

The Search and Rescue Interagency Frequency (SAR-IF) 149.080 MHz

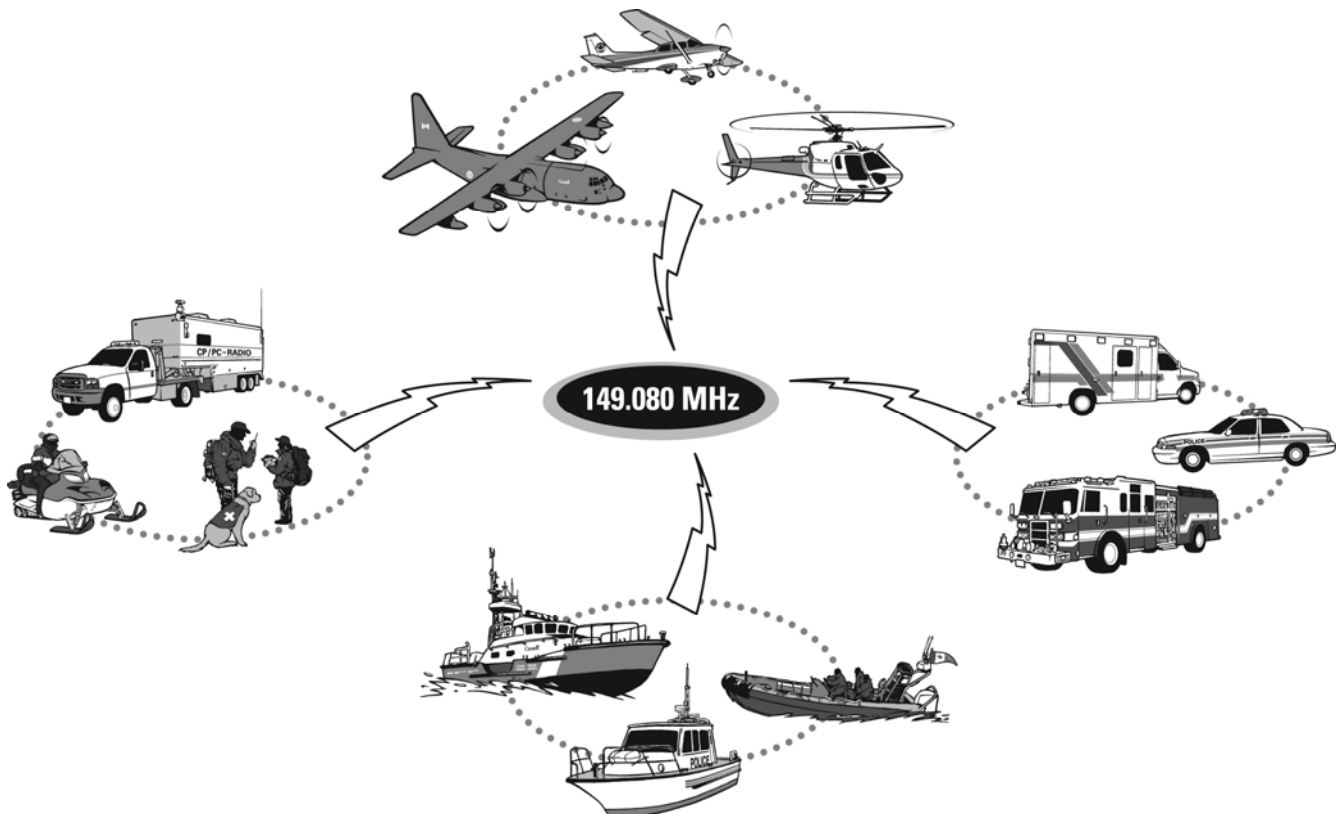
The Search and Rescue Interagency Frequency (SAR-IF) is a national radio communications channel that Industry Canada has made available in support of on-site search and rescue (SAR) operations. Since Canada's SAR system relies on a diversity of air, marine, and ground resources working together to save lives, the SAR-IF provides a critical communications link between first responders, enhancing operational safety and effectiveness.

SAR-IF channel

The SAR-IF is a Very High Frequency (VHF) simplex radio communications channel located in the land mobile band at 149.080 MHz. The National Working Group on Search and Rescue Radio Communications recommended a channel in this band since the majority of radios used for SAR in Canada already operate in this frequency range. While it will take some time for all SAR providers across Canada to be equipped with the SAR-IF, the move towards acquiring and using this frequency is an important common goal, notably when equipment is being purchased or upgraded.

Operational use of the SAR-IF

The SAR-IF is intended to provide a communications link between front-line responders during interagency SAR operations. For example, if a police force coordinating the search for a group of overdue canoeists requests the assistance other resources – such as a military aircraft, a volunteer ground search team, and a park patrol boat -- all of these responders could establish and maintain direct contact in the search area if they were equipped to use the SAR-IF. Each group, however, would continue to use their own communications systems to coordinate amongst themselves. Radio traffic on the SAR-IF would therefore be limited to front-line operational contact between the different groups.



Use of the SAR-IF for training exercises

As with all aspects of multi-jurisdictional operations, radio communications between agencies need to be tested and rehearsed. The SAR-IF may be used during interagency SAR exercises, but this requires a minimum of 48 hours notification to the appropriate regional or district Industry Canada office. Unless alternate regional arrangements have been made, this notification must be made through the appropriate provincial/territorial Ground Search and Rescue Council of Canada representative. A list of these representatives may be consulted on the National Search and Rescue Secretariat website at www.nss.gc.ca.

Obtaining a licence for the SAR-IF

SAR agencies or individuals wishing to use the SAR-IF must apply to their Industry Canada District Office for a new radio licence, or amend their existing licence by adding this frequency to their current complement of radio frequency channels. Additional fees are required when this frequency is added to a base station licence; no additional fees are applicable when adding this frequency to existing mobile licences. While this frequency may be used on board vessels and aircraft, agencies doing so must be aware that the authority for this frequency is not included with the standard maritime and aeronautical radio station licenses. Additional land mobile licensing is required.

Federal, provincial, territorial, and municipal governments as well as agencies may apply directly to their Industry Canada District Office for use of the SAR-IF. Other organizations must first obtain a letter of endorsement from their respective sponsoring organization, certifying the need for access to the SAR-IF channel.

Background

For practical reasons, radio frequencies used in the aviation, maritime, and terrestrial environments are allocated in different parts of the radio frequency spectrum to permit efficient day-to-day operations. This separation presents some challenges when SAR responders from these different sectors must work together. Depending upon the nature of the incident, there may be aircraft, vessels, vehicles, and individuals responding from a variety of agencies and organizations who must be able to establish rapidly effective communications.

The National Working Group on Search and Rescue Radio Communications was formed to study these challenges and propose solutions. The Working Group, which included representatives from all major SAR organizations in Canada, submitted a proposal to Industry Canada that identified the creation of a common interagency frequency as a top priority. Industry Canada responded by offering the use of one of the department's own national radio frequencies to the SAR community. The National Search and Rescue Secretariat and the Ground Search and Rescue Council of Canada are now working to communicate the availability and use of this frequency to all SAR providers in Canada.

For more information on the SAR-IF, including implementation and licensing, visit the National Search and Rescue Secretariat website at www.nss.gc.ca, or call 1-800-727-9414 (in Canada, 08:30-16:30 Eastern).

The Search and Rescue Interagency Frequency (SAR-IF)

Frequently Asked Questions

1) Who should use the SAR-IF?

The SAR-IF is intended for use by first responders participating in a search and rescue (SAR) incident who must establish interagency communications. This includes the military, Canadian Coast Guard, police, SAR volunteers, park wardens, fire and ambulance services, emergency measures organizations, amateur radio operators supporting SAR, and many others.

2) Does the SAR-IF replace existing radio frequencies used for SAR?

No. The SAR-IF is intended to link together responders from different agencies and operational environments (e.g. air, ground, marine) who might not otherwise have a means of establishing direct radio communication. It is not intended to replace the existing operational or tactical radio frequencies used by individual groups for internal communications. Doing so would unnecessarily congest the SAR-IF channel, interfering with its intended purpose.

3) Is the SAR-IF a secure channel?

No. In order for it to be effective, the SAR-IF must remain accessible to a diverse range of agencies at short notice. Therefore, the SAR-IF is a simplex very high frequency (VHF) channel located in the land mobile band, and is not encrypted. Communications on this channel are not secure, and users must take this into account.

4) Has a CTCSS tone been established for use with the SAR-IF?

Yes. To better enable multi-jurisdictional operations in congested areas, the SAR-IF should be used with the Continuous Tone-Coded Squelch System (CTCSS) tone 156.7 Hz. Depending on the make of the radio, this may also be referred to as a "PL tone", "Quiet Channel", "Channel Guard", or similar. Check your radio documentation or the manufacturer to confirm the setting that corresponds to CTCSS tone 156.7 Hz.

5) Do I need a radio operator's licence to use the SAR-IF?

No. A Radio Operator's Certificate is no longer required to use land mobile frequencies such as the SAR-IF. However, to make most efficient use of the land radio system, everyone using the SAR-IF should be familiar with the operating procedures outlined in Industry Canada's Radiocommunication Information Circular 22 ([RIC-22](#)), *General Radiotelephone Operating Procedures*. This document may also be viewed and downloaded from Industry Canada's website at www.strategis.ic.gc.ca.

6) Does my radio need to be licensed to use the SAR-IF?

Yes. The SAR-IF is a land mobile frequency that is subject to licensing. Industry Canada facilitates access to the radio frequency spectrum by issuing licences for its use.

7) I'm an amateur radio operator. Am I exempt from equipment licensing?

No, you are not exempt in this case. You must licence the radio equipment that will be operating on the SAR-IF. The SAR-IF is not an amateur radio frequency, and is therefore subject to standard licensing regulations.

8) How do I license my radio equipment to use the SAR-IF?

If you would like to license new radio equipment, or have the SAR-IF added to an existing radio licence (fixed or mobile), an application should be made to your nearest [Industry Canada District Office or Service Centre](#). Government departments and agencies may apply directly to Industry Canada for use of the frequency. For other organizations, including volunteer teams, your application must be accompanied by a letter of endorsement from the government department or agency, confirming your need to use the SAR-IF.

9) What application form do I need to complete and send to Industry Canada?

For fixed or base station radios, the form [IC-2365](#), *Application for Licence to Install and Operate a Radio Station in Canada* should be used. For mobile or portable radios, the form [IC-2366](#), *Mobile Radio Station Licence Application* should be used. These forms may be used either to apply for a new radio licence or to add the SAR-IF to an existing licence. They are available online from Industry Canada at www.strategis.ic.gc.ca.

10) How much does a licence cost?

Information on the license fees applicable to fixed, mobile, and portable radios is available through Industry Canada's Radiocommunications Information Circular 42 ([RIC-42](#)), *Guide for Calculating Radio Licence Fees*. This document may also be viewed and downloaded from Industry Canada's website at www.strategis.ic.gc.ca.

11) I use an aircraft (fixed wing or helicopter) from time-to-time in support of SAR operations. Can I use the SAR-IF on the aircraft radio?

Most of the radios installed in light aircraft for voice communications operate in the VHF-AM range between 118 MHz and 137 MHz. Since the SAR-IF at 149.080 MHz is above this range, standard aeronautical radios will not be able to tune this frequency. Radio equipment capable of transmitting on the SAR-IF may be installed in the aircraft (in accordance with applicable Transport Canada requirements), but this equipment will require a radio station licence from Industry Canada. It is not covered by the aeronautical radio station license exemption.

12) I use a boat from time-to-time in support of SAR operations. Can I use the SAR-IF with my marine radios?

Most of the radios used on smaller boats for marine communications operate in the VHF-FM range between 156 MHz and 174 MHz. Since the SAR-IF at 149.080 MHz is below this range, regular marine radios are unlikely to reach this frequency. Radio equipment capable of transmitting on the SAR-IF may be installed or carried on the vessel (in accordance with applicable Transport Canada requirements), but this equipment will require a radio licence from Industry Canada. It is not covered by the marine radio station license exemption.

13) Where can I find out more about the use of the SAR-IF?

Additional information on the SAR-IF, including the Terms and Conditions prescribed by Industry Canada, may be consulted on the National Search and Rescue Secretariat website at www.nss.gc.ca.

14) To make sure everyone knows what channel to go to, how do I pronounce "SAR-IF" on the radio?

The acronym for the SAR-IF can be pronounced, "SAR EYE EFF".