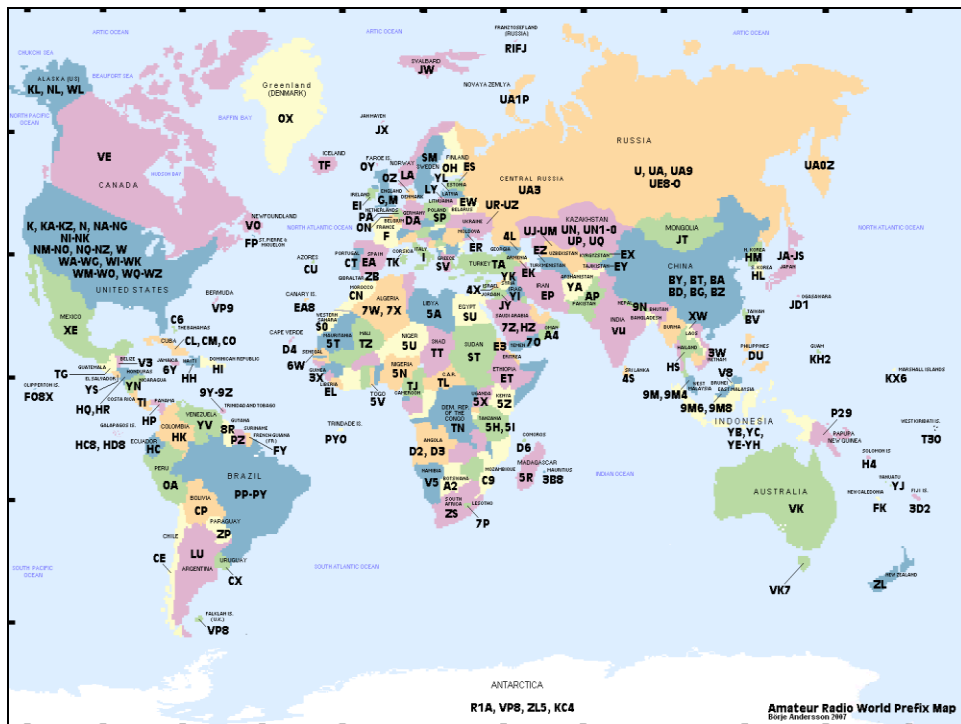
# Canadian Amateur Prefixes

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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.

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.

# ISED Terminology

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- **Radiocommunication Act (RA):** (Canada) The authority to make regulations and set standards for the operation of radio stations in Amateur Radio. It also outlines fines and penalties for contraventions of the Act.
- **Radiocommunication Regulations. (RR):** (Canada) Define the Amateur Radio Service.

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# ISED Radio Information Circulars

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- **Radio Information Circular 1 (RIC-1):** Guide for Examiners Accredited to Conduct Examinations for the Amateur Radio Operator Certificate.
- **RBR-4 (was RIC-2):** Standards for the Operation of Radio Stations in the Amateur Radio Service.
- **Radio Information Circular 3 (RIC-3):** Reciprocal Operating and Third Party Traffic Agreements and Arrangements in the Amateur Radio Service.

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# ISED Radio Information Circulars

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- **Radio Information Circular 7 (RIC-7):** Basic Qualification Question Bank for Amateur Radio Operator Certificate Examinations.
- **Radio Information Circular 9 (RIC-9):** Call Sign Policy and Special Event Prefixes.
- **Radio Information Circular 24 (RIC-24):** Information on the Amateur Operator's Certificate Examinations
- **CEPT Agreement** - Amateur Radio Licence for Canadian hams in signatory foreign countries.

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## CEPT Permits

### Temporarily Operating Canadian Amateur Stations in Other Countries

Pending updates, Radio Amateurs of Canada continues, under delegated authority from Innovation, Science and Economic Development Canada (formerly Industry Canada), to issue CEPT and IARP permits to Canadian Amateurs wishing to operate while traveling abroad. Please refer to Section 8 of Radiocommunication Information Circular (RIC-3) for details on which permit, if any, applies or is required.

#### [Section 8 of Radiocommunication Information Circular-RIC-3](#)

For travel to countries other than the USA and its territories and which are not signatories to either the CEPT or IARP recommendations, Canadian Amateurs should contact the administration of the foreign country directly for authorization. Information and application can often be carried out by email or web form.

# ISED Termonology

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- **Control Operator:** An amateur operator designated by the licensee of a station to be responsible for the transmissions from that station to assure compliance with the Radiocommunication Regulations.

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# ISED Terminology

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- **Dwelling House:** Means the whole or any part of a building or structure that is kept or occupied as a permanent or temporary residence, and includes:
  - (a) a building within the curtilage [an enclosed area] of a dwelling-house that is connected to it by a doorway or by a covered and enclosed passage-way, and
  - (b) a unit that is designed to be mobile and to be used as a permanent or temporary residence and that is being used as such a residence

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# ISED Regulations Summary

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- In Canada, the authority to make Radiocommunication Regulations is derived from the **Radiocommunication Act**.
- Authority to make Standards for the Operation of Radio Stations in the Amateur Service is also derived from the **Radiocommunication Act**.
- The Department that is responsible for the **administration** of the Radiocommunication Act is **Industry Canada** (now **Innovation, Science and Economic Development – ISED**).

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# ISED Regulations Summary

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- The **amateur radio service** is defined in the **Radiocommunication Regulations**.
- In addition to complying with the Radiocommunication Act, the Radiocommunication Regulations, Canadian radio amateurs must also comply with the **regulations of the International Telecommunication Union (ITU)**.

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# ISED Regulations Summary

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- ITU Radio Regulations requires the administration of the various membership countries to take such measures as they judge necessary to **verify the operational and technical qualification** of amateurs.
- The ITU Radio Regulations limit those radio amateurs, who have not demonstrated proficiency in Morse code to frequencies above 30 MHz.

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# ISED Regulations Summary

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- Canada along with the rest of North and South America is in **ITU Region 2**.
- Australia, Japan and Southeast Asia are in ITU Region 3.
- Europe, Africa and the former Soviet Union are in ITU Region 1.

