



Two-Way Radio User's Guide



KEM-ML37104-01B

MG160 Series

For More Information

For further information, you may call Motorola at 1-800-638-5119 (U.S.), or e-mail us at support@giantintl.com or visit us on the Internet at www.motorolasolutions.com/talkabout.

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.
- 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 its 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.motorolasolutions.com/talkabout.

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 an 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 batteries. Do not use sharp or conductive tools to remove the batteries.

FCC Licensing Information

Your Motorola radio operates on General Mobile Radio Service (GMRS) frequencies and 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 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 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 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 FCC equipment authorization for this radio could violate FCC rules.

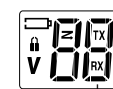
You can find the label with the FCC ID in the battery compartment.

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 Tone

- Low Battery Icon
- Keypad Lock
- Volume
- TX – Transmitting
- RX – Receiving
- Scan

Getting Started

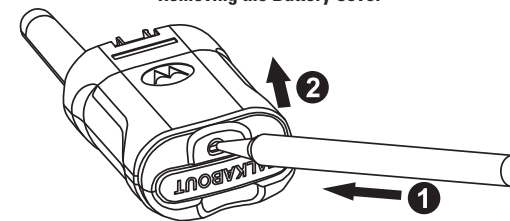
Installing the Batteries

Each radio uses 3 AAA alkaline batteries.

Installing the Three AAA Alkaline Batteries

1. Turn the radio off.
2. With the bottom of the radio facing you, use a small screwdriver, pen, or similar tool as illustrated below to remove the cover.
3. Insert the three AAA alkaline batteries with + and - polarity as shown inside.
4. Reposition the battery cover and press down to secure.

Removing the Battery Cover



Push pen inwards with small amount of pressure and raise slightly upwards

Removing the Three AAA Alkaline Batteries

1. Turn the radio off.
2. With the back of the radio facing you, remove the cover.
3. Gently 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 the batteries. Do not use sharp or conductive tools to remove the batteries.
- Remove the alkaline batteries before storing your radio for extended periods of time. Batteries corrode over time and may cause permanent damage to your radio.

Attaching and Removing the Belt Clip

Hook the belt clip into the notch at the top of the radio and slide it down until it clicks into place.

To Remove

Squeeze the release latch together and slide the clip up and away from 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

1. Press the to increase or to decrease the volume. The volume level flashes and "V" displays.

Do not hold the radio close to your ear. If the volume is set to an uncomfortable level, it could hurt your ear.

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.

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.

Talk Range

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

Monitor Button

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

1. Press and hold to check for the channel activity.
2. When you finish listening, release the button.

Push to Talk (PTT) Timeout Timer

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

Menu Options

Selecting the Channel

1. With the radio on, press . The current channel flashes.
2. Press + or - and select a channel.
3. Press or to confirm your selection.

Channels and Frequencies

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


Transmitting Call Tones

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

Note: To receive the call tone, radios that use Interference Eliminator Codes must be set to 0.

Special Features

Low Battery Alert

When the battery is empty, the low battery icon  will flash, and the radio chirps periodically.

Talk Confirmation Tone





Your radio transmits a unique tone when you finish transmitting. It is like saying “Roger” or “Over” to let others know you are finished talking.

Scan

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.



Scan mode uses the channel and code combinations for each of the 22 channels as you have set them.



To Start or Stop a scan:

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

Keypad Lock

To avoid accidentally changing your radio settings:

1. Press and hold  until  displays.
2. 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  until  is no longer displayed.

Warranty

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

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”), 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, which are accompanied by this written warranty:

Products Covered	Length of Coverage	Exclusions
<p>Products and Accessories as defined above, unless otherwise provided for below.</p> <ol style="list-style-type: none">1. Consumer Two-Way Radio Accessories.2. Products and Accessories that are Repaired or Replaced.	<p>One (1) year from the date of purchase by the first consumer purchaser of the product unless otherwise provided for below.</p> <ol style="list-style-type: none">1. Ninety (90) days from the date of purchase by the first consumer purchaser of the product.2. The balance of the original warranty or for ninety (90) days from the date returned to the consumer, whichever is longer.	<p>Normal Wear and Tear. Periodic maintenance, repair and replacement of parts due to normal wear and tear are excluded from coverage.</p> <p>Batteries. Only batteries whose fully charged capacity falls below 80% of their rated capacity and batteries that leak are covered by this limited warranty.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

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 Two-Way Radios

1-800-638-5119

support@giantintl.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.

Patent and Copyright Information

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