



MOTOROLA

Two-Way Radio

User's Guide



KEM-PK15558

Model FV225

For More Information

For further information, you may call Motorola at 1-800-638-5119 (U.S. and Canada) or visit us on the Internet at <http://www.motorola.com>.

Safety and General Information

Important Information on Safe and Efficient Operation

Read This Information Before Using Your Radio.

The information provided in this document supersedes the general safety information in user guides published prior to December 1, 2002.

Transmit and Receive Procedure

Your two-way radio contains a transmitter and a receiver. To control your exposure and ensure compliance with the general population/uncontrolled environment exposure limits, always adhere to the following procedure:

- Transmit no more than 50% of the time.
- To receive calls, release the PTT button.
- To transmit (talk), press the Push to Talk (PTT) button.

Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting (in terms of measuring standards compliance).

Exposure to Radio Frequency Energy

Your Motorola 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 Electronics 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
- ANATAL 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 300GHz” and “Attachment to resolution #303 from July 2, 2002”

To assure optimal radio performance and make sure human exposure to radio frequency electromagnetic energy is within the guidelines set forth in the above standards, always adhere to the following procedures.

Portable Radio Operation and EME Exposure

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

Do NOT hold the antenna when the radio is “IN USE.” Holding the antenna affects the effective range.

Body-Worn Operation

To maintain compliances with FCC/Health Canada RF exposure guidelines, if you wear a radio on your body when transmitting, always place the radio in a Motorola-supplied or approved clip, holder, holster, case or body harness for this product. Use of non-Motorola-approved accessories may exceed FCC/Health Canada RF exposure guidelines.

If you do not use one of the Motorola-supplied or approved body-worn accessories and are not using the radio held in the normal use position, **ensure the radio and its antenna are at least 1 inch (2.5 cm) from your body when transmitting.**

Data Operation

If applicable, when using any data feature of the radio with or without an accessory cable, **position the radio and its antenna at least one inch (2.5 cm) from the body.**

Approved Accessories

For a list of approved Motorola accessories, visit our Web site at www.Motorola.com.

Electromagnetic Interference/Compatibility

Note: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference; and
2. This device must accept any interference received, including interference that may cause undesired operation.

Facilities

To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio 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 radio when onboard on aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Medical Devices – Pacemakers

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

People with pacemakers should:

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

Medical Devices – 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.

Safety and General Use While Driving

Check the laws and regulations regarding the use of radios in the area where you drive, and always obey them. If you do use your radio while driving, please:

- Give full attention to driving and to the road.
- Use hands-free operation, if available.
- Pull off the road and park before making or answering a call if driving conditions so require.

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

Potentially Explosive Atmospheres

Turn off your radio prior to entering any area with a potentially explosive atmosphere. Only radio types that are especially qualified should be used in such areas as “Intrinsically Safe.” 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.

Note: 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, areas where the air contains chemicals or particles (such as grain, dust or metal powders) and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often—but not always—posted.

Blasting Caps and Areas

To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted “Turn off two-way radios.” Obey all signs and instructions.

Operational Cautions

Antennas

Do not use any portable radio 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—like jewelry, keys or beaded chains—touch 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.

Battery Charger Safety Instructions:

Save these Instructions

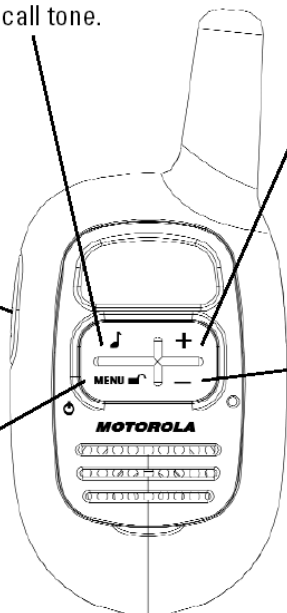
1. Do not expose the charger to rain or snow.
2. Do not operate or disassemble the charger if it has received a sharp blow, or has been dropped or damaged in any way.
3. Never alter the AC cord or plug provided with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.
4. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.
5. To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.
6. Use of an attachment not recommended or sold by Motorola may result in a risk of fire, electric shock or personal injury.
7. Make sure the cord is located so it will not be stepped on, tripped over or subjected to damage or stress.
8. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of a fire and/or 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 18 AWG for lengths up to 100 feet, and 16 AWG for lengths up to 150 feet.
9. The supply cord of this charger cannot be replaced. If the cord is damaged, call Motorola Product Services at 1-800-353-2729 in the USA or 1-888-390-6456 TTY (text telephone).