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# ISED Regulations Summary

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- If a Canadian amateur operates his/her station in another country, he/she must **comply with that country's rules and regulations**. Sort of *when in Rome do what the Romans do*.
- There are three different qualifications that you can obtain in amateur radio. They are:
  - **Basic** Qualification
  - **Advanced** Qualification
  - **5 word per minute** (5 wpm) Morse Code Qualification.

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## ISED Regulations Summary

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- Even if you have all the other qualifications, you **must obtain the Basic Qualification** in order to qualify for the Amateur Radio Operator Certificate.
- **You may take the qualifications in any order.** You will **not attain operating privileges** however, until you obtain your Basic Qualification.
- The now defunct Amateur Digital Radio Operator's Certificate equates to having the Basic and Advanced Qualifications.

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# ISED Regulations Summary

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- When issued your Amateur Radio Operator Certificate, it is **valid for life**.
- Once you have obtained your Amateur Radio Operator Certificate, you are **authorized to operate a radio station** in the amateur service according to the restrictions of that certificate.

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# ISED Regulations Summary

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- In July of 2005, Industry Canada modified the requirements for operating within the HF bands as follows:
  - **Morse code will no longer be the sole additional requirement** by which Canadian radio amateurs will gain access to the HF bands, but it will remain as **one valid criterion**.
  - Amateurs showing superior knowledge of operational, technical and regulatory requirements by attaining an **80% score** on the basic exam or passing the advanced exam, will also be **granted access to the HF bands**.

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# ISED Regulations Summary

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- **"Grandfathering"** of existing amateurs will be based on the following criteria:
  - I. Amateurs certified after April 1, 2002, who have demonstrated a superior knowledge of operational, technical and regulatory requirements by achieving a mark on the basic examination of 80% or above will be allowed to operate in the HF bands below 30 MHz.
  - II. Amateurs certified prior to April 2, 2002 will be allowed to operate in the HF bands below 30 MHz based on the experience and knowledge they have acquired.
  - III. Amateurs holding basic and advanced qualifications will be allowed to operate in the HF bands below 30 MHz.

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## ISED Regulations Summary

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- Radio apparatus may be installed, placed in operation, repaired or maintained by the holder of an Amateur Radio Operator Certificate with Basic, Basic plus 5 wpm, or Advanced Qualification on behalf of another person if the other person is the holder of a radio authorization to operate in the amateur radio service. **You may not install, put in operation, modify, repair, maintain or permit the operation of a radio apparatus for a person who does not have a radio authorization to operate in the amateur service.**

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## ISED Regulations Summary

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- It doesn't matter how little the power output of a transmitter is, **it must be licensed** at all locations.
- An amateur station may only communicate with **similarly licensed stations**.
- The holder of an Amateur Radio Operator Certificate with the **Advanced Qualification** may build transmitting equipment for use in the amateur radio service.

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## ISED Regulations Summary

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- There are **no age restrictions** for applying for an Amateur Radio Operator Certificate.
- The Amateur Radio Operator Certificate must be **retained at your station**.
- When you change your postal address you must inform Industry Canada within **30 days** of your new postal address.
- The holder of an Amateur Radio Operator Certificate may install or operate radio apparatus **at any location in Canada**.

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## ISED Regulations Summary

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- Amateur radio operators must use only the **minimum** legal transmitter power necessary to communicate.
- An amateur with **Basic**, or the **Basic plus 5 w.p.m.** Qualification is restricted to a **maximum of 250 watts DC input power to the anode or collector circuit of the final RF stage of the transmitter (560 watts PEP output for SSB signals) on all bands.**

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## ISED Regulations Summary

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- An amateur with an Amateur Radio Operator Certificate plus the **Advanced qualifications** is restricted to a maximum **1000 watts DC (2250 watts PEP when using SSB)** power input to the **anode or collector circuit of the final RF stage of the transmitter** on those bands that his/her qualifications allow.
- Power measurements are made at the **antenna terminals of the transmitter or amplifier.**

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# ISED Regulations Summary

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- When operating on all frequencies below 148 MHz the frequency stability of the transmitter must be comparable to **crystal control**.
- A reliable means to prevent or indicate **overmodulation** must be employed at an amateur station if radiotelephony is used. The maximum percentage of modulation that is allowed using radiotelephony is **100 percent**.

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# ISED Regulations Summary

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- All amateur stations, regardless of the mode of transmission used, must be equipped with a **reliable means of determining the operating radio frequency.**
- An amateur radio station that automatically re-transmits the signals of other amateur radio stations is known as a **repeater.**

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## ISED Regulations Summary

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- Radiotelephone signals in a **band below 29.5 MHz cannot be automatically retransmitted**, unless these signals are received from a station operated by a person **qualified to transmit on frequencies below the above mentioned frequency**.

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# ISED Regulations Summary

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- Radiotelephone signals may be retransmitted in the 29.5-29.7 MHz band and in all the VHF/UHF bands when received from a station operating in a VHF/UHF band from a person with only the Basic qualification. **Retransmission of a signal received from holder of a Basic only qualification operating in the VHF/UHF bands is not allowed below 29.5 MHz.**

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## ISED Regulations Summary

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- An **unmodulated carrier** may only be transmitted for **brief periods below 30 MHz**. This is usually for station adjustment purposes.
- In order to install any radio apparatus, to be used specifically for receiving and automatically retransmitting radiotelephone communications (**repeaters**) within the same frequency band, a radio amateur must hold an **Amateur Radio Operator Certificate** with a minimum of the **Basic and Advanced Qualification**.

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## ISED Regulations Summary

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- In order to install any radio apparatus, to be used specifically for an **amateur radio club station**, the radio amateur must hold an Amateur Radio Operator Certificate with a **minimum of the Basic and Advanced Qualification**.
- In order to **install or operate a transmitter or RF amplifier** that is **not commercially manufactured** for use in the amateur service, a radio amateur must hold the Amateur Radio Operator Certificate with the minimum of the **Basic and Advanced Qualification**.

