



**Two-Way Radio  
User Guide**



KEM-ML36801A

MD Series

- ANATEL ANNEX to Resolution No. 303 of July 2, 2002.
- ANATEL ANNEX to Resolution No. 533 of September 10, 2009.

To ensure 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*

- 53724: Remote Speaker with Push-to-Talk Microphone
- 53727: Earbud with Push-to-Talk Microphone
- 53728: Flexible Ear Receiver

**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.

*Medical Devices - Other*

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.

The use of a two-way radio while engaged in activities requiring concentration may cause distraction or otherwise impair your ability to safely participate in such activities. Always use technology safely.

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.

Exercise care when removing NiMH or AA batteries. Do not use sharp or conductive tools to remove either of these batteries.

*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 extension 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 the AC adaptor cannot be replaced. If the cord is damaged, call customer service at 1-800-638-5119 or e-mail us at giantintl@callcenter.com.

**Licensing Information**

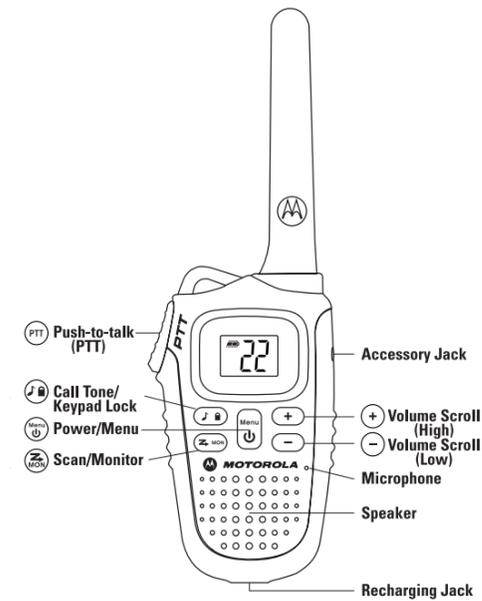
Your Motorola radio operates on FRS & GMRS frequencies in Canada & in the USA. For Canadian citizens, use of these frequencies is subject to the rules & regulations of Industry Canada (IC). IC requires no license when operated in Canada. For USA citizens, use is subject to the rules and regulations of the Federal Communications Commission (FCC). The FCC requires that all operators using GMRS frequencies obtain a radio license before operating their equipment. To obtain the FCC forms, please visit the FCC's Web site at [wireless.fcc.gov/uls/index.htm?job=home](http://wireless.fcc.gov/uls/index.htm?job=home) to source form 605 and 159, which includes all the instructions you will need. If you wish to have the document faxed or mailed, or if you have questions, please use the following contact information:

For a fax: Contact the Fax-On-Demand system	For mail service: Call the FCC Forms Hotline	If you have questions about the FCC License: Call the FCC
1-202-418-0177	1-800-418-FORM (3676)	1-888-CALL-FCC (225-5322)

Changes or modifications not expressly approved by Motorola may void the user's authority granted by the IC/FCC to operate this radio and should not be made. To comply with IC/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 private 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 IC/FCC equipment authorization for this radio could violate IC/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**



**Display Screen Guide**



**Numbers For Channel,  
Call Tones**

- Battery Meter
- Keypad Lock
- ON OFF – On/Off for each feature
- Scan
- Call Tone, Keypad Tone
- TX – Transmitting
- RX – Receiving
- Auto Power Off
- Talk Confirmation Tone (Roger Beep)
- VOL – Volume

**Getting Started**

**Installing the Batteries**

Each radio uses 1 NiMH rechargeable battery pack or 3 AA alkaline batteries and beeps when the batteries are low.

**Installing NiMH Rechargeable Battery Pack**

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery latch up to release the battery cover and remove the cover.
3. Remove the NiMH battery pack from the clear plastic bag (do not disassemble or unwrap the battery pack).
4. Insert the NiMH battery pack with the diagram facing you.
5. Reposition the battery cover and press down to secure.

**Installing the Three AA Alkaline Batteries (Optional Accessory)**

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery latch up to release the battery cover and remove the cover.
3. Insert the three AA alkaline batteries with + and - polarity as shown inside.
4. Reposition the battery cover and press down to secure.

**Radio Battery Meter**

The radio battery icon shows the radio battery charge level, from full to empty . When the radio has one segment left, the radio chirps periodically or after releasing (Low Battery Alert).

**Removing the NiMH Battery Pack**

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery latch up to release the battery cover and remove the cover.
3. Gently remove the NiMH battery by easing it out.
4. Reposition the battery cover and press down to secure.

**Removing the Three AA Alkaline Batteries (Optional Accessory)**

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery latch up to release the battery cover and remove the cover.
3. Remove each alkaline battery by easing each battery out individually.
4. Reposition the battery cover and press down to secure.

**Notes:**

- Exercise care when removing NiMH or AA batteries. Do not use sharp or conductive tools to remove either of these batteries.
- Remove the batteries before storing your radio for extended periods of time. Batteries corrode over time and may cause permanent damage to your radio.

**Using the Plug-in Charging Adaptor**

The battery plug-in charger (adaptor) provides charging convenience for NiMH batteries in one or both radios. Charge the NiMH battery overnight (at least 16 hours) before using it for the first time. After the initial charge, an empty battery is fully charged within 14 hours.

1. Follow the steps above to install a NiMH battery pack.
2. Connect the AC power adaptor plug into the recharging jack at the bottom of the radio. (The adaptor charges two radios.)
3. Plug the AC power supply into a standard wall outlet.

**Notes:**

- The battery icon will scroll while the battery pack is being charged.
- 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 charging adaptor within 16 hours. Do not store the radio while connected to the charger.

**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.

**Attaching and Removing the Belt Clip**

1. Attach belt clip to pocket or belt strap.
2. Align the belt clip post with the hole in the back of the radio.
3. Gently push until the clip clicks in place.

*To Remove*

1. Push down on the release tab at the top of the belt clip to release the catch.
2. Pull the belt clip away from the back of the radio.

**Turning Your Radio On and Off**

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

**Setting the Volume**

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

**Talking and Listening**

To communicate, all radios in your group must be set to the same channel.

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

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.

**Note:** This radio does not have Interference Eliminator Codes. To communicate with radios that use Interference Eliminator Codes, the Interference Eliminator Code must be set to 0.

**Monitor Button**

Pressing and holding for three seconds allows you to listen to the volume level of the radio when you are not receiving. This allows you to adjust the volume, if necessary. You can also press to check for activity on the current channel before you talk.

**Push-to-Talk (PTT) Timeout Timer**

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

## Menu Options

### Selecting the Channel

Your radio has 22 channels. The channel is the frequency your radio uses to transmit. (See Channels and Frequencies table below.)

- Briefly press and release . The channel number flashes.
- Press or to select a channel.
- Press to confirm or to continue set up.

## Channels and Frequencies

Channel	Frequency (MHz)	Description	Channel	Frequency (MHz)	Description
1	462.5625	GMRS/FRS	12	467.6625	FRS
2	462.5875	GMRS/FRS	13	467.6875	FRS
3	462.6125	GMRS/FRS	14	467.7125	FRS
4	462.6375	GMRS/FRS	15	462.5500	GMRS
5	462.6625	GMRS/FRS	16	462.5750	GMRS
6	462.6875	GMRS/FRS	17	462.6000	GMRS
7	462.7125	GMRS/FRS	18	462.6250	GMRS
8	467.5625	FRS	19	462.6500	GMRS
9	467.5875	FRS	20	462.6750	GMRS
10	467.6125	FRS	21	462.7000	GMRS
11	467.6375	FRS	22	462.7250	GMRS

### Setting and Transmitting Call Tones

Your radio can transmit different call tones to other radios in your group so you can alert them that you want to talk. You have 10 call tones from which to choose.

To set a call tone:

- With the radio on, short press until the appears. The current call tone setting flashes.
- Press or to change and hear the call tone.
- Press to set the new call tone or 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.

- With the radio on, short press until appears. The current setting On/Off flashes.
- Press or to turn On or Off.
- Press to set the talk confirmation tone or to continue set up.

### Keypad Tones

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

- Press until appears. The current setting On/Off will flash.
- Press either or to turn On or Off.
- Press to confirm or to continue set up.

**Note:** When the key tone feature is off, the following are not disabled:

- Transmit timeout alert tone
- Power-down alert tone
- Low battery alert tone
- The transmitted talk confirmation tone

### Auto Power Off

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

- Activate this setting by short pressing until displays. The current setting (0, 30, 60, 90) will flash.
- Press or to set the time to 30 minutes, 60 minutes or 90 minutes.
- When you exit the Menu mode, the setting timer will begin if you are not using the radio.
- The screen shows .
- Press to confirm or to continue set up.

## Special Features

### Keypad Lock

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

- Press and hold until displays.
- When in lock mode, you can turn the radio on and off, receive, transmit, send a call tone, and monitor channels. All other functions are locked.

To unlock the radio, press and hold for a few seconds until no longer displays.

### Scanning Channels

Use scan to search the 22 channels for transmissions from unknown parties, to find someone in your group who has accidentally changed channels, or to quickly find unused channels for your own use.

To start Scanning:

- Briefly press the key. The scan will appear in the display, and the radio will begin to scroll through the channel.
- When the radio detects channel activity matching the channel, it stops scrolling and you can hear the transmission.
- To respond and talk to the person transmitting, press within five seconds after the end of the transmission.
- The radio will resume scrolling through the channels five seconds after the end of any received activity.
- To stop scanning, briefly press the key.

### Scanning Notes

- If you press while the radio is scrolling through inactive channels, the transmission will be on the "home channel". Scanning will resume five seconds after the end of your transmission. You may press the key to stop scanning at any time.
- If the radio stops on an undesired transmission, you may immediately resume the scan by briefly pressing or .
- If the radio repeatedly stops on an undesired transmission, you may temporarily remove that channel from the scan list by pressing and holding or for three seconds. You may remove more than one channel in this way.
- To restore the removed channel(s) to the scan list, turn the radio off and then back on, or exit and re-enter the scanning mode by pressing .
- You cannot remove the home channel from the scan list.

### Use With Accessories

You can transmit more reliably with the use of optional PTT headset accessories. A PTT headset allows privacy to others around you while listening.

Many accessories (sold separately) are available for your radio. For more information, visit our Web site at [www.motorolasolutions.com](http://www.motorolasolutions.com) or [shop.giantintl.com](http://shop.giantintl.com).

- Turn the radio off and plug the PTT accessory into the accessory jack.
- Turn the radio on. You may now press the PTT on the accessory microphone instead of the radio.
- Adjust the volume appropriately by pressing . Lower the volume before placing the accessory on your head or in your ear.

**Note:** The MD Series does not have VOX capabilities, and is only compatible with PTT headset accessories.

## Warranty

**Consumer Two-Way Radio Products and Accessories purchased in the United States and Canada.**

### What Does this Warranty Cover?

Subject to the exclusions contained to the right, Giant International Ltd. warrants the Motorola branded consumer two-way radios that operate via Family Radio Service or General Mobile Radio Service that it manufactures ("Products") and the Motorola branded or certified accessories sold for use with these Products that it manufactures ("Accessories") 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 and Accessories manufactured by Giant International Ltd., and purchased by consumers in the United States and Canada, which are accompanied by this written warranty:

### Products Covered

**Products and Accessories** as defined above, unless otherwise provided for below.

- Consumer Two-Way Radio Accessories.**
- Products and Accessories that are Repaired or Replaced.**

### Length of Coverage

**One (1) year** from the date of purchase by the first consumer purchaser of the product unless otherwise provided for below.

- Ninety (90) days** from the date of purchase by the first consumer purchaser of the product.
- The balance of the original warranty or for ninety (90) days** from the date returned to the consumer, whichever is longer.

### Exclusions

**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 Solutions, Inc. 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, 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 Solutions, Inc., 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 or Accessories due to any communication service or signal you may subscribe to or use with the Products or Accessories is excluded from coverage.

### 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 or Accessories that does not conform to this warranty. We may use functionally equivalent reconditioned/ refurbished/ pre-owned or new Products, Accessories or parts.

### How to Obtain Warranty Service or Other Information?

To obtain service or information, please call:

### USA and Canada Two-Way Radios

1-800-638-5119

[giantintl@callcenter.com](mailto:giantintl@callcenter.com)

**For Accessories,** 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 or Accessories 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 SOLUTIONS, INC. OR GIANT INTERNATIONAL LTD. BE LIABLE, WHETHER IN CONTRACT OR TORT (INCLUDING NEGLIGENCE) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT OR ACCESSORY, 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 OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCTS OR ACCESSORIES 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.

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