



MOTOROLA
CLS SERIES TWO-WAY RADIO

User's Guide



6864110W20-O

Model CLS1450c

PRELIMINARY

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Introduction

Thank you for purchasing a Motorola **CLG** Series Radio. Your radio is the result of Motorola's 70 plus years of experience as a world leader in designing and manufacturing communications equipment. The CLS1450c radio provides cost-effective communications for restaurants, retail stores, and small businesses. Motorola professional radios are the perfect communications solution for all of today's fast-paced industries.

Please read this guide carefully so you know how to properly operate this product before use.

Package Contents

- CLS Series Radio
- Swivel Belt Holster
- Lithium Ion Battery
- Drop-In Charger with Transformer
- User's Guide
- Accessory Brochure
- Warranty Card
- Phone Transmitter with Transformer (not included with all models)
- Phone Cord (not included with all models)

For product-related questions, please call:

1-800-448-6686 in the USA

1-888-390-6456 TTY (Text Telephone)

On the Web:

www.motorola.com/radios/professional

ATTENTION

Before using this product, read the Radio Frequency (RF) energy awareness information and operating instructions in the Safety and General Information section of this guide to ensure compliance with RF energy exposure limits.

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.FCC Licensing Information

GLS Series professional two-way radios operate on radio frequencies regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you must have a license issued by the FCC.

Application is made available on FCC Forms 601, schedules D and H, and remittance form 159. If ordering the forms by mail, phone, or from the FCC website, please request document number **000601**, which includes all forms and instructions. If using the FCC Fax-on-Demand system, use the 7-digit order numbers listed below.

To obtain the required forms, use the following contact information:

Faxed Call the Fax-On-Demand system at:	Mailed Call the FCC forms hotline at:	By Phone or Web, or for questions regarding FCC license contact the FCC at:
1-202-418-0177	1-800-418-FORM 1-800-418-3676	1-888-CALL-FCC 1-888-225-5322 or: http://www.fcc.gov
Request forms 3060001, 3060003, and 3060006.	Request document 000601.	Request document 000601.

Before filling out your application, decide on which frequency(ies) you can operate. See Frequencies and Bandwidths on page 55. For questions on determining your radio frequency, call Motorola Product Services at 1-800-448-6686.

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.

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

FCC and Interference Information

This equipment complies with Parts 15 and 68 of the FCC rules and the requirements adopted by the Administrative Council for Terminal Attachments (ACTA).

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

Notification of the Local Telephone Company

On the bottom of this equipment is a label that contains, among other information, a product identifier in the form US:AAAEQ##TXXXX. You must, upon request, provide this information to your telephone company.

The digits represented by ## in the product identifier indicate the Ringer Equivalency Number (REN) for this equipment. The REN is useful in determining the number of devices you may connect to your telephone line and still have all of these devices ring when your telephone number is called. In most (but not all) areas, the sum of

the RENs of all devices connected to one line should not exceed 5. To be certain of the number of devices you may connect to your line as determined by the REN, contact your local telephone company.

Notes:

- This equipment may not be used on coin service provided by the telephone company.
- Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.
- If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this cordless phone does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.
- Notice must be given to the telephone company upon permanent disconnection of your telephone from your line.
- The FCC requires that you connect your cordless telephone to the nationwide telephone network through a modular telephone jack (USOC RJ11C/RJ11W or RJ14C/RJ14W).

Rights of the Telephone Company

Should your equipment cause trouble on your line which may harm the telephone network, the telephone company shall, where practicable, notify you that temporary discontinuance of service may be required. Where prior notice is not practical and the circumstances warrant such action, the telephone company may temporarily disconnect service immediately. In case of such temporary discontinuance, the telephone company must:

1. Promptly notify you of such temporary discontinuance;
2. Afford you the opportunity to correct the situation;

3. Inform you of your right to bring a complaint to the Commission pursuant to procedures set forth in Subpart E of Part 68, FCC Rules and Regulations.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

Interference Information

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference with one or more of the following measures:

Reorient or relocate the receiving antenna (that is, the antenna for the radio or television that is “receiving” the interference).

Reorient or relocate and increase the separation between the telecommunications equipment and the receiving antenna.

Connect the telecommunications equipment into an outlet on a circuit different from that to which the receiving antenna is connected.

If these measures do not eliminate the interference, please consult your dealer or an experienced radio television technician for additional suggestions. Also, the Federal Communications Commission has prepared a helpful booklet, “How to Identify and Resolve Radio/TV Interference Problems.” This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Please specify stock number 004-000-00345-4 when ordering copies.

The FCC requires this product to be serviced only by Motorola or its authorized service agents. Changes or modifications not expressly approved by Motorola could void not only the user's authority to operate the equipment, but also the limited warranty.

Hearing Aid Compatibility

This telephone system meets the FCC standards for hearing aid compatibility.

Product Safety and RF Exposure for Portable Two-Way Radios

CAUTION

BEFORE USING THIS RADIO, READ THIS INFORMATION WHICH CONTAINS IMPORTANT OPERATING INSTRUCTIONS FOR SAFE USAGE AND RF ENERGY AWARENESS AND CONTROL INFORMATION FOR COMPLIANCE WITH RF ENERGY EXPOSURE LIMITS IN APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS.