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## ISED Regulations Summary

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- The holder of an Amateur Radio Operator Certificate **must comply** with the authority that that certificate bestows on the operator and station owned by the operator.
- **Both the station licensee and the control operator** are responsible for the proper operation of an amateur radio station and **normally this is the same person**, you, however if you are using someone else's station, then **both of you**

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## ISED Regulations Summary

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- As a station owner, **you are responsible** for the proper operation of the station in accordance with the regulations. A control operator **may be any qualified amateur chosen by the station owner**. A station **must have a control operator** whenever the station is transmitting, be it yourself or someone qualified chosen by you, the owner. The control operator must be at the station's control point.

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## ISED Regulations Summary

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- The owner of an amateur station **may allow anyone** to operate the station **under the supervision** and in the **presence of the holder of the amateur operator certificate**. This is known as **third party communications** and you must continuously monitor and supervise the third parties participation.

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# ISED Regulations Summary

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- If you allow **another amateur** with additional qualification than yours control your station he/she is **only allowed** the **operating privileges of your Amateur Radio Operator Certificate**.
- If **you are the control operator** of a station of another amateur who has **additional qualifications** to yours, you are allowed the operating privileges of that **additional qualification**.

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# ISED Regulations Summary

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- A transmission that disturbs other communications is called **harmful interference**. You are **not allowed to disturb** another station's communications.

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## ISED Regulations Summary

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- In the event of interference to a neighbor's radio receiver, stereo, VCR, TV set or other "radio sensitive equipment" capable of receiving RF signals, if the **field strength of the amateur station is below 1.83 volts per meter**, it will be deemed that the affected equipment's **lack of immunity is the cause**. However if the field strength of the amateur station **exceeds 1.83 volts per meter**, it will be deemed that the **amateur's transmission is the cause of the problem**.

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## ISED Regulations Summary

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- **Radio-sensitive** equipment is considered to be "any device, machinery or equipment, other than radio apparatus, the use or functioning of which is, or can be, **adversely affected by radiocommunications emissions**". These may include electronic organs, microwave ovens, furnace controllers and a host of other non-radio type of equipment.

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# ISED Regulations Summary

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- Where interference to the reception of radiocommunications is **caused by the operation of an amateur station**, the Minister may require that **necessary steps** for the prevention of the interference be taken by the **radio amateur**.

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## ISED Regulations Summary

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- If regulations say that the amateur service is a secondary user of a frequency band, and another service is a primary user, this means amateurs are allowed to use the frequency band **only if they do not cause interference to primary users**. Two of the bands where the amateur service is secondary users are **440.0 to 450.0 MHz** and **902 to 928 MHz**.

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## ISED Regulations Summary

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- There are **several other bands** above these lowest two where the radio amateur has secondary user status. See **Schedule 1 of RIC-2** later for the other bands.
- If two amateur stations want to use the **same frequency at the same time**, it should be remembered that **both station operators** have an **equal right** to operate on the frequency and some arrangement should be worked out to avoid conflict.

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# ISED Regulations Summary

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- Out of band operations is **not allowed** by any amateur radio operator.
- A radio amateur **may not operate**, or permit to be operated, a radio apparatus, which he knows is **not performing to the Radiocommunication Regulations tolerances**.

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## ISED Regulations Summary

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- A person may operate or permit the operation of a radio apparatus **only** where the apparatus is maintained to the **Radiocommunication Regulations tolerances**. These standards are the performance standards set by Industry Canada regulations and policies.

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## ISED Regulations Summary

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- **No person** shall possess or operate any device, for the purpose of **amplifying** the output power of a **licence-exempt radio apparatus**.
- A person may operate an amateur radio station when the person **complies** with the **Standards for the Operation of Radio Stations in the Amateur Radio Service**.

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# ISED Regulations Summary

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- While in Canada, the station licensed by the government of the United States shall identify his station by:
  - By transmitting the **call sign assigned by the FCC**.
  - By adding to his call sign the **Canadian call sign prefix** for the **geographic location** of the station.
  - By radiotelephone, adding to the call sign the word **“portable” or “mobile”** or by radio telegraphy adding the **oblique character /**.

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# ISED Regulations Summary

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- When communicating with a foreign country, only messages of a **technical nature** or **personal remarks of relative unimportance** should be sent.

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# ISED Regulations Summary

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- Amateur radio communication should only be of a technical or personal nature. You are **not allowed to**:
  - **Conduct business** planning on amateur radio.
  - **Broadcast** information to the **general public**.
  - **Retransmit music or signals** originating from a **non-amateur station**.
  - Originate music or other **broadcast type signals** from an amateur station.
  - Use **secret codes** in order to obscure the meaning of a message.
  - Transmit **profane or obscene** language or messages.

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# ISED Regulations Summary

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- You are **not allowed to divulge** any radio communications **unless** it is from a broadcast station or another amateur radio station
- **No person shall send** or cause to be sent a **false, fraudulent or deceptive signal** such as MAYDAY when no such emergency exists.
- **No person shall decode an encrypted subscription** programming signal **without permission** of the lawful distributor.

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## ISED Regulations Summary

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- **No person shall**, without lawful excuse, **interfere with or obstruct** any radio communication
- A person **found guilty** of transmitting a false or fraudulent distress signal, or interfering with, or obstructing any radio communication, without lawful cause, may be liable, **on summary conviction, to a penalty of a fine, not exceeding \$25,000, or a prison term, or both.**

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## ISED Regulations Summary

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- The holder of a radio authorization shall, **at the request of a duly appointed radio inspector**, show that radio authorization, or a copy thereof, to the inspector, **within 48 hours of the request**.

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## ISED Regulations Summary

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- A duly appointed radio inspector may request to inspect a radio station. The person in charge of a place entered by a radio inspector **shall give the inspector information that the inspector requests**. Where entry is refused, and it is necessary to perform his duties under the Act:
  - In executing a warrant, **a radio inspector shall not use force, unless accompanied by a peace officer, and force is authorized.**

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# ISED Regulations Summary

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- The Minister **may suspend a radio authorization**, upon notice and with the opportunity to make representation thereto:
  - Where the authorization was obtained through **misrepresentation**.
  - Where the holder has **contravened the Act or Regulations**.
  - Where the holder has **contravened the terms and conditions of the radio authorization**.

