



Two-Way Radio User's Guide



KEM-PK14146

Model SX700 series

- 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
- ANATOL 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:

- This device may not cause harmful interference; and
- 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.

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

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

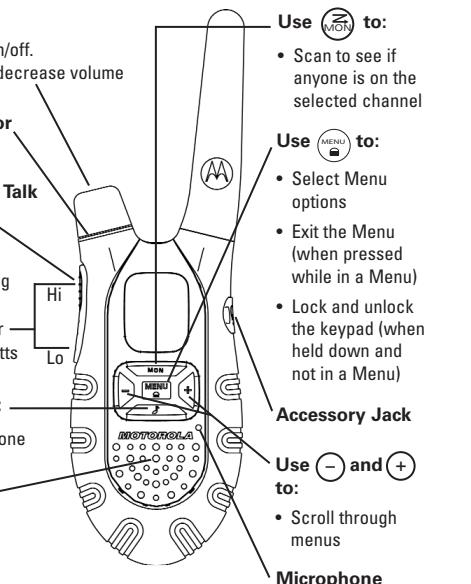
Antennas

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.

Control Buttons



Using the Desk Stand Charger (Optional Accessory)

The desk stand charger provides drop-in charging convenience for NiMH batteries and can be placed on any flat surface, such as a desk or workbench. 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.

- Follow the steps above to install a NiMH Battery Pack.
- Plug the AC power supply into the plug on the desk stand.
- Plug the AC power supply into a standard wall outlet.
- Remove the battery pocket inserts from the charger pockets.
- With a radio facing forward, slide it into one of the charging pockets.

Notes

- The light on the AC power supply will glow continuously when radio/battery is inserted.
- 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, remove the radio or battery from the charger within 16 hours. Do not store the radio in the charger.
- Turn radio off while in charging tray.

Using the Belt Holster

Your radio includes a holster so you may carry it easily on your belt.

- Adjust the holster's clip so it fits onto your belt.
- Slide your radio into the holster.

Turning Your Radio On and Off

Turn **clockwise** to turn the radio on and **counterclockwise** to turn the radio off.

- The radio chirps and briefly shows all features icons available on your radio.
- The display then shows the current channel, code and features that are selected.

Setting the Volume

Press and hold **while rotating** until you reach a comfortable listening level.

- Rotate **clockwise** to increase the volume.
- Rotate **counterclockwise** to decrease the volume.

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

Display Screen Guide



Numbers for Channel, Call Tone	ON – On/Off for each feature
Numbers for Codes	iVOX – Hands-Free Use Without Accessories
– Battery Meter	ON – On/Off for each feature
– 2 watt Channel Indicator	Vibrate
– .5 watt channel indicator (see Initial Set Up)	Scan
– Lock	Call Tone, Keypad Tone
– Call Tone Confirmation (Roger Beep)	Weather Alert
QT – Noise Filtering	iVOX – Hands-Free Use Without Accessories

Getting Started

Installing the Batteries

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

- Turn the radio off.
- With the back of the radio facing you, lift the battery latch up to release the battery cover and remove the cover.
- Insert four AAA Alkaline batteries as shown on the inside of the battery compartment.
- Reposition the battery cover and press down to secure.

NOTE: The SX700 model radio can use a NiMH rechargeable battery instead of four AAA batteries.

Installing the NiMH Battery Pack

- Follow step 1 and 2 above to remove the battery cover.
- Remove the battery pack from the clear plastic bag. **Do not disassemble or unwrap the battery pack.**
- Insert the NiMH battery pack so the "This Side Up" is showing.
- Reposition the battery cover and press down to secure.

NOTE: When on FRS only channel top or bottom press of **PTT** will only be 0.5Watt **QT**.

Battery Meter

The battery icon shows the battery charge level, from full **to empty**. 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.

Note: If you are on an FRS only channel (see channel and frequencies chart) the radio will only use low power when either portion of the **PTT** is pressed.

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 **PTT** 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 **PTT** for 60 continuous seconds.

Initial Setup

Selecting the Channel

Your radio has 22 channels. Channels 8-14 are FRS 0.5 Watt only and all other channels are GMRS. When you press the bottom portion of the **PTT** all channels are 0.5 Watt **QT**. If you press the top portion of the **PTT** to boost the power GMRS channels will be 2 Watt **QT**.

Note: When on FRS only channel top or bottom press of **PTT** will only be 0.5Watt **QT**.

- With the radio on, press **. The current channel flashes.**
- Press **+ or –** to set the channel.
- Press **PTT** to save the channel setting or **to continue set up.**

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			

VibraCall® Alert

VibraCall is a vibrating alert that notifies you that your radio is receiving a message. This is useful in noisy environments. When the alert is on, the radio vibrates once every 30 seconds when you receive a message on the channel and code you set.

1. To turn vibrating alerts on, press until is displayed. The current setting will flash.
2. Press or to change the setting to Off/On.
3. Press to set or to continue set up.

QT Noise Filtering

The QT noise-filtering feature helps to ensure uninterrupted communication with other Motorola radios that have this feature. This feature filters out unwanted transmissions from other radios. This is useful in places where there is heavy radio traffic, such as amusement parks or ski resorts.

Note: QT noise filtering is not available when the radio is scanning. To turn QT noise filtering on or off:

1. Short press until QT displays. The current setting On/Off will flash.
2. Press or to turn noise filtering On or Off.
3. Press to confirm your selection or to continue set up.