The information provided in this document supersedes the general safety information contained in user guides published prior to February 2002.

Compliance with RF Energy Exposure Standards

NOTICE: This radio is intended for use in occupational/controlled applications where users have been made aware of the potential for exposure and can exercise control over their exposure. This radio device is NOT authorized for general population, consumer or similar use.

Federal Communication Commission (FCC) Regulations

The FCC has established limits for safe exposure to radio frequency (RF) emissions from portable two-way radios. The FCC requires manufacturers to demonstrate compliance with RF exposure limits before portable two-way radios can be marketed in the U.S. When two-way radios are approved for occupational/ controlled environment exposure limits, the FCC requires users to be fully aware of, and exercise control over, their exposure. Awareness and control of RF exposure can be accomplished by the use of labels, or by education and training through appropriate means, such as information and instructions in user manuals or safety booklets.

Your Motorola two-way radio has an RF exposure information label in the battery compartment. This user safety booklet includes useful information about RF exposure and helpful instructions on how to control your RF exposure. Your Motorola two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to RF electromagnetic energy. **This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environments at usage factors of up to 50% talk–50% listen.** In terms of measuring RF energy for compliance with FCC exposure guidelines, **your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.**

NOTE: The approved batteries, supplied with this radio, are rated for a 5-5-90 duty cycle (5% talk–5% listen–90% standby), even though this radio complies with FCC occupational exposure limits at usage factors of up to 50% talk.

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 Electronic Engineers (IEEE) C95.1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to 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, Brasil Regulatory Authority, Resolution 256 (April 11, 2001) “additional requirements for SMR, cellular and PCS product certification.”

Compliance and Control Guidelines and Operating Instructions for Portable Two-Way Radios

To control your exposure and ensure compliance with the occupational/ controlled environment exposure limits, always adhere to the following procedures:

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

- Transmit no more than 50% of the time. To transmit (talk), push the Push- To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50% of the time or less is important since the radio generates measurable RF energy exposure only when transmitting (in terms of measuring standards compliance).



• Hold the radio in a vertical position in front of the face with the microphone (and other parts of the radio including the antenna) at least one to two inches (2.5 to 5 centimeters) away from the lips. Keeping the radio at a proper distance is important since RF exposures decrease with increasing distance from the antenna.

- For body-worn operation, always place the radio in a Motorola-approved clip, holder, holster, case, or body harness for this product. All Motorola-approved accessory, antenna, and device combinations comply with FCC occupational/controlled environment RF exposure limits. Exposure information on various accessory, antenna, and device combinations can be found under the Display Exhibit section of <http://www.fcc.gov/oet/fccid> after searching on the FCC ID number, which can be obtained from the label of your radio. Using non-Motorola-approved accessories may result

in exposure levels which exceed the FCC's occupational/controlled environment RF exposure limits.

- If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, ensure the antenna and the radio are kept one inch (2.5 centimeters) from the body when transmitting. Keeping the radio at a proper distance is important since RF exposures decrease with increasing distance from the antenna.
- Use only Motorola-approved supplied or replacement antennas, batteries, and accessories. Use of non-Motorola-approved antennas, batteries and accessories may exceed FCC RF exposure guidelines. For a list of Motorola-approved antennas, batteries, and other accessories, visit the following web site which lists approved accessories: <http://www.motorola.com/cgiss/index.shtml>

For additional information on exposure requirements or other training information, visit <http://www.motorola.com/rfhealth>.

Electromagnetic Interference/Compatibility

NOTE: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

Facilities

To avoid electromagnetic interference and/or compatibility conflicts, turn off your 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 on board 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.

Persons with pacemakers should:

- ALWAYS keep the radio more than 6 inches (15 centimeters) 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.

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.

Driver Safety

Check the laws and regulations on the use of radios in the area where you drive.

Always obey them.

When using 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.

Operational Warnings

For Vehicles with an Air Bag

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, unless it is a radio type especially qualified for use 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.

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 radio." 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 such as 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

Important Safety Instructions

Follow these safety precautions when using your product to reduce the risk of fire, electric shock, and injury to persons or property:

1. Keep all slits and openings of the phone unblocked. Do not set the phone on a heating register or over a radiator. Ensure that proper ventilation is provided at the installation site.
2. Do not use while wet or while standing in water.
3. Do not use this product near water (for example, near a bath tub, kitchen sink, or swimming pool).
4. Do not allow anything to rest on the power cord. Place the power cord so that it will not be walked on.
5. Never insert objects of any kind into the product slits as that may result in fire or shock.
6. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
7. Do not disassemble this product. If service or repair work is required, contact the Motorola address found in the back of this user's guide.
8. Do not overload wall outlets and extension cords.
9. Avoid using during an electrical storm. Use a surge protector to protect the equipment.
10. Do not use this cordless phone to report a gas leak, especially if you are in the vicinity of the gas line.

Caution: To reduce the risk of fire, use only No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.