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# ISED Regulations Summary

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- The minister **may suspend or revoke** a radio authorization **WITHOUT NOTICE** where the holder has **failed to comply** with a request to pay fees or interest due.
- Any abbreviation may be used as long as it **doesn't obscure the meaning of the communication.**

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# ISED Regulations Summary

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- The following one-way communications are authorized in the amateur service:
  - **Telecommands** to model craft on **all amateur bands above 30 MHz.**
  - **Brief transmissions** to make **adjustments** to the station below 30 MHz.
  - **Morse code practice.**
  - A **beacon station** in the amateur radio service.

Al Penney  
VO1NO

# ISED Regulations Summary

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- The following are **exceptions** from penalties under the Radiocommunication Act:
  - Where it is for the purpose of **preserving or protecting property**, or for the prevention of **harm to a person**.
  - Where it is for the **purpose of giving evidence in a criminal or civil proceeding** in which persons are required to give evidence.
  - Where it is **on behalf of Canada**, for the purpose of **international or national defense or security**.

Al Penney  
VOINO



# ISED Regulations Summary

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- Amateur radio stations may communicate with any station involved in a **real or simulated emergency**.
- In the amateur radio service, business communications are only permitted if they are for the **safety of life or immediate protection of property**.
- If you hear an unanswered distress signal on an amateur band **you should offer assistance**.

Al Penney  
VO1NO

# ISED Regulations Summary

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- In the amateur radio service, it is **permissible** to **broadcast radio communications** required for the **immediate safety of life of individuals or the immediate protection of property**.
- An amateur radio station in **distress** may **use any means of radiocommunications**.

Al Penney  
VOINO

# ISED Regulations Summary

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- During a **disaster**, an amateur station may **make transmissions necessary to meet essential communications needs and assist relief operations when normal communication systems are overloaded, damaged or disrupted.**
- During an emergency, there are **no limitations to an amateur radio stations output power.**

Al Penney  
VO1NO

## ISED Regulations Summary

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- During a disaster, most communications are handled by **nets**, using predetermined frequencies in the amateur bands. Operators **not directly involved** with disaster communications **are requested to avoid making unnecessary transmissions on or near frequencies** being used for disaster communications.

Al Penney  
VO1NO

# ISED Regulations Summary

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- Messages from **recognized public service agencies** may be handled by amateur radio stations during **peace time and civil emergencies and exercises**.
- It is **permissible to interfere** with the working of another station **if your station is directly involved with a distress situation**.

Al Penney  
VO1NO

# ISED Regulations Summary

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- The operator of an amateur station **shall not accept nor demand any remuneration** in any form, in respect of a radiocommunications that the person transmits or receives.
- There are **no fees** associated with the **issuing of your Amateur Radio Operator Certificate** or **any of your upgrades**, or the **issuing of a new call sign if you move to another province** or **your Amateur Radio Operator Certificate is lost or destroyed**.

Al Penney  
VO1NO

# ISED Regulations Summary

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- The **fee** for taking an examination given by **an accredited examiner** is to be **negotiated** between the accredited examiner and the candidate.
- The fee for taking examinations at **Industry Canada** is **\$20 per qualification**.
- An accredited examiner must hold the **Amateur Radio Operator Certificate with Basic, 5 w.p.m. and Advanced qualifications**.

Al Penney  
VO1NO

# ISED Regulations Summary

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- Examinations for **disabled candidates** may be given **orally**, or **tailored to the candidate's ability** to complete the examination.
- A disabled candidate **must pass a normal radio amateur certificate examination** before being granted any qualification.

Al Penney  
VOINO



# ISED Regulations Summary

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- An amateur radio station must use his **call sign** to identify his station at the **start and the end of a communications** with another station and at **intervals no greater than 30 minutes** during an ongoing communication.
- You must use **your call sign to identify your station**. There is no requirement to use the other station's call sign in your communications. **Each station must transmit its own call sign.**

Al Penney  
VOINO

## ISED Regulations Summary

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- The **only exception for not using your call sign** is when the transmission is **telemetry, digital or similar type of transmission** to a **radio control model**. These types of transmissions are only allowed on amateur bands **above 30 MHz**.
- Call signs are to be sent in **English or French**, either one of Canada's two official languages.

Al Penney  
VO1NO

## ISED Regulations Summary

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- Amateur **third party communications** is the transmission of **non-commercial or personal** messages **to or on behalf of a third party**. These are messages sent to a **non-amateur via an amateur station**.
- A message originating from the **Canadian Forces Affiliated Radio Service (CFARS)** or the **United States Military Radio System (MARS)** are **not considered** to be **third party messages**, even though the messages originated from a non-amateur station.

Al Penney  
VO1NO

## ISED Regulations Summary

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- A person operating a Canadian amateur station is **forbidden to communicate** with amateur stations of another country when that country has **informed the International Telecommunication Union that it objects to such communications.**
- International communications on behalf of third a party may be transmitted by an amateur station **only if the countries concerned have authorized such communications.**

Al Penney  
VO1NO

## ISED Regulations Summary

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- If a non-amateur friend is using your station under your control and supervision to talk to someone in Canada, and a foreign station breaks in to talk to your friend, **you must ask your friend to wait until you find out if Canada has a third party agreement with the foreign station's government.**

Al Penney  
VO1NO

# Antenna/Tower Installations

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- Antenna structures have become a concern in many communities and as a result are **regulated by various authorities** in communities across Canada. Concerns can also be raised by **neighbors**, and their concerns should also be considered when planning antenna or tower installations. Gone are the days when we could do basically what we want to do.

Al Penney  
VOINO

# Antenna/Tower Installations

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- Antennas are classified as two types as far as their physical structures and locating are concerned and as a result, different rules apply.
  - **Type 1 (site specific) antennas are the large broadcasting structures**
  - **Type 2 (non-site specific) are the structures that amateur radio stations install.**

Al Penney  
VO1NO

## Antenna/Tower Installations

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- Industry Canada is **not normally involved with Type 2 structures** but local land-use authorities and your neighbors may be of concern to you. You should contact both your **local land-use authority and your neighbors before any antenna installation**, and if you fail to do so, you must accept any consequences for your actions.

