

RF Energy Exposure Guide

for MeteorComm Two-Way Radios
Installed in Vehicles or at Fixed Sites

IMPORTANT

BEFORE USING YOUR MOBILE 2-WAY RADIO, READ THIS GUIDE WHICH CONTAINS IMPORTANT RF ENERGY AWARENESS AND CONTROL INFORMATION AND OPERATIONAL INSTRUCTIONS TO ENSURE COMPLIANCE WITH THE FCC'S RF EXPOSURE GUIDELINES.

IMPORTANT

RETAIN THIS GUIDE AT THE LOCATION OF THE RADIO INSTALLATION.

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

NOTICE: 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 2-way radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. It uses 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, 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 safe 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 2-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 2-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/rf-faqs.html>

<http://www.osha.gov/SLTC/radiofrequencyradiation/index.html>

Federal Communication Commission Regulations

The FCC rules require manufacturers to comply with the FCC RF energy exposure limits for mobile 2-way radios before they can be marketed in the U.S. When 2-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 label directing users to specific user awareness information. Your MeteorComm (MCC) 2-way radio has an RF exposure product label. Also, your MCC user manual, as well as this RF Energy Exposure Guide guide, includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

Compliance with RF Exposure Standard

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

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

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- 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 for Vehicular Installations

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

1. Guidelines:

- These user awareness instructions should accompany the device or vehicle that it is installed in when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

2. Operator Instructions:

- **For voice operation, 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).
- **Be aware that a transmitter may operate automatically at any time when functioning as a data radio.** People outside of the vehicle must maintain the recommended minimum lateral distance from the antennas at all times. It is the responsibility of the vehicle's operator to keep bystanders beyond the minimum lateral distance from the antennas in order to comply with the FCC RF exposure limits for an uncontrolled/general population environment.
- **Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away, as shown in Table 1, from a properly installed externally-mounted antenna.**

NOTE: Table 1 below lists the recommended lateral distances to be maintained between bystanders and approved, properly installed transmitting antennas (e.g., monopoles over a ground plane, or dipoles) in an uncontrolled environment for each of the radio frequency bands available in MCC multi-band transceivers.

Table 1 Frequency Bands, Rated Power and Recommended Lateral Distance from Transmitting Antenna

Frequency Band of Mobile Transmitter	Rated Power (watts)	max duty cycle	Recommended Minimum Lateral Distance From Transmitting Antenna
39-50 MHz	100	10%	35 in. (89 cm)
151-162 MHz	30	50%	45 in (114 cm)
896-901/935-940 MHz	30	50%	25 in. (64 cm)
2412-2462	0.033	100%	8 in (20 cm)

NOTE: You, as the vehicle operator, **should be knowledgeable of the location of each of the antennas on the vehicle** and of the minimum lateral distances applicable to each. If this information is not available to you, contact your installer to obtain this information. Until this information is available to you, *keep bystanders at a distance beyond the largest lateral distance specified in Table 1 (45 in.) from every antenna on the vehicle.*

Mobile Antenna Installation Guidelines

The following instructions apply only to vehicles with metal bodies or suitable ground plane.

- Mount each antenna connected to a transmitter in the center of the roof or trunk lid of the vehicle. When mounting an antenna to a trunk lid, be sure the minimum lateral separation distances (Table 1) are maintained with respect to back seat passengers.
- Install all antennas in accordance with the manufacturer's instructions.
- Always disable the transmitter when installing or servicing an antenna or transmission line or when working near an installed antenna.
- Mobile antennas may be installed at the center of a vehicle roof or trunk lid as long as the minimum lateral distance is observed.
- Use only MCC-approved or MCC-supplied antennas. Unauthorized antennas, modifications or attachments could damage the radio and their use may violate FCC regulations.

RF Exposure Compliance, Control Guidelines and Operating Instructions for Fixed Installations

To control exposure to yourself and others and to ensure compliance with RF exposure limits, always adhere to the following procedures.

- Base station antennas should be installed on permanent outdoor structures, such as the roof of a building or an antenna tower.
- Install all antennas in accordance with the manufacturer's instructions.
- Always disable the transmitter when installing or servicing an antenna or transmission line or when working near an installed antenna.
- Use only MCC-approved or MCC-supplied antennas. Unauthorized antennas, modifications or attachments could damage the radio and their use may violate FCC regulations.
- RF Exposure compliance at such sites must be addressed on a site-by-site basis. It is the responsibility of the licensee to ensure compliance is met.

Approved Accessories

- This radio has been tested and meets the FCC RF exposure guidelines when used with the MCC accessories supplied with or designated for the product. Use of other accessories may not ensure compliance with the FCC's RF exposure guidelines, and may violate FCC regulations.
- For a list of MCC-approved accessories, refer to the operator manual, or contact MCC.

MeteorComm Contact Information

- For additional information on exposure requirements or other information, contact the MCC factory at (253) 872-2521. Also, you may visit the MCC web site at www.meteorcomm.com.