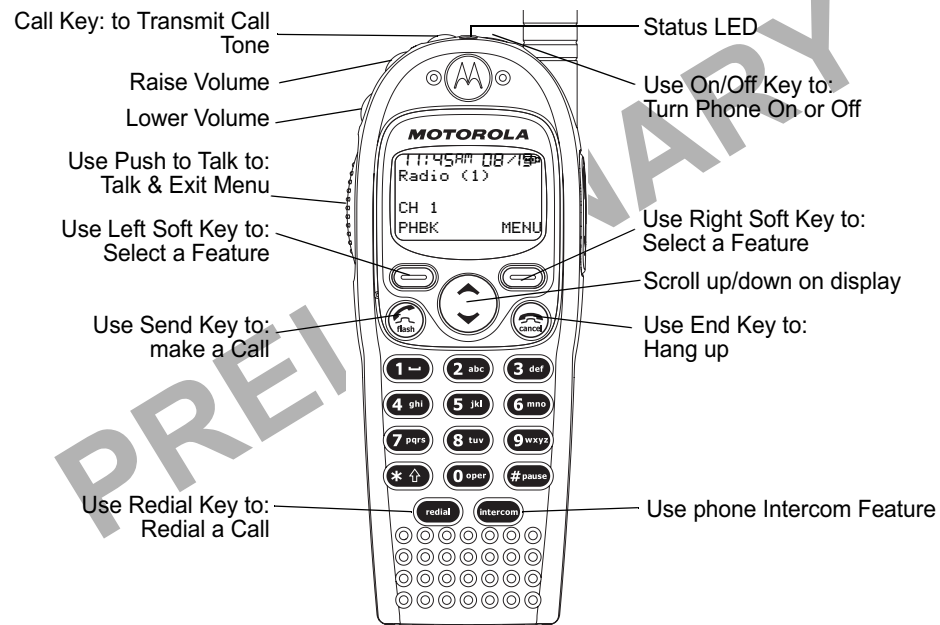
Unplug this product immediately from an outlet if:

- The power cord or plug is damaged or frayed.
- Liquid has been spilled into the product.
- The product has been exposed to rain or water. Do not retrieve the radio or base until after you have unplugged the power and phone from the wall. Then retrieve the unit by the unplugged cords.
- The product has been dropped or the cabinet has been damaged.
- The product exhibits a distinct change in performance.

The supply cord of this charger cannot be replaced. If the cord is damaged, call Motorola Product Services at 1-800-448-6686 in the USA or 1-888-390-6456 TTY (Text Telephone).

PRELIMINARY

Radio Controls



Getting Started

Installing the Phone Transmitter

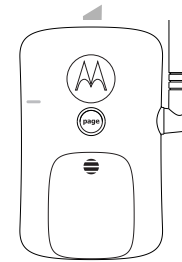
The phone transmitter provides the CLS1450c access to the telephone features. It must be connected to an analog phone line to function, and will work with most business phone systems. Up to 4 CLS1450c handsets can share a single Phone Transmitter, but only one phone line is supported. The phone transmitter should be wall or desk mounted to provide optimum coverage.

1. Remove the battery door on the phone transmitter by sliding it down and off. Install the NiCd battery, then reinstall the transmitter battery door.
2. Connect the phone transmitter to an analog phone line (on the back of the unit).
3. Connect the AC transformer to the Phone Transmitter (on the back of the unit) and plug it into a standard AC outlet.

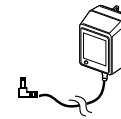
Place the Phone Transmitter:

- Away from electrical appliances such as a TV, personal computer, microwave, or another cordless phone.
- In a high and central location with no obstructions, such as walls.

Caution: To maintain compliance with the FCC's RF exposure guidelines, place the Phone Transmitter at least 20 cm from nearby persons.



Phone Transmitter

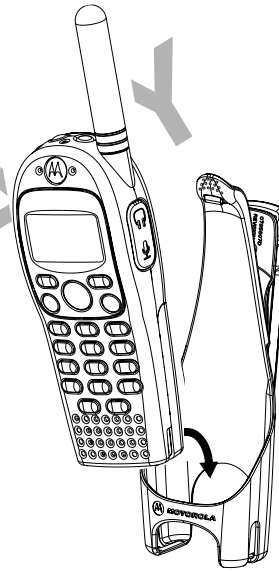


Phone Transmitter
Transformer

Installing the Swivel Belt Holster

1. Slide the bottom of the radio into the holster until it snaps into place.
2. To remove, push the tab on the holster and pull the radio away from the holster.

Note: In case of loss, please contact your point-of-sale or call 1-800-448-6686 to request replacement part number HCLN4019.



Swivel Belt Holster

Installing the Radio Batteries

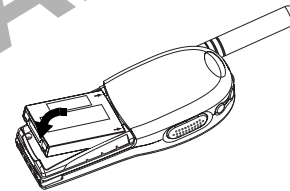
Your radio uses a rechargeable Lithium Ion (Li Ion) battery or 3 AAA alkaline batteries with the 1564200W18 AAA Battery Tray (not included with all models).

Li Ion Battery

1. If the battery door is already in place, push down on the recess on the door and slide it off the radio.
2. Insert the battery, printed arrows first, into the battery compartment and press down to secure it.
3. Slide and snap the battery door into place.

AAA Alkaline Batteries

1. If the battery door is already in place, push down on the recess on the door and slide it off the radio.
2. Insert 3 AAA batteries into the battery tray as shown by the markings inside the tray. High-capacity alkaline batteries are required for optimum battery life.
3. Insert the battery tray into the battery compartment and press down to secure it.
4. Slide and snap the battery door into place.