Al Penney  
VOINO



## Antenna/Tower Installations

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- The following statements cover all the questions on this subject in the Basic Question Bank.
- There is **no requirement** to receive **prior approval from Industry Canada** to construct an antenna or its structure.
- Prior to an installation of an antenna or structure, for which community concerns could be raised, **radio amateurs should consult with their land-use authority.**

Al Penney  
VO1NO

## Antenna/Tower Installations

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- Industry Canada expects radio amateurs to **address community concerns in a responsible manner and to consider land-use authority requests.**
- If a radio amateur erects an antenna structure **without consulting** the land-use authority, he/she must **accept any consequences.**
- For the purpose of environmental filing, amateur stations are considered to be **Type 2** (non- site specific).

Al Penney  
VO1NO

# Q Codes

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- **QRS** - Shall I send more slowly?
- **QTH** - What is your position?
- **QRL** - Are you busy?
- **QRM** - Are you being interfered with?
- **QRN** - Are you troubled by static?
- **QRZ** - Who is calling me?
- **QRX** - When will you call me again?

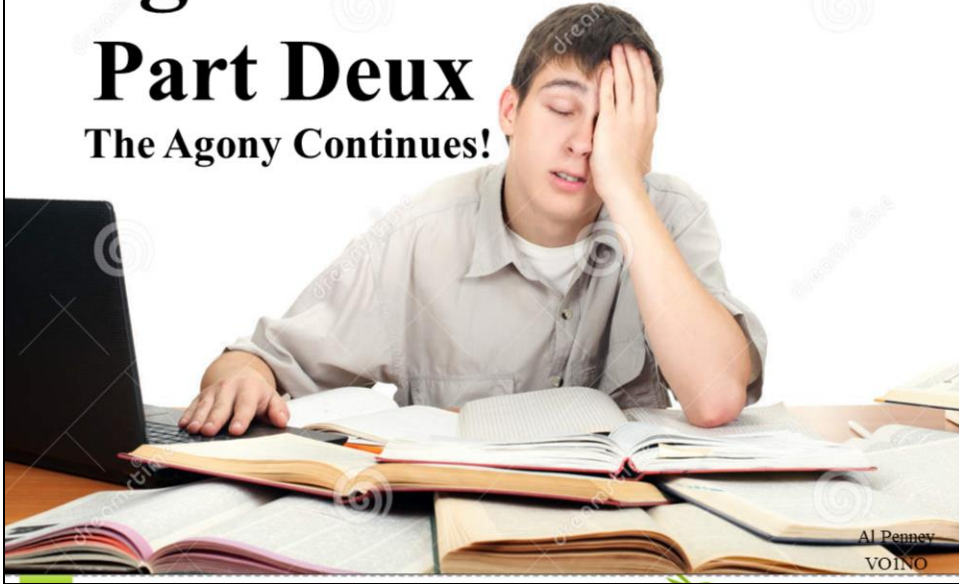
Al Penney  
VO1NO

<http://www.arrl.org/files/file/Get%20on%20the%20Air/Comm%20w%20Other%20Hams-Q%20Signals.pdf>

# Regulations

## Part Deux

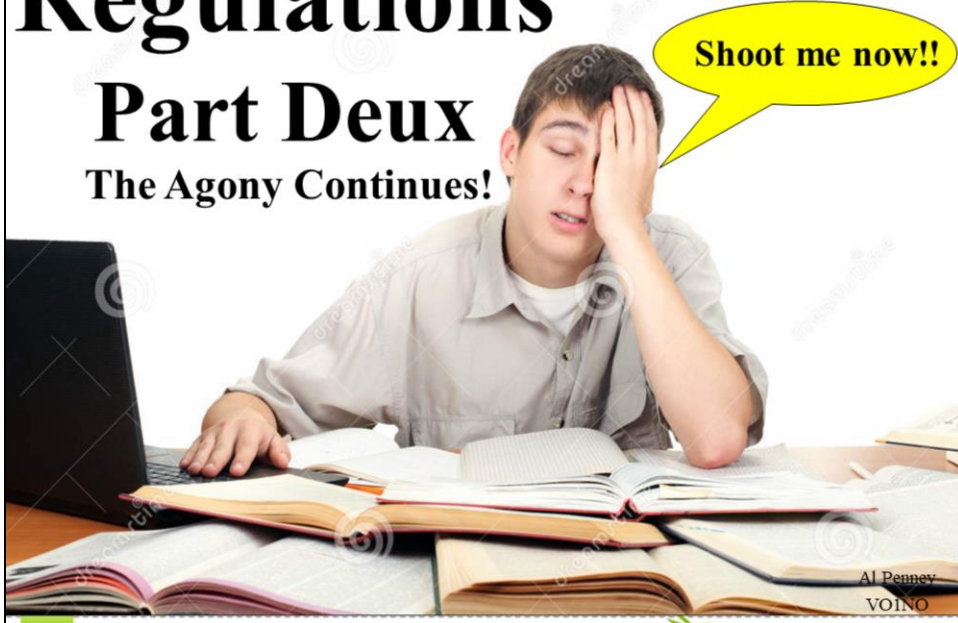
The Agony Continues!



# Regulations

## Part Deux

The Agony Continues!



### **1-1) Radio Licences, Applicability, Eligibility of Licence Holder**

- Authority to make "Radiocommunication Regulations" is derived from **the Radiocommunication Act.**
- Authority to make "Standards for the Operation of Radio Stations in the Amateur Radio Service" is derived from **the Radiocommunication Act.**
- The Department that is responsible for the administration of the Radiocommunication Act is **Industry Canada.**
- The "amateur radio service" is defined in **the Radiocommunication Regulations.**

Al Penney  
VO1NO

## **1-2) Licence Fee, Term, Posting Requirements, Change of Address**

- The Amateur Radio Operator Certificate should be retained **at the address notified to Industry Canada**
- Whenever a change of address is made **Industry Canada must be advised of any change in postal address**
- An Amateur Radio Operator Certificate is **valid for life**
- The fee for an Amateur Radio Operator Certificate is **free**
- The holder of a radio authorization shall, at the request of a duly appointed radio inspector, show the radio authorization, or a copy thereof, to the inspector, within **48 hours** after the request
- Out of amateur band transmissions are prohibited - **penalties could be assessed to the control operator**