FCC Information

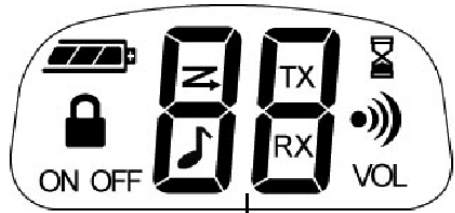
Changes or modifications not expressly approved by Motorola may void the user's authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the provide land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

Control Buttons

- 
1. **Call Tone Button**
Short press sends call tone.
2. **Push to Talk (PTT)**
Push to transmit, release to listen.
In Menu mode, push to confirm selection.
3. **Power/Menu Button**
Long press turns radio on or off.
Short press enters Menu mode.
4. **Plus Button**
Increases volume (volume level flashes and VOL displays).
In Menu mode, enables you to change the channel or turn features on or off.
5. **Minus Button**
Decreases volume (volume level flashes and VOL displays).
In Menu mode, enables you change the channel or to turn features on or off.

Display Screen Guide



Numbers displayed are for
Channel, Code, and Call Tone

 – Battery Meter

 – Monitor

 – Auto Power On/Off

 – Lock

 – Call Tone Confirmation
(Roger Beep)

ON
OFF – On/Off for each feature

Getting Started

Installing the Batteries:

Your radio uses three AAA Alkaline batteries and beeps when the batteries are low.

1. Turn the radio off.
2. With the back of the radio facing you, use the belt clip or a coin to wedge the battery cover open.
3. Insert three AAA Alkaline batteries as shown on the inside of the battery compartment.
4. Reposition the battery cover and press down to secure.

NOTE: The FV200 model radio can use a NiMh rechargeable battery instead of three AAA batteries. A rechargeable battery upgrade kit is available with the rechargeable version.

Installing the NiMh Battery Pack:

1. Turn the radio off.
2. Follow step 2 above to remove the battery cover.
3. Remove the battery pack from the clear plastic bag. Do not disassemble or unwrap the battery pack.
4. Insert the NiMh battery pack so the “This Side Up” is showing.
5. Reposition the battery cover and press down to secure.

Battery Meter

The battery icon shows the battery charge level, from full [icon] to empty [icon]. When the battery is empty, the radio chirps periodically after releasing PTT. The radio powers off when the voltage drops below a predetermined level to protect the rechargeable battery.

Note: Remove the batteries before storing your radio for extended periods of time. Batteries corrode over time and may cause permanent damage to your radio.

Low Battery Alert

In addition to your battery meter showing how much battery power you have, your radio will beep to alert you to the fact that your batteries are low.

Recharging NiMh Battery Pack (optional accessory)

1. Follow steps 1-5 for installing the NiMh battery pack.
2. Plug the AC power adapter into the AC adapter plug on the side of the radio.
3. Plug the AC power adapter into the wall

Notes:

- The light on AC power adapter will glow continuously when radio/battery is connected.
- When moving between hot and cold temperatures, do not charge the battery until the battery temperature acclimates (usually about 20 minutes).
- For optimal battery life, unplug the radio from the AC power adapter within 16 hours.
- When your radio is plugged into the AC power adapter, your radio will not work.

Turning Your Radio On and Off

To turn on, press and hold MENU until a channel number appears and the radio beeps. **To turn off**, press and hold MENU until the radio beeps and the display goes blank.

Adjusting the Volume

Press + to increase or – to decrease the volume. The volume level flashes and VOL displays.

Attaching and Removing the Belt Clip

Hook the belt clip into the notch at the top of the radio and slide down until it clicks into place. To remove, press locking tab back and lift up.

Talking and Listening

1. To talk, press and hold PTT.
2. When you are finished talking, release PTT.

For maximum clarity, hold the radio two to three inches away from your mouth and speak directly into the microphone. Do not cover the microphone while talking.

Talk Range

Your radio is designed to maximize performance and improve transmission range. Do not use the radios closer than five feet apart

Push to Talk Timeout Timer

To prevent accidental transmissions and save battery life, the radio emits a continuous warning tone and stops transmitting if you press PTT for 60 continuous seconds.

Initial Setup

Selecting the Channel

The channel is the frequency your radio uses to transmit. Your radio has 22 channels.

1. Briefly press and release MENU. The channel number flashes.
2. Press + or – to select a channel.
3. Press PTT to confirm or MENU to continue set up.

Channel	Frequency	Description	Channel	Frequency	Description
1	462.5625 MHz	FRS	8	467.5625 MHz	FRS
2	462.5875 MHz	FRS	9	467.5875 MHz	FRS
3	462.6125 MHz	FRS	10	467.6125 MHz	FRS
4	462.6375 MHz	FRS	11	467.6375 MHz	FRS
5	462.6625 MHz	FRS	12	467.6625 MHz	FRS
6	462.6875 MHz	FRS	13	467.6875 MHz	FRS
7	462.7125 MHz	FRS	14	467.7125 MHz	FRS

Setting and Transmitting Call Tones

Your radio has 10 different call tones that you can transmit to other radios in your group to alert them that you want to talk.

To set a call tone:

1. With the radio on, short press MENU until the _ appears. The current call tone setting flashes.
2. Press + or – to change and hear the call tone.
3. Press PTT to set the new call tone or MENU to continue set up.

To transmit your call tone to other radios set to the same channel as your radio, press _.

Note: Setting the call to 0 disables the call tone feature.

Transmitting a Talk Confirmation Tone

You can set your radio to transmit a unique tone when you finish transmitting. It is like saying “Roger” or “Over” to let others know you are finished talking.

1. With the radio on, short press MENU until the -))) appears. The current setting On/Off flashes.
2. Press + or – to turn On or Off.
3. Press PTT to set the talk confirmation tone or MENU to continue set up.

Key Tone On/Off

You may enable or disable the speaker key tones. You will hear the key tone each time a button is pushed.

1. Short press MENU until _ appears and the current setting On/Off will flash.
2. Press either + or – to turn On or Off.
3. Press PTT to confirm or MENU to continue set up.

When the Key Tone Feature is off, the following are not disabled:

- Transmit timeout alert tone;
- Power-down alert tone;
- Low battery alert tone; or
- The transmitted TCT tone.

Auto Power On/Off

Your radio will save power by automatically turning itself off if unused after a predetermined amount of time.

1. Activate this setting by short pressing MENU until the (hour glass icon) displays. The current setting (0, 30, 60, 90) will flash.
2. Press + or – to set the time to 30 minutes, 60 minutes or 90 minutes.
3. When you exit Menu mode, the setting timer will begin if you are not using the radio.
4. The screen shows (show icon here)
5. Press PTT to confirm or MENU to continue set up.

Scanning Channels

Use scanning to monitor channels for transmissions or to find someone in your group who has accidentally changed channels.

1. Short press MENU until the Z appears. The current setting On/Off will flash.
2. Press either + or – to turn On or Off
3. Press PTT to confirm or MENU to continue set up.

When the radio detects channel activity, it stops scanning and you can hear the transmission. To respond, press PTT within five seconds.

Advanced Scan

If the radio stops scanning on a channel you do not want to listen to, briefly press and release + or – to resume scanning for the next active channel.

Monitor

Use this feature to see if there is anyone on the channel you have selected.

1. Short press MENU until RX appears.
2. When you finish listening, press PTT to confirm or MENU to continue set up.

Note: Monitor will time out after five seconds if PTT or MENU is not pressed

Keypad Lock

To avoid accidentally changing your radio settings you can lock your keypad:

1. Short press MENU until the (icon) appears. The current setting On/Off will flash.
2. Push the + or – to turn On or Off.
3. The [Lock icon] will be displayed on your screen.

When in lock mode, you cannot adjust the volume but all other functions work as usual.

Patent and Copyright Information

Manufactured, distributed or sold by Giant International Ltd., official licensee for this product. Motorola, the Motorola logo trademarks and the Motorola trade dress are owned by Motorola, Inc. and are used under license from Motorola, Inc. Please contact Giant International Ltd. at 800-638-5119 for questions/comments, warranty, support, or service related to this product. MOTOROLA and the Stylized M Logo are registered in the U.S. Patent & Trademark Office. All other product or service names are the property of their respective owners.
© Motorola, Inc. 2004.

Warranty

Limited Warranty for Personal Communication Products, Accessories and Software Purchased in the United States or Canada

What Does this Warranty Cover?

Subject to the exclusions contained to the right, (Giant International Ltd.) warrants the Motorola branded wireless telephones, pagers, and consumer two-way radios that operate via Family Radio Service or General Mobile Radio Service that it manufactures ("Products"), the Motorola branded or certified accessories sold for use with these Products that it manufactures ("Accessories") and Motorola branded software contained on CD-Roms or other tangible media and sold for use with these Products that it manufactures ("Software") to be free from defects in materials and workmanship under normal consumer usage for the period(s) outlined below. This limited warranty is a consumer's exclusive remedy, and applies as follows to new Motorola branded Products, Accessories and Software manufactured by (Giant International Ltd.), and purchased by consumers in the United States or Canada, which are accompanied by this written warranty:

Products Covered	Length of Coverage	Exclusions
A. Products and Accessories as defined above, unless otherwise provided for below. 1. Decorative Accessories and Cases. Decorative covers, bezels, PhoneWrapSM covers and cases. 2. Monaural Headsets. Ear buds and boom headsets that transmit mono sound through a wired connection. 3. Consumer Two-Way Radio Accessories. 4. Products and Accessories that are Repaired or Replaced.	A. One (1) year from the date of purchase by the first consumer purchaser of the product unless otherwise provided for below. 1. Limited lifetime warranty for the lifetime of ownership by the first consumer purchaser of the product. 2. Limited lifetime warranty for the lifetime of ownership by the first consumer purchaser of the product. 3. Ninety (90) days from the date of purchase by the first consumer purchaser of the product. 4. The balance of the original warranty or for ninety (90) days from the date returned to the consumer, whichever is longer.	Normal Wear and Tear. Periodic maintenance, repair and replacement of parts due to normal wear and tear are excluded from coverage. Batteries. Only batteries whose fully charged capacity falls below 80% of their rated capacity and batteries that leak are covered by this limited warranty. Abuse & Misuse. Defects or damage that result from: (a) improper operation, storage, misuse or abuse, accident or neglect, such as physical damage (cracks, scratches, etc.) to the surface of the product resulting from misuse; (b) contact with liquid, water, rain, extreme humidity or heavy perspiration, sand, dirt or the like, extreme heat, or food; (c) use of the Products or Accessories for commercial purposes or subjecting the Product or Accessory to abnormal usage or conditions; or (d) other acts which are not the fault of Motorola or (Giant International Ltd.), are excluded from coverage. Use of Non-Motorola branded Products and Accessories. Defects or damage that result from the use of Non-Motorola branded or certified Products, Accessories, Software or other peripheral equipment are excluded from coverage. Unauthorized Service or Modification. Defects or damages resulting from service, testing, adjustment, installation, maintenance, alteration, or modification in any way by someone other than Motorola, (Giant International Ltd.) or its authorized service centers, are excluded from coverage. Altered Products. Products or Accessories with (a) serial numbers or date tags that have been removed, altered or obliterated; (b) broken seals or that show evidence of tampering; (c) mismatched board serial numbers; or (d) nonconforming or non-Motorola branded housings, or parts, are excluded from coverage. Communication Services. Defects, damages, or the failure of Products, Accessories or Software due to any communication service or signal you may subscribe to or use with the Products Accessories or Software is excluded from coverage.
B. Software. Applies only to physical defects in the media that embodies the copy of the software (e.g. CD-ROM, or floppy disk).	B. Ninety (90) days from the date of purchase.	Software Embodied in Physical Media. No warranty is made that the software will meet your requirements or will work in combination with any hardware or software applications provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. Software NOT Embodied in Physical Media. Software that is not embodied in physical media (e.g. software that is downloaded from the internet), is provided "as is" and without warranty.

Who is covered?

This warranty extends only to the first consumer purchaser, and is not transferable.

What will (GIANT INTERNATIONAL LTD.) Do?

(GIANT INTERNATIONAL LTD.), at its option, will at no charge repair, replace or refund the purchase price of any Products, Accessories or Software that does not conform to this warranty. We may use functionally equivalent reconditioned/refurbished/pre-owned or new Products, Accessories or parts. No data, software or applications added to your Product, Accessory or Software, including but not limited to personal contacts, games and ringer tones, will be reinstalled. To avoid losing such data, software and applications please create a back up prior to requesting service.

How to Obtain Warranty Service or Other Information?

To obtain service or information, please call:

USA Two-Way Radios

1-800-638-5119

Canada Two-Way Radios

1-800-638-5119

For Accessories and Software, please call the telephone number designated above for the product with which they are used.

You will receive instructions on how to ship the Products, Accessories or Software, at your expense, to a (GIANT INTERNATIONAL LTD.) Authorized Repair Center. To obtain service, you must include: (a) a copy of your receipt, bill of sale or other comparable proof of purchase; (b) a written description of the problem; (c) the name of your service provider, if applicable; (d) the name and location of the installation facility (if applicable) and, most importantly; (e) your address and telephone number.

What Other Limitations Are There?

ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY, OTHERWISE THE REPAIR, REPLACEMENT, OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IN NO EVENT SHALL MOTOROLA OR (GIANT INTERNATIONAL LTD.) BE LIABLE, WHETHER IN CONTRACT OR TORT (INCLUDING NEGLIGENCE) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, ACCESSORY OR SOFTWARE, OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, SOFTWARE OR APPLICATIONS OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCTS, ACCESSORIES OR SOFTWARE TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

Some states and jurisdictions do not allow the limitation or exclusion of incidental or consequential damages, or limitation on the length of an implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or from one jurisdiction to another.

Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted Motorola software such as the exclusive rights to reproduce and distribute copies of the Motorola software. Motorola software may only be copied into, used in, and redistributed with, the Products associated with such Motorola software. No other use, including without limitation disassembly of such Motorola software or exercise of the exclusive rights reserved for Motorola, is permitted.