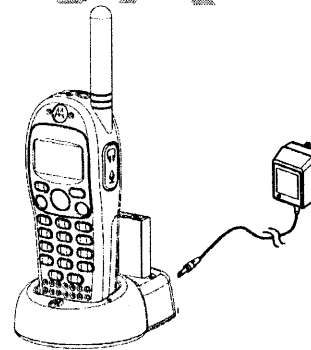
Charging the Battery

Use only the charger supplied with the radio, or other **CLG** Series power accessories. For optimum battery life, do not charge the battery for prolonged periods after it is fully charged. Charging the battery over the weekend is acceptable.

Using the Drop-in Charger

1. Place the charger on a flat surface.
2. Insert the power cord plug into the jack on the charger.
3. Plug the cord into an AC outlet.
4. Turn off the radio. If the radio is on while charging, it will take longer to fully charge.
5. Insert the radio (with battery installed) into the front charging pocket.

Note: The radio will fit in the charger with the holster on.

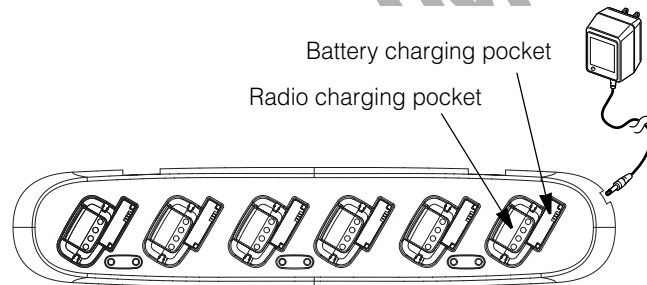


The drop-in charger also will sequentially charge a spare SNN5571 Li Ion battery. The spare battery will not begin to charge until the radio battery fully charges. Both batteries will charge in approximately 2–6 hours.

Using the 56531 Multi-Unit Charger

The Multi-Unit Charger (MUC) allows drop-in charging of up to 6 radios or batteries. It is also used to clone radios. Batteries can be charged inside the radios or removed and placed in the MUC separately. Each of the 6 charging pockets can hold a radio or battery, but not both.

1. Place the charger on a flat surface.
2. Insert the power cord plug into the jack on the MUC.
3. Plug the cord into an AC outlet.
4. Turn off the radio.
5. Insert the radio or battery into the charging pocket.







Charging Status LEDs

On the drop-in charger, the radio and battery charging pockets have their own LEDs. On the MUC, each of the 6 charging pockets has an LED. The LEDs are grouped into pairs to show which charging pockets are paired.

The LED is solid red when the battery is charging, and solid green when charging completes.

Battery Meter

The battery meter in the upper left corner of the display (see page 24) shows how much battery power remains.

Battery Type	3 Bars	2 Bars	1 Bar	Flashing
				
Li Ion	100%–85%	85%–25%	25%–10%	Final 10%
AAA Alkaline	100%–75%	75%–40%	40%–10%	Final 10%

Battery Life

Based on 5% transmit, 5% receive, 90% standby (standard duty cycle):


Li Ion – 10 Hours AAA Alkaline – 8 Hours

Note: For optimal battery life, high-capacity alkaline batteries are recommended.

Turning Your Radio On and Off

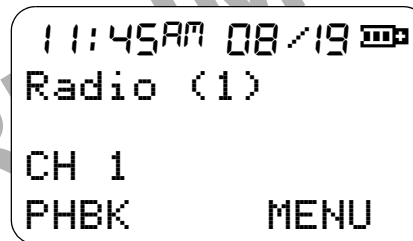
See page 18 for a basic radio diagram.

Note: Your radio must be programmed before use (see the Programming section of this manual).

Press  on the top of the radio until “Motorola” appears and the message “Searching Base” briefly appears until the radio connects to the phone transmitter. When the radio is on, the red transmit LED on the top of the radio flashes every 3 seconds.

Reading the Radio Display

When the radio is not in use, the display shows the standby screen.



To turn off the radio, press and hold  on the top of the radio until it turns off.

Adjusting the Two-way Volume and Alert Tone

Caution: Do not hold the radio too close to your ear when adjusting the two-way volume.

Press 1 of the 2 volume adjustment buttons (⏪ or ⏩) on the side of the unit (above the PTT button). The top volume button incrementally increases the radio volume and the lower volume button incrementally decreases the two-way volume. The volume increments through levels 1 to 10 (for Accessory the volume levels are 1 to 8) and these levels are briefly shown on the display. A beep sounds with each increment change in volume.

Note: When the radio is in the phone mode, the volume keys adjust the phone volume.

Note: Your radio must be programmed before use (see “Programming Mode” page 36).

Using the Soft Keys


The 2 soft keys (⏪) are used to select the functions listed above these keys on the display. The functions change as you move from one screen to the next.

Using the Navigation Key

⏪ is used to scroll up and down through the menu items, a list of settings, caller ID and redial lists, and the phone book. On the radio display ▶ points to the currently selected item, and ⏩ indicates there are more items above and below the currently selected item. Press ⏪ to scroll up or down on the display.

