

## **Appendix K: User Manual**

Please refer to the following pages.

# Safety Requirements

## RF Energy Exposure Awareness and Control Information, and Operational Instructions for FCC Occupational Use Requirements

Before using your portable two-way Radio, read this important RF Energy Awareness And Control Information And Operational Instructions to ensure compliance with the FCC's RF exposure guidelines.

**Note** *This radio is intended for use in occupational/controlled conditions where users have full knowledge of their exposure and can exercise control over their exposure to meet FCC limits. This radio device is NOT authorized for general population, consumer, or any other use.*

This two-way radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. It uses radio frequency (RF) energy or radio waves to send and receive calls. RF energy is one form of electromagnetic energy. Other forms include, but are not limited to, electric power, sunlight and x-rays. RF energy, however, should not be confused with these other forms of electromagnetic energy, which when used improperly can cause biological damage. Very high levels of x-rays, for example, can damage tissues and genetic material.

Experts in science, engineering, medicine, health and industry work with organizations to develop standards for exposure to RF energy. These standards provide recommended levels of RF exposure for both workers and the general public. These recommended RF exposure levels include substantial margins of protection. All two-way radios marketed in North America are designed, manufactured and tested to ensure they meet government established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of two-way radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it. Please refer to the following web sites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits.

- <http://www.fcc.gov/oet/rfsafety/ef-faqs.html>
- <http://www.osha.gov/SLTC/radiofrequencyradiation/index.html>

## Federal Communications Commission Regulations

The FCC rules require manufacturers to comply with the FCC RF energy exposure limits for portable two-way radios before they can be marketed in the U.S. When two-way radios are used as a consequence of employment, the FCC requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness

information. Your EFJohnson two-way radio has a RF exposure product label. Also, your EFJohnson user manual, or product manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

## Compliance with RF Exposure Standards

Your EFJohnson two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) for human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

**Note** *The approved batteries supplied with this radio are rated for a 5-5-90 duty factor (5% talk-5% listen - 90% standby), even though this radio complies with the FCC occupational RF exposure limits and may operate at duty factors of up to 50% talk.*

Your EFJohnson two-way radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 1.1307, 1.1310, 2.1091 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition

## RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits, always adhere to the following procedures.

### Guidelines

- Do not remove the RF Exposure Label from the device.
- User awareness instructions should accompany the device when it is transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

## Operating Instructions

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50% of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).
- Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. The antenna should be kept away from eyes.
- When worn on the body, always place the radio in an EFJohnson approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of EFJohnson or other manufacturer's non-approved accessories may result in exposure levels which exceed the FCC's occupational/controlled environment RF exposure limits.
- If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least one inch (2.5 cm) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.
- Use only EFJohnson approved supplied or replacement antennas, batteries, and accessories. Use of non-EFJohnson approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.
- For a list of EFJohnson approved accessories, see the service manual or marketing accessory lists or contact the E.F. Johnson Company.

## Contact Information

Toll-Free: 1-800-328-3911

Fax: 972-819-0639

E-Mail: [customerservice@efjohnson.com](mailto:customerservice@efjohnson.com). You can also e-mail a person directly if you know their first initial/last name (example: [jsmith@efjohnson.com](mailto:jsmith@efjohnson.com)).

You may also contact the Customer Service Department by mail. Please include all information that may be helpful in solving your problem. The mailing address is as follows:

EFJohnson  
Customer Service Department  
1440 Corporate Drive  
Irving, TX 75038-2401

## Electromagnetic Interference

This device complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference. In addition, changes or modification to this equipment not expressly approved by the E.F. Johnson Company could void the user's authority to operate this equipment (FCC Rules, 47CFR Part 15.19).

## Usage Compatibility

Do NOT operate it in areas that are sensitive to RF energy such as aircraft, hospitals, blasting sites, and fuel storage sites. Areas with potentially flammable atmospheres are usually, but not always, clearly posted. These may include gas stations, fuel and chemical storage and transfer stations, below deck on boats, and areas where the air contains flammable chemicals or particles such as grain dust or metal powders.

## Battery Disposal

Dispose of the nickel metal-hydride (NiMH) or Lithium-Ion (Li-Ion) battery used by this radio in accordance with local regulations. Do NOT dispose of it in fire because it can explode. Also, do not short the terminals because it may become very hot.