To transmit to a radio that has QT noise filtering turned on:

1. Select the same channel and Interference Eliminator Code as the other radio.
2. Press to send a call tone. This allows your voice to pass through the QT noise filter on the receiving radio.

3. Press and speak normally.

Note: If you skip step 2, the beginning of your message may not be heard on the receiving radio. For a 30-second period, starting after the last transmission, all transmissions received on the selected channel and code will pass through the QT noise filter.

Keypad Tones

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

1. Press until appears. The current setting On/Off will flash.
2. Press either or to turn On or Off.
3. Press to confirm or 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 Talk Confirmation Tone.

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, press until the appears. The current setting On/Off flashes.
2. Press or to turn On or Off.
3. Press to set or to continue set up.

Special Features

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, adjust the volume, 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.

Enhanced Scanning

Use scanning to monitor channels and codes for transmissions or to find someone in your group who has accidentally changed channels. With enhanced scanning, your home channel is scanned more frequently than any other channel. The home channel is the channel where your radio was set when you started to scan. If you activate scan while your radio's Interference Eliminator Code is set to a number between 1 and 121, the radio checks for activity on each channel—but only in the specific code selected. All transmissions using code 0 or any other code are ignored.

1. To start scanning, briefly press and release . The scan indicator displays , and the radio begins to scroll through the channel and Interference Eliminator Code combinations.
2. When the radio detects channel activity, it stops scanning and you can hear the transmission.
3. To respond and talk to the person transmitting, press within five seconds.
4. To stop scanning, briefly press and release .

Note: If you press while the radio is scanning, the radio will transmit on the channel you selected before you activated scan. If no transmission occurs within five seconds, scanning will resume.

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.

Removing Channels from the Scan List (Nuisance Delete Feature)

1. To prevent the radio from scanning a channel, press and hold or for at least three seconds, then release, when the scan first stops on that channel. This temporarily removes the channel from the scan list.
2. Press to exit scan mode.

3. Press a second time to activate scan again.
4. To restore a previously deleted channel, turn the radio off and then back on. The channel is now restored.

Note: You cannot remove your home channel from the scan list. The home channel is the channel your radio was set to when you started the scanning.

Using Audio Accessories:

Many accessories (sold separately) are available for your radio. For more information, visit our Web site at www.motorola.com.

Hands-Free Use With Accessories (VOX)

You can transmit hands-free with the use of optional accessories. Once VOX is turned on, the radio detects your voice and transmits when you speak.

1. Turn the radio off and plug the VOX accessory into the accessory port.
2. Turn the radio on. VOX shows on the display.
3. Adjust the volume appropriately by rotating . Lower the volume before placing the accessory on your head or in your ear.
4. To turn off, simply remove accessory.

Note: There is a short delay between the time you start talking and when the radio transmits. There is a short delay before the transmission is completed.

Weather

Your radio can tune in to broadcasts by the United States National Oceanic and Atmospheric Administration (NOAA) Weather Radio and Environment Canada Weatheradio.

You can listen to a weather channel or set your radio to alert you to emergency weather broadcasts that interrupt routine broadcasts. When you listen to a weather channel, you cannot use your radio in scan mode or for two-way communications.

Both NOAA and Environment Canada have transmitters located throughout the United States and Canada, respectively. These transmitters broadcast watches, forecasts, and other information 24 hours a day.

Weather Channels and Frequencies

Weather Channel	Frequency	Weather Channel	Frequency
WX1	162.550 MHz	WX7	162.525 MHz
WX2	162.400 MHz	WX8	163.275 MHz
WX3	162.475 MHz	WX9	161.650 MHz
WX4	162.425 MHz	WX10	161.775 MHz
WX5	162.450 MHz	WX11	161.750 MHz
WX6	162.500 MHz	WX12	162.000 MHz

Note: NOAA weather radio stations are assigned to cover specific areas and service may be limited. Please check with your local weather office for frequency and details, or visit www.nws.noaa.gov/nwr in the US or www.msc-smc.ec.gc.ca/cd/factsheets/wxradio in Canada to view the appropriate transmitter for your area.

The use of the NOAA logo does not provide an endorsement or implied endorsement by NOAA's National Weather Service, nor does the use of the Weatheradio logo provide an endorsement or implied endorsement by Environment Canada.

Turning Weather Channel Reception On and Off

1. To turn weather reception on, press and hold for three seconds.
2. To turn off, press or turn the radio off and then back on.

Setting the Weather Channel

Your radio receives eight weather frequencies:

1. After turning weather reception on, press . The current channel flashes.
2. Press or to select the channel.
3. Press to save the weather channel setting.

Setting the Weather Alert

Your radio receives eight weather frequencies:

1. After turning weather reception on, press twice. Off/On displays.
2. Press or to select Off/On. If you activate Weather Alert and return to two-way mode, will display.
3. Press to save the weather channel setting.

As with two-way radio reception, weather channel reception depends on how close you are to a transmitter and whether you are indoors or outdoors. Because weather channels are transmitted without codes, they may contain static or noise.

Patent and Copyright Information

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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

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

1. Decorative Accessories and Cases. Decorative covers, bezels, PhoneWrap® 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.

Length of Coverage

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.

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 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.

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 reinstated. 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.

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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