Al Penney  
VO1NO

### **1-3) Licence Suspension or Revocation, Powers of radio Inspectors, Offences & Punishments**

- If an amateur pretends there is an emergency and transmits the word "MAYDAY," this is called **False or deceptive signals**
- A person found guilty of transmitting a false or fraudulent distress signal, or interfering with, or obstructing any radio communication, without lawful cause, may be liable, on summary conviction, to a penalty of: **a fine, not exceeding \$25 000, or a prison term of one year, or both**
- The Minister may suspend or revoke a radio authorization WITHOUT NOTICE: **where the holder has failed to comply with a request to pay fees or interest due**

Al Penney  
VOINO



#### **1-4) Operators Certificates, Applicability, Eligibility, Equivalents, Reciprocal Recognition**

- There are **no age limit** on who can hold an Amateur Radio Operator Certificate with Basic Qualification.
- A **basic examination** must be passed before an Amateur Radio Operator Certificate is issued.
- The holder of an Amateur Digital Radio Operator's Certificate **has equivalency for the Basic and Advanced qualifications.**
- After an Amateur Radio Operator Certificate with Basic qualifications is issued, the holder may be examined for additional qualifications **in any order.**

Al Penney  
VO1NO

- One Morse code qualification is available for the Amateur Radio Operator Certificate. It is: **5 w.p.m.**
- The holder of an Amateur Radio Operator Certificate with Basic Qualification is authorized to operate the following stations: **a station authorized in the amateur service.**

Al Penney  
VO1NO

### **1-5) Operation, Repair & Maintenance of Radio Apparatus On Behalf of Other Persons**

- Radio apparatus may be installed, placed in operation, repaired or maintained by the holder of an Amateur Radio Operator Certificate with Advanced Qualification on behalf of another person: **if the other person is the holder of a radio authorization to operate in the amateur radio service.**
- The holder of an Amateur Radio Operator Certificate may build transmitting equipment for use in the amateur radio service provided that person has the: **Advanced qualification.**

Al Penney  
VO1NO

- Where a friend is not the holder of any type of radio operator certificate, you, as a holder of an Amateur Radio Operator Certificate with Basic Qualification, may, on behalf of your friend: **not install, place in operation, modify, repair, maintain, or permit the operation of the radio apparatus.**
- A radio amateur with Basic and 5 w.p.m. Morse qualifications may install an amateur station for another person: **only if the other person is the holder of a valid Amateur Radio Operator Certificate.**

Al Penney  
VO1NO

### **1-6) Operation of Radio Apparatus, Terms of Licence, Applicable Standards, Exempt Apparatus**

- An amateur station with a maximum input to the final stage of 2 watts: **must be licensed at all locations.**
- An amateur station may be used to communicate with: **similarly licensed stations.**
- A radio amateur may not transmit **superfluous signals**
- A radio amateur may not transmit **profane or obscene language or messages.**

Al Penney  
VO1NO

- A radio amateur may not operate, or permit to be operated, **a radio apparatus which he knows is not performing to the Radiocommunication Regulations.**
- No person shall possess or operate any device, for the purpose of amplifying the output power of **a licence-exempt radio apparatus.**
- A person may operate or permit the operation of radio apparatus only where the apparatus is **maintained to the Radiocommunication Regulations tolerances.**

Al Penney  
VOINO

### **1-7) Content Restrictions – Non-Superfluous, Profanity, Secret Code, Music, Non-Commercial**

- **Business planning** CANNOT be discussed on an amateur club net.
- A radio amateur **Never** allowed to broadcast information to the general Public.
- False or deceptive amateur signals or communications may **Never** be Transmitted.
- An amateur station in two-way communication may **Never** transmit a message in a secret code in order to obscure the meaning of the communication.

Al Penney  
VOINO

### **1-8) Installation and Operating Restrictions – Number of stations, Repeaters, Home-Built, Club Stations**

- The holder of an Amateur Radio Operator Certificate operate an amateur radio station **anywhere** in Canada.
- A Beacon station **Only** may transmit one-way communications.
- In order to install any radio apparatus, to be used specifically for receiving and automatically retransmitting radiotelephone communications within the same frequency band, a radio amateur must hold an Amateur Radio with a minimum of **Basic and Advanced qualifications**.

Al Penney  
VO1NO



- In order to install any radio apparatus, to be used specifically for an amateur radio club station, the radio amateur must hold an Amateur Radio Operator Certificate, with a minimum of the following qualifications: **Basic and Advanced**.
- In order to install or operate a transmitter or RF amplifier that is not commercially manufactured for use in the amateur service, a radio amateur must hold an Amateur Operator's Certificate, with a minimum of **Basic and Advanced**.

Al Penney  
VO1NO

### **1-9) Participation in Communications by Visitors, Use of Station by Others**

- **Both the control operator and the station licensee** is responsible for the proper operation of an amateur station.
- The owner of an amateur station may: **permit any person to operate the station under the supervision and in the presence of the holder of the amateur operator certificate.**

Al Penney  
VOINO

### **1-10) Interference, Determination, Protection from Interference**

- You may **Never** deliberately interfere with another station's communications.
- If the regulations say that the amateur service is a secondary user of a frequency band, and another service is a primary user, **Amateurs are allowed to use the frequency band only if they do not cause interference to primary users.**
- What rule applies if two amateur stations want to use the same frequency? **Both station operators have an equal right to operate on the frequency.**

Al Penney  
VOINO

- Where interference to the reception of radiocommunications is caused by the operation of an amateur station: **the Minister may require that the necessary steps for the prevention of the interference be taken by the radio amateur.**
- Radio amateur operations are not protected from interference caused by another service operating in the following frequency bands **902 to 928 MHz.**

Al Penney  
VO1NO

### **1-11) Emergency Communications (Real or Simulated), Communications with Non-Amateur Stations**

- Amateur radio stations may communicate: **with any station involved in a real or simulated emergency.**
- In the amateur radio service, business communications: **are not permitted under any circumstance.**
- If you hear an unanswered distress signal on a amateur band where you do not have privileges to communicate: **you should offer assistance.**
- In the amateur radio service, it is permissible to broadcast: **radio communications required for the immediate safety of life of individuals or the immediate protection of property.**
- An amateur radio station in distress may use: **any means of radiocommunication.**

Al Penney  
VOINO

### **1-11) Emergency Communications (Real or Simulated), Communications with Non-Amateur Stations**

- During a disaster, when may an amateur station make transmissions necessary to meet essential communication needs and assist relief operations? **When normal communication systems are overloaded, damaged or disrupted.**
- There are **no power limitations** during an emergency.
- During a disaster: **most communications are handled by nets using predetermined frequencies in amateur bands. Operators not directly involved with disaster communications are requested to avoid making unnecessary transmissions on or near frequencies being used for disaster communications.**

Al Penney  
VOINO

- Messages from recognized public service agencies may be handled by amateur radio stations: **during peace time and civil emergencies and exercises.**
- It is permissible to interfere with the working of another station if: **your station is directly involved with a distress situation.**

Al Penney  
VO1NO

### **1-12) Non-remuneration, Privacy of Communications**

- **No payment of any kind** is allowed for third-party messages sent by an Amateur Station.
- Radiocommunications transmitted by stations other than a broadcasting station may be divulged or used: **if it is transmitted by an amateur station.**
- The operator of an amateur station: **shall not demand or accept remuneration in any form, in respect of a radiocommunication that the person transmits or receives.**

Al Penney  
VO1NO



### **1-13) Station Identification, Callsigns, Prefixes**

- An amateur station must identify: **At least every thirty minutes, and at the beginning and at the end of a contact.**
- You must transmit **your call sign** to identify your amateur station.
- When may an amateur transmit unidentified communications?  
**Never, except to control a model craft.**
- What language may you use when identifying your station? **English or French.**
- The call sign of a Canadian amateur radio station would normally start with the letters: **VA, VE, VO or VY**

Al Penney  
VO1NO

### **1-14) Foreign Amateur Operation in Canada, Banned Countries, Third-Party Messages**

- If a non-amateur friend is using your station to talk to someone in Canada, and a foreign station breaks in to talk to your friend, what should you do? **Have your friend wait until you find out if Canada has a third-party agreement with the foreign station's Government.**
- If you let an unqualified third party use your amateur station, what must you do at your station's control point? **You must continuously monitor and supervise the third party's participation.**

Al Penney  
VO1NO

- A person operating a Canadian amateur station is forbidden to communicate with amateur stations of another country: **when that country has notified the International Telecommunication Union that it objects to such communications.**
- Third-party traffic is: **a message sent to a non- amateur via an amateur station.**

Al Penney  
VOINO

### **1-15) Frequency Bands & Qualification Requirements**

- If you are the control operator at the station of another amateur who has additional qualifications to yours, what operating privileges are you allowed? **Only the privileges allowed by your qualifications.**
- In addition to passing the Basic written examination, what must you do before you are allowed to use amateur frequencies below 30 MHz? **Advanced test or attain a mark of 80% on the Basic exam.**
- The licensee of an amateur station may operate radio controlled models: **on all frequencies above 30 MHz.**

Al Penney  
VO1NO

### **1-15) Frequency Bands & Qualification Requirements**

- In Canada, the 160 metre amateur band corresponds in frequency to: **1.8 to 2.0 MHz.**
- In Canada, the 75/80 metre amateur band corresponds in frequency to: **3.5 to 4.0 MHz.**
- In Canada, the 40 metre amateur band corresponds in frequency to: **7.0 to 7.3 MHz.**
- In Canada, the 20 metre amateur band corresponds in frequency to: **14.000 to 14.350 MHz.**
- In Canada, the 15 metre amateur band corresponds in frequency to: **21.000 to 21.450 MHz.**
- In Canada, the 10 metre amateur band corresponds in frequency to: **28.000 to 29.700 MHz.**

Al Penney  
VOINO

### **1-16) Maximum Bandwidth by Frequency Bands**

- The maximum authorized bandwidth within the frequency range of 50 to 148 MHz is **30 kHz**.
- The maximum bandwidth of an amateur station's transmission allowed in the band 28 to 29.7 MHz is: **20 kHz**.
- Only one band of amateur frequencies has a maximum allowed bandwidth of less than 6 kHz. That band is: **10.1 to 10.15 MHz**.
- Single sideband is not permitted in the band: **10.1 to 10.15 MHz**.
- The bandwidth of an amateur station shall be determined by measuring the frequency band occupied by that signal at a level of **26 dB** below the maximum amplitude of that Signal.

Al Penney  
VO1NO

### **1-17) Restrictions on Capacity & Power Output by Qualifications**

- What amount of transmitter power must radio amateurs use at all times? **The minimum legal power necessary to communicate.**
- What is the most FM transmitter power a holder of only Basic Qualification may use on 147 MHz? **250 W DC input.**
- At what point in your station is transceiver power measured? **At the antenna terminals of the transmitter or amplifier.**
- What is the maximum transmitting power an amateur station may use for SSB operation on 7055 kHz, if the operator has Basic+ qualifications: **560 watts PEP output.**
- The DC power input to the anode or collector circuit of the final RF stage of a transmitter, used by a holder of an Amateur Radio Operator Certificate with Advanced Qualification, shall not exceed: **1000 watts**

Al Penney  
VO1NO

### **1-18) Unmodulated Carriers, Re-Transmission**

- What kind of amateur station automatically retransmits the signals of other stations? **Repeater station.**
- An unmodulated carrier may be transmitted only: **for brief tests on frequencies below 30 MHz.**
- Radiotelephone signals in a frequency band below **29.5 MHz** cannot be automatically retransmitted, unless these signals are received from a station operated by a person qualified to transmit on frequencies below the above frequency.

Al Penney  
VO1NO



### **1-19) Amplitude Modulation, Frequency Stability, Measurements**

- When operating on frequencies below 148 MHz: **the frequency stability must be comparable to crystal control.**
- An amateur station using radiotelephony must install a device for indicating or preventing: **overmodulation.**
- The maximum percentage of modulation permitted in the use of radiotelephony by an amateur station is: **100 percent.**
- All amateur stations, regardless of the mode of transmission used, must be equipped with: **a reliable means of determining the operating radio frequency.**

Al Penney  
VO1NO

### **1-20) International Telecommunication Union (ITU) Radio Regulations, Applicability**

- What type of messages may be transmitted to an amateur station in a foreign country? **Messages of a technical nature or personal remarks of relative unimportance.**
- The operator of an amateur station shall ensure that communications are limited to: **messages of a technical or personal nature.**
- In addition to complying with the Act and Radiocommunication Regulations, Canadian radio amateurs must also comply with the regulations of the: **International Telecommunication Union.**
- In which International Telecommunication Union Region is Canada? **Region 2.**

Al Penney  
VO1NO

### **1-21) Operation Outside Canada, ITU Regions, Reciprocal Privileges, International Licences**

- A Canadian radio amateur, operating his station 7 kilometres (4 miles) offshore from the coast of Florida, is subject to which frequency band limits? **Those applicable to US radio amateurs.**
- Australia, Japan, and Southeast Asia are in which ITU Region? **Region 3.**
- Canada is located in ITU Region: **Region 2.**

Al Penney  
VO1NO

### **1-22) Examinations, Department's Fees, Delegated Examinations, Fees, Disabled Accommodation**

- The fee for taking examinations for amateur radio operator certificates by an accredited volunteer examiner is: **to be negotiated between examiner and candidate.**
- The fee for taking amateur radio certificate examinations at an Industry Canada office is: **\$20 per qualification.**

Al Penney  
VOINO

### **1-23) Antenna Structure Approval, Neighbour and Land-Use Authority Consultation**

- Before erecting an antenna structure, for which community concerns could be raised, a radio amateur must consult with: **the land-use authority, and possibly the neighbours.**

Al Penney  
VO1NO

### **1-24) Radiofrequency Electromagnetic Field Limits**

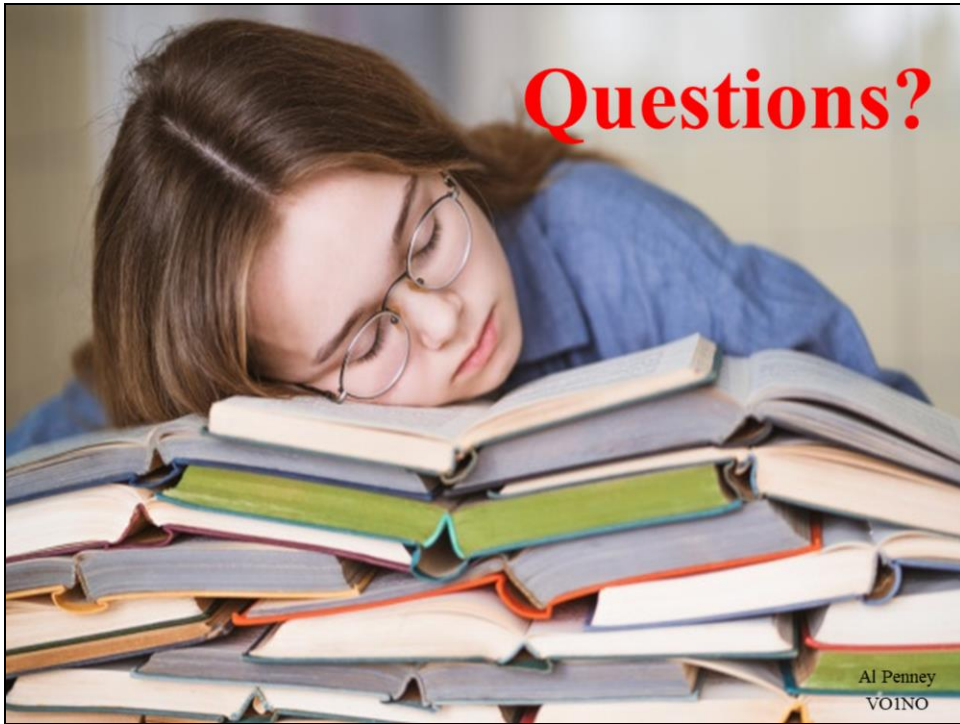
- What organization has published safety guidelines for the maximum limits of RF energy near the human body? **Health Canada**
- What is the purpose of the Safety Code 6? **It gives RF exposure limits for the human body.**
- According to Safety Code 6, what frequencies cause us the greatest risk from RF energy? **30 to 300 MHz.**
- Why is the limit of exposure to RF the lowest in the frequency range of 30 MHz to 300 MHz, according to Safety Code 6? **The human body absorbs RF energy the most in this range.**
- The permissible exposure levels of RF fields: **increases, as frequency is increased above 300 MHz**

Al Penney  
VOINO

### **1-25) Criteria for Resolution of Radio Frequency Interference Complaints**

- In the event of interference to a neighbour's FM receiver and stereo system, if the field strength of the amateur station signal is below **1.83** volts per metre, it will be deemed that the affected equipment's lack of immunity is the cause.
- Which of the following is defined as "any device, machinery or equipment, other than radio apparatus, the use or functioning of which is, or can be, adversely affected by radiocommunication emissions"? **radio-sensitive equipment.**
- Which of the following types of equipment is NOT included in the list of field strength criteria for resolution of immunity complaints? **broadcast transmitters.**

Al Penney  
VO1NO





# CONGRATULATIONS!

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- You have completed the Canadian Basic Amateur Radio Course, and are now ready to write the exam and become a Ham!

Al Penney  
VO1NO

## Some Advice...

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- Write the exam sooner rather than later.
- Recordings will expire 30 November.
- Become a member of Radio Amateurs of/du Canada (RAC) – see next slide.
- Join a club in your area.
- Keep learning – there is always something else to learn!
- GET ON THE AIR!!!

Al Penney  
VO1NO

# RAC Membership

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- RAC offers new Amateurs one year free membership.
- Send the following information to the RAC Officer Manager at [racgm@rac.ca](mailto:racgm@rac.ca) :
  - Full name, preferred contact email, and amateur radio call sign;
  - Full mailing address and contact phone number; and
  - *A scan or photo* of your amateur radio licence provided by ISED Canada with the licence number visible.

Al Penney  
VO1NO

**Good Luck**  
**and**  
**73 de Al, VO1NO**