Two-Way Mode

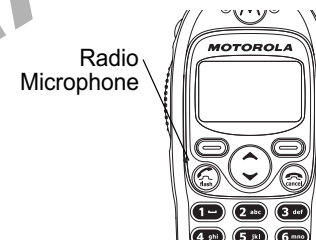
Basic Two-Way Operation

1. Press Menu, press  to select Monitor.
2. Press Change to turn Monitor on to check for channel activity. If you hear static, the channel is clear to use.
3. Press Change to turn Monitor off and press done. Do not transmit if someone is speaking on the channel.
4. To talk, press and hold **Push to Talk** and speak into the microphone. Hold the radio 2 to 3 inches away from your mouth.
5. To listen, release **Push to Talk**.

The transmit LED on the top of the radio is red when transmitting.

Two-Way Talk Range

Industrial	Multi-Level	Outdoor
Inside steel/concrete industrial buildings	Inside multi-level buildings	Flat ground with no obstructions
Up to 200,000 sq. ft.	Up to 15 floors	Up to 5 miles




Cordless Talk Range



Up to 20,000 sq. ft. around the Phone Transmitter.


Using the Main Menu

This section only applies if you subscribe to caller ID service from your local phone company. Only in the programming mode is the user allowed to store caller IDs in the phonebook.


1. Power up the radio.
2. Press Menu from the Standby screen.
3. Press  to scroll through the Main Menu as follows:
 - Caller ID log
 - Monitor:
 - Ring Volume
 - VibraCall
 - Scan:
 - Vox Level:

Caller ID Log

1. Press Menu from the Standby screen.
2. Press  to scroll to Caller ID log, then press Select.
3. Press  to select the desired caller ID number.



4. Press Format to modify the displayed phone number format as desired. (For example, 7-, 10-, or 11-digit phone numbers.)
5. Press Option.
6. Press  to select Delete or Delete All.
7. Press Back to return to the Caller ID screen.
8. Press Cancel to return to the Standby screen.

Monitor Activation




1. Press Menu from the Standby screen.
2. Press  to scroll to Monitor.
3. Press Change to toggle the Monitor feature On or Off. (Static sounds if no one else is using the channel.)
4. Press Done or Cancel to return to the Standby screen.

Note: Press  in the idle mode to disable the monitor mode.

Setting Ring Volume



1. Press Menu from the Standby screen.
2. Press  to scroll to Ring Volume.
3. Press Select.
4. Press Change or  to select the desired ring volume levels (1-10).
5. Press Done to return to the Main Menu.
6. Press Back to return to the Standby screen.

VibraCall

1. Press Menu from the Standby screen.
2. Press  to scroll to VibraCall.
3. Press Select.
4. Press  to select Radio or Phone.
5. Press Change to toggle VibraCall on or off.
6. Press Done to return to the Main Menu.
7. Press Back to return to the Standby screen, the radio will display the VibraCall icon ().

Scan

You can scan up to 4 channels and frequencies. When the radio detects activity, it stops scanning and locks in on the active channel. This allows you to talk and listen to the person transmitting without changing channels.

1. Press Menu from the Standby screen.
2. Press  to scroll to Scan.
3. Press Change to toggle Scan on or off.
4. The scan icon () displays on the Standby screen and the radio scrolls through available channels. When the radio detects activity, it stops on that channel and displays the channel number.

5. To talk to the person transmitting without changing the channels, press Push to Talk within 5 seconds. If no transmission occurs within 5 seconds, scanning resumes.

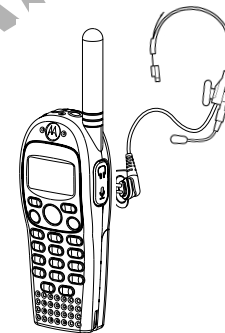
Note: If you press Push to Talk while the radio is scanning, the radio transmits on the channel you were on before you started scanning.


VOX Mode


The two-way feature can operate handsfree (VOX) when used with compatible accessories. A short delay occurs between the time you start talking and the radio transmits.

1. Turn the radio off.
1. Turn the radio off.
2. Open the accessory cover.
3. Plug the audio accessory firmly into the accessory jack.
4. Turn the radio on, and lower the radio volume BEFORE placing the accessory in or near your ear.
5. For initial use of VOX accessories, the VOX sensitivity must be reset from the default factory setting.

Note: The radio must be turned off when plugging in accessories, otherwise the radio will transmit until turned off.



You can adjust the sensitivity of your radio accessory or microphone during VOX operation to suit different operating environments. When VOX is in use,  displays on the Standby screen.

1. Press Menu from the Standby screen.
2. Press  to scroll to VOX.
3. Press Select.
4. Press Change to turn VOX on or off and to select the desired sensitivity level (1-3).
 - Off (default)
 - 1 = Low
 - 2 = Medium
 - 3 = High
5. Press Done to return to the Main Menu.
6. Press Back to return to the Standby screen.






Phone Mode

Basic Portable Phone Operation


When placing or receiving a phone call, hold your radio product as you would a wireline telephone. Speak directly into the microphone.

Before you can use phone mode, the handset must be registered to the phone transmitter. This should only be required for additional handsets, as the Starter Package handset is pre-registered (see “Registering your Phone” on page 45).

Making and Receiving a Call

1. To place a call, press  or Intercom. When you hear the dial tone, dial the number.
or
Enter the phone number, then press  or Intercom. This lets you see the phone number on the display before the number is dialed. During a call, the timer on the display shows the amount of time on the call.
2. When you are finished press  to hang up.
3. To receive an incoming call press ,  or Intercom.

Using the Speakerphone Mode

1. Press intercom to answer using the speakerphone.
2. Press  to end the call.

Note: Speaker phone is disabled if an accessory is connected


Placing a Call on Hold

1. Press Hold while a call is in process.
2. Press Resume to continue the call (cannot resume if the handset is out of range).


3. Press  to end the call.

Note: You can place a call on hold to place or answer a two-way call.

Joining a Call




While a first call is ongoing a second caller can join the conversation. Any or all other radios can join a phone conversation already in process. The display will show Line Busy, press  to join the call.


Using Redial

1. Press Redial to recall the last number dialed.
2. Press DELETE to change the number, or press  to dial.

Using Your Phonebook


After you set up your phonebook (see the Programming section) you can select a phone number from the phonebook and use the speed dial digit associated with the phonebook entry to place the call.

1. Press PHBK on the Standby screen.
2. Press  to select the desired phonebook entry.
3. Press  or Intercom to dial the entry.
4. The number preceding an entry name in the phonebook is its speed dial number. To dial this entry, enter the speed dial number followed by the # button. The number and description will appear on the display, press  or Intercom to dial.

5. Press  to end the call.

Phone/Two-way Interaction

Incoming Phone Call During a Two-way Call

If you receive a phone call while you are on a two-way call, an alert tone sounds (vibration in the VibraCall mode). Press  to answer the incoming call. The radio returns to the two-way call at the end of the phone call. The phone needs to be idle for 15 seconds for the two-way to indicate an incoming ring.

Incoming Two-way Call During a Phone Call

If you receive a two-way call while you are on a phone call, an alert tone sounds (vibration in the VibraCall mode). Press Hold to put the phone call on hold and answer the two-way call. Press Resume to continue the phone call. Two-way needs to be idle for 30 seconds for the unit to indicate incoming two-way.

PRELIMINARY

Programming Mode

Programming mode allows you to change the following settings on your radio:

- Radio Config
 - Radio Options
 - Num Chans
 - Call Tones
 - Mic Gain
 - Channel Config
 - Channel
 - Freq
 - Code
- Outgoing Calls
- Caller ID
- Setup Phonebk
- Set Ring Tone
- Register Phone
- Deregister
- Radio Name
- Set Tone/Pulse
- Set Date/Time
- Set Language

- Clone

Note: You cannot enter programming mode while a VOX accessory is plugged into the radio.

Factory Default Settings

Your radio is programmed at the factory to the following settings:

Channel	Frequency
1	2
2	8
3	5
4	6
Code	1
Call Tone	Off
VOX	Off
Microphone Gain	2 (medium sensitivity)
Phone Volume (earpiece)	8
Ring Volume	5
Speaker phone	8

To restore the factory settings, turn on the radio while holding **Ⓟ**, **Ⓢ**, and **Push to Talk (PTT)** together for 3 seconds.

Entering/Exiting the Programming Mode

Press and hold **PTT** and **Ⓢ** for 3 seconds while turning the radio on. The radio beeps and displays the Programming Menu. Press **RESET** to exit the programming mode.

Note: Press and release **PTT** when in programming mode to return to the beginning of the Programming Menu.

Radio Configuration

Programming a Channel Frequency

Note: This has to be done separately for each channel.

1. In the programming mode, press **Ⓢ** to scroll to Two-Way Config then press **Select**.
2. Press **Ⓢ** to scroll to Channel Config and press **Select**.
3. Press **Ⓢ** to scroll to Channel.
4. Press **Change** to select desired Channel (1-4) to be programmed.
5. Press **Ⓢ** to scroll to Freq.
6. Press **Change** to select desired frequency (1-56) or enter the desired number via the keypad. See page 55 for information on frequencies for communicating with other business radios. If you are matching your CLS series radio to an existing Spirit GT radio, see page 61.
7. Press **Done** or **Ⓢ** to continue programming.

Programming the Interference Eliminator Code

The interference eliminator code helps minimize interference by providing code combinations that filter out static, noise, and unwanted messages.

Note: Do this separately for each channel.

1. In the programming mode scroll to Two-Way Config and press Select.
2. Scroll to Channel Config and press Select.
3. Scroll to Code.
4. Press Change to select desired code (0-121) or enter the desired number via the keypad.
5. Press Done or ⏪ to continue programming.

Note: To talk with someone on your two-way, the channel, frequency, and interference eliminator code must be the same on both units.

Programming and Editing the Scan List

Note: Do this separately for each channel.

1. In programming mode, scroll to Two-Way Config and then press Select.
2. Scroll to Channel Config: and press Select.
3. Scroll to Scan.
4. Press Change toggles the setting between Y (Yes) and N (No), Yes is the default.
5. Press Done or ⏪ to continue programming.

For faster scanning and to avoid hearing unwanted transmissions, you can edit the scan list to skip channels.

1. In the programming mode, scroll to Two-Way Config and then press Select.
2. Scroll to Channel Config and press Select.
3. Press Calls and Editing the Scan List.

Selecting Available Channels

1. In programming mode, scroll to Two-Way Config and then press Select.
2. Scroll to Radio Options and press Select.
3. Scroll to Num Chans.
4. Press Change repeatedly until the desired channel number (1-4) displays.
5. Press Done or ⏪ to continue programming.

Note: The radio retains settings for unavailable channels..

Selecting a Call Tone

1. In programming mode, scroll to Two-Way Config and then press Select.
2. Scroll to Radio Options and press Select.
3. Scroll to Call Tones.
4. Press Change repeatedly until the desired call tone (0-3) sounds (0 = off).
5. Press Done or ⏪ to continue programming.

Programming Microphone Gain

1. In programming mode, scroll to Two-Way Config and then press Select.

2. Scroll to Radio Options and press Select.
3. Scroll to Mic Gain.
4. Press Change repeatedly until the desired microphone gain level (1-3) displays.
 - 3 = High sensitivity, for quiet environments
 - 2 = Medium sensitivity (default)
 - 1 = Low sensitivity, for loud environments
5. Press Done or ⏪ to continue programming.

Programming Outgoing Calls


1. In programming mode, scroll to Outgoing Calls and then press Select.
2. Press Change to select Phonebook (Phbk), Ext. (6 digits only), or All (no restriction).
3. Press Done to continue programming.

If dialing a digit to access an outside line is necessary on your phone system, this prefix can be added for use with caller ID and phonebook entries.

1. In programming mode, scroll to Outgoing Calls and then press Select.
2. Press ⏪ to select Prefix.
3. Press Change to scroll from 1 to 9, or Off is no prefix necessary (factory default).

Programming Caller ID

Note: This section applies only if you subscribe to caller ID service from your local phone company.

1. In programming mode, scroll to Caller ID and then press Select.
2. Scroll to the desired caller ID number.
3. Press Option.
4. Press  to select Store, Delete, or Delete All.
5. Press Select.
6. Change ID information as desired.
7. Press Done.
8. Press Back or Option to continue programming caller ID.

Setting up the Phonebook

The Phone Transmitter has a phonebook that stores up to 20 entries and shares them with all registered handsets. In order to setup the phonebook, the handset must be registered and connected to the Phone Transmitter. There is a slight delay in between the initial phonebook entry and when the other handsets will show the new entries.

Name Entry (Memory Mode)

In memory mode, you can access alphanumeric letters and special characters using the radio key pad. For example, the (2) digit key is also the “a, b, c” alpha key.

To enter the letter “c” in a text field, press (2) three times because it is the 3rd letter. Refer to the following chart.

Number of Key Presses/Letters and Special Characters Accessed					
Keys	One Keypress	Two Keypresses	Three Keypresses	Four Keypresses	Five Keypresses
(1)		1	.	?	!
(2)	a	b	c	2	N
(3)	d	e	f	3	N
(4)	g	h	i	4	N
(5)	j	k	l	5	N
(6)	m	n	o	6	N
(7)	p	q	r	s	7
(8)	t	u	v	8	no
(9)	w	x	y	z	9
(0)	0	0	0	0	0

Making a New Entry

When you select <Enter Name>, press any key to enter the name. After you enter Name, press Ⓞ to select <Enter Number> to enter the phone number.

1. In programming mode, scroll to Setup Phonebk and then press Select.
2. Press \odot to select New Entry.
3. Press Select.
4. Enter Name, Number, and Speed Dial number (0-19).

Note: Phonebook entries are shared with all radio registered to the phone transmitter.

5. Press Done or Delete as needed.

Editing/Deleting Phonebook Entries

1. In programming mode, press \odot to scroll to Setup Phonebk and then press Select.
2. Press \odot to select the desired entry.
3. Press View.
4. Press Option.
5. Press \odot to select Edit or Delete.
6. Press Select and edit or delete entry as needed.
7. Press Done to continue programming.
8. Press Back to return to the Standby screen.

Note: It takes about 4 minutes for the updated phonebook to synchronize with all radios.

Selecting a Ring Tone

1. In programming mode, scroll to Set Ring Tone and then press Select.
2. Press Change to select the desired ring tone (1-6).
3. Press Done to continue programming.

Finding Lost or Misplaced Handsets

To find lost or misplaced handsets, press the Page button the Phone Transmitter and all registered handsets will alert.

Registering Your Phone

This section is necessary only for additional radios, the CLS1450c Starter Package already has the radio registered to the phone transmitter. Up to 4 handsets can be registered to the same Phone Transmitter.

1. In programming mode, scroll to Register Phone and press Select.
2. Follow directions on the display.
3. Press Done after "Registration Successful" displays (takes about 10-15 seconds).

Deregistering Your Phone

Lost or misplaced handsets can be deregistered from the Phone Transmitter

1. In programming mode, scroll to Deregister Phone and then press Select.
2. Press Change to select radio number.
3. Press Yes.

4. Press Done after "Deregistration Successful" displays.

Radio Naming

1. In programming mode, scroll to Radio Name and then press Select.
2. Press Change to select radio number.
3. Enter the desired name (up to 7 characters).
4. Press Done to continue programming.

Selecting Dial Tone or Pulse

1. In the programming mode, scroll to Set Tone/Pulse and press Select.
2. Press Change to select Tone or Pulse.
3. Press Done to continue programming.

Setting the Time and Date

Note: If you subscribe to Caller ID Service, the time and date is automatically set upon incoming calls. If entered manually, this information is stored in the Phone Transmitter and shared with registered handsets.

1. scroll to Set Time/Date and press Select.
2. Press Change to select the time format (12hr or 24hr).
3. Press Done.
4. Press ⌚ to Time and enter the desired time.
5. Press 📅 to MM/DD and enter the desired date.

6. Press Done to continue programming.

Selecting a Language

1. In programming mode, scroll to Set Language and then press Select.
2. Press Change to select the desired language (English or French-Canadian).
3. Press Done to continue programming.

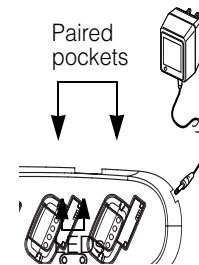
Cloning Handset Settings

You can copy **CLS** Series handset settings from one handset (the source) to a second radio using the 56531 Multi-Unit Charger (MUC) optional accessory. See the *MUC User's Guide* for more information.

You can clone only one handset at a time. CLS1450c will not clone to/from other CLS Series radios. The MUC does not have to be plugged in for cloning, but both handsets require charged batteries.

1. In programming mode, scroll to Set Clone and then press Select.
2. Press Start.



Note: See page 54 for information on frequencies for communicating with other business radios. If you are matching your **CLS** Series radio to an existing Spirit GT radio, see page 61.



Advanced Two-Way Features

You can set the following features by pressing and holding additional buttons **while turning on the radio**.

To Do This	Press This Button While Turning On the Radio	Default Setting
Turn On/Off Keypad Tones Turns off keypad beeps for silent keypad operation.	Down on ☺	On
Turn On/Off End-of-Transmission Tone If enabled, your two-way transmits a tone when you finish transmitting (like saying <i>Roger</i> or <i>Over</i>). If keypad tones are off and end-of-transmission tone is on, you will not hear the end-of-transmission tone, but it is transmitted.	Up on ☺	Off
Turn On/Off Battery Save Mode Decreases attack time, which is the brief period of time between when the radio receives a transmission on its frequency and broadcasts audio. Turning off battery save mode decreases battery life by approximately 20%.	Push to Talk and Right Soft Key	On

To Do This	Press This Button While Turning On the Radio	Default Setting
Restore Factory Defaults Returns radio to its original factory settings.	 Push to Talk and 	---
Disable Two-way Feature Disables the Two-way feature on the radio.	Push to Talk and Left Soft Key	On

PRELIMINARY

Troubleshooting

Symptom	Try This:
No Power	Recharge or replace Li Ion battery. Reposition or replace Alkaline batteries.
Message not transmitted	Make sure Push to Talk is completely pressed while transmitting. Recharge, replace, and/or reposition batteries. Verify the transmit light is illuminated while speaking. Verify Channel, Frequency, and Code settings are correct.
Hearing other noises or conversation on a channel	Frequency may be in use. Change frequency on all radios if possible.
Poor audio quality	Bandwidth does not match. For optimal audio quality when communicating with GLS Series radios, the bandwidth of other radios should be set to 12.5 kHz, if possible.

Symptom	Try This:
Limited talk range	<p>Steel and/or concrete structures, heavy foliage, buildings, or vehicles decrease range. Check for clear line of sight to improve range.</p> <p>Wearing the radio close to body such as in a pocket or on a belt decreases range. Change location of the radio.</p>
Message not received	<p>Confirm radios have the same channel, frequency, and interference eliminator code settings.</p> <p>Recharge, replace, and/or reposition batteries.</p> <p>Move to another location. Obstructions and operating indoors or in vehicles may decrease range.</p> <p>Verify radio is not in scan mode.</p>
Heavy static or interference	<p>Radios are too close. They must be at least 5 feet apart.</p> <p>Radios are too far apart or obstacles are interfering with transmission.</p>
Low batteries	<p>Recharge or replace batteries. Extreme operating temperatures affect battery life.</p>

Symptom	Try This:
Charger light does not come on	<p>Reinsert radio and/or battery.</p> <p>Clean battery and/or charger contacts.</p> <p>Verify that the charging pin on the transformer is inserted correctly into the drop-in charger.</p> <p>AAA cells installed in radio. Remove and replace with Li Ion battery.</p>
Low battery meter reading although new batteries are installed	<p>Verify the radio is set to the correct battery type (see page 21).</p> <p>Verify high-capacity alkaline batteries are used for optimal battery life.</p>
Cannot activate VOX	<p>Feature not set and on.</p> <p>Sensitivity set to 0.</p> <p>Verify that accessory allows VOX operation.</p>

Use and Care



Use a soft damp cloth to clean the exterior.



Do not immerse in water.



Do not use alcohol or cleaning solutions.

If the radio is submerged in water...



Turn off radio and remove batteries.



Dry with soft cloth.



Do not use radio until completely dry.

Frequencