



## Product Safety and RF Energy Exposure Booklet for Piccolo Interface Units

The Piccolo Interface Unit (PIU) and Piccolo-XR unit are portable devices which are most commonly used in fixed installations.



Caution

**BEFORE USING THIS PIU, READ THIS BOOKLET WHICH CONTAINS IMPORTANT OPERATING INSTRUCTIONS FOR SAFE USAGE AND RF ENERGY AWARENESS AND CONTROL INFORMATION AND OPERATIONAL INSTRUCTIONS FOR COMPLIANCE WITH RF ENERGY EXPOSURE LIMITS IN APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS. ALSO READ THE OPERATIONAL INSTRUCTIONS FOR SAFE USAGE.**



## **RF Energy Exposure Awareness and Control Information and Operational Instructions**

**NOTICE: The PIU and Piccolo-XR devices are authorized for general population consumer use.**

The PIU and Piccolo-XR use electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. They use radio frequency (RF) energy or radio waves to send and receive data. 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 Motorola PIUs and Piccolo-XR units 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 PIUs and Piccolo-XR units. 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 websites 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 Communication Commission (FCC) Regulations**

The FCC rules require manufacturers to comply with the FCC RF energy exposure limits for portable PIUs and Piccolo-XR units before they can be marketed in the U.S.

### ***Compliance with RF Exposure Standards***

Your Motorola PIU and Piccolo-XR are 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. **The PIU and Piccolo-XR comply with the IEEE (FCC) and ICNIRP exposure limits for uncontrolled RF exposure environments.** In terms of measuring RF energy for compliance with these exposure guidelines, **your PIU and Piccolo-XR generate measurable RF energy only while they are transmitting, not when they are receiving or in standby mode.**

## **Your Motorola PIU and Piccolo-XR comply 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
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Australian Communications Authority Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard, 2003
- ANATEL ANNEX to Resolution No. 303 of July 2, 2002 "Regulation of limitation of exposure to electrical, magnetic and electromagnetic fields in the radio frequency range between 9 KHz and 300 GHz" and "Attachment to resolution # 303 from July 2, 2002"

## **RF Exposure Compliance and Control Guidelines and Operating Instructions**

To control your exposure and ensure compliance with the uncontrolled 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 device when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

### ***Operating Instructions***

- When worn on the body, always place the PIU in a Motorola-approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of non-Motorola-approved accessories may result in exposure levels, which exceed the FCC occupational/controlled environment RF exposure limits.
- If you are not using a body-worn accessory and are not using the PIU/Piccolo-XR in the intended-use position, ensure that the antenna and the unit are kept at least one inch (2.5 centimeters) from the body when transmitting. Keeping the PIU and the Piccolo-XR at a proper distance is important because RF exposures decrease with increasing distance from the antenna.

### ***Approved Accessories***

- Use only Motorola-approved supplied or replacement antennas, batteries, and accessories. Use of Non-Motorola approved antennas, batteries, and accessories may exceed the FCC (IEEE) and ICNIRP RF exposure guidelines.

### ***Additional Information***

For additional information on exposure requirements or other training information, visit <http://www.motorola.com/rfhealth>.

## Electromagnetic Interference/Compatibility

**NOTE:** Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

### Facilities

To avoid electromagnetic interference and/or compatibility conflicts, turn off your PIU and Piccolo-XR in any facility where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.

### Medical Devices

#### *Pacemakers*

The Advanced Medical Technology Association (AdvaMed) recommends that a minimum separation of 6 inches (15 centimeters) be maintained between a handheld wireless radio and a pacemaker. These recommendations are consistent with those of the U.S. Food and Drug Administration.

#### **Persons with pacemakers should:**

- ALWAYS keep the PIU and Piccolo-XR more than 6 inches (15 centimeters) from their pacemaker when the PIU and Piccolo-XR are turned ON.
- Not carry the PIU or Piccolo-XR in the breast pocket.
- Turn the PIU and Piccolo-XR OFF immediately if there is any reason to suspect that interference is taking place.

#### *Hearing Aids*

Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

## ***Other Medical Devices***

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

## ***Operational Warnings***



### **Potentially Explosive Atmospheres**

(Explosive atmospheres refers to hazard classified locations that may contain hazardous gas, vapors, or dusts.)

**Turn off your PIU and Piccolo-XR prior to entering any area with a potentially explosive atmosphere.**

**Do not remove, install, or charge batteries in such areas. Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.**

**The areas with potentially explosive atmospheres referred to above include fueling areas such as below decks on boats, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles such as grain, dust or metal powders. Areas with potentially explosive atmospheres are often, but not always, posted.**



### ***Blasting Caps and Blasting Areas***

**To avoid possible interference with blasting operations, turn off your PIU and Piccolo-XR when you are near electrical blasting caps, in a blasting area, or in areas posted: "Turn off two-way radio." Obey all signs and instructions.**

## Operational Cautions



Caution

### Antennas

Do not use any PIU or Piccolo-XR that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.

### Batteries

All batteries can cause property damage and/or bodily injury, such as burns, if a conductive material such as jewelry, keys, or beaded chains touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.



Caution

- Do not operate PIU in a hazardous atmosphere. An explosion or fire may result.
- Do not replace or charge batteries in a hazardous atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion or fire.

A modification changes the unit's hardware from its original design configuration. Modifications can only be made by the original product manufacturer.





- Do not replace or change accessories in a hazardous atmosphere. Contact sparking may occur while installing or removing accessories and cause an explosion or fire.
- Turn the PIU or Piccolo-XR off before removing or installing a battery or accessory.
- Do not disassemble a PIU or Piccolo-XR in any way that exposes the internal circuits of the unit.



- Failure to use an approved battery or Approved accessories specifically approved for the PIU/Piccolo-XR units may result in the dangerously unsafe condition of an unapproved PIU/ Piccolo-XR combination being used in a hazardous location.
- Unauthorized or incorrect modification of the approved Product will negate the approval rating of the product.
- Incorrect repair or relabeling of any Agency-approved PIU could adversely affect the Approval rating of the unit.
- Use of a PIU or a Piccolo-XR in a hazardous atmosphere could result in serious injury or death.

## Repair

A repair constitutes something done internally to the unit that would bring it back to its original condition.

Items not considered as repairs are those in which an action is performed on a unit which does not require the outer casing of the unit to be opened in a manner that exposes the internal electrical circuits of the unit.

## Notes