



## HANDHELD DATA COMPUTER

X- Pad

Product Safety and RF Energy Exposure Booklet for Portable Data Computers with Two-Way Radios



CAUTION

**BEFORE USING THIS DATA RADIO COMPUTER, 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.**

This two-way radio handheld data computer 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 information. 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 two-way radio products 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 radio products. 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/rf-faqs.html>

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

### HANDHELD DATA COMPUTER WITH RADIO - PRODUCT OPERATION AND EME EXPOSURE

**Your Motorola two-way radio device 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
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radio frequency 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"



## Operating Instructions

- Hold the handheld data computer in a vertical position in front of the face with the microphone (and other parts of the computer) at least one inch (2.5 centimeters) away from the nose or lips. Keeping the handheld data computer at a proper distance is important since RF exposures decrease with increasing distance from the antenna.
- When worn on the body, always place the handheld data computer in a Motorola-approved clip, holder, holster, case, or body harness for this product. Using approved bodyworn accessories is important because the use of non-Motorola-approved accessories may result in exposure levels, which exceed the FCC environment RF exposure limits.

## Approved Accessories

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

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 handheld data computer 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.

### Aircraft

When instructed to do so, turn off your handheld data computer when on board an aircraft. Any use of a handheld data computer must be in accordance with applicable regulations per airline crew instructions.

### 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 handheld data computer more than 6 inches (15 centimeters) from their pacemaker when the radio is turned ON.
- Not carry the handheld data computer in the breast pocket.
- Use the ear opposite the pacemaker to minimize the potential for interference.
- Turn the handheld data computer OFF immediately if there is any reason to suspect that interference is taking place.
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## 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.

## Use of Communication Devices While Driving

Always check the laws and regulations on the use of radios in the areas where you drive.

- Give full attention to driving and to the road.
- Use hands-free operation, if available.
- Pull off the road and park before using the handheld data computer, if driving conditions or regulations so require.



## Operational Warnings

### For Vehicles With an Air Bags:

Refer to vehicle manufacturer's manual prior to installation of electronic equipment to avoid interference with air bag wiring.

Do not place a handheld data computer in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable handheld data computer is placed in the air bag deployment area and the air bag inflates, the handheld data computer may be propelled with great force and cause serious injury to occupants of the vehicle.

### Potentially Explosive Atmospheres

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

Turn off your handheld data computer prior to entering any area with a potentially explosive atmosphere unless it is a handheld data computer type especially qualified for use in such areas as Intrinsically Safe (for example, Factory Mutual, CSA, UL, or CEN-ELEC).

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 handheld data computer 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.

## Accessory Safety Information



### Operational Cautions

#### 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 computers. 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.

### IMPORTANT:

#### SAVE THESE ACCESSORY SAFETY INSTRUCTIONS

- Before using any battery or battery charger, read all the instructions for and cautionary markings on (1) the battery, (2) the battery charger, which may include a separate wall-mounted power supply or transformer, and (3) the handheld data computer using the battery.
- Do not expose any battery charger to water, rain, or snow as they are designed for indoor or in-vehicle use only.



**To reduce the risk of injury, charge only the rechargeable batteries listed in the Accessories section of this manual. Other types of batteries may burst, causing personal injury and damage.**

- To reduce the risk of damage to the cord or plug, pull by the plug rather than the cord when you disconnect the battery charger from the power source outlet.
- Do not operate any battery charger with a damaged cord or plug - replace them immediately.
- Battery chargers may become warm during operation, but not hot. If it becomes hot to the touch, unplug it from the power outlet immediately and discontinue its use.
- Use of a non-recommended attachment to a battery charger may result in a risk of fire, electric shock, or injury to persons.
- Make sure the battery charger power cord is located so that it will not be

stepped on, tripped over, or subjected to damage or stress.

- An extension cord should not be used with any battery charger unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure that:
  - The pins on the plug of the extension cord are the same number, size, and shape as those on the plug of the charger.
  - The extension cord is properly wired and in good electrical condition.
  - The cord size is 18AWG for lengths up to 100 feet and 16AWG for lengths up to 150 feet.
  - To reduce the risk of injury, charge only the rechargeable batteries listed in the Accessories section of this manual. Other types of batteries may burst, causing personal injury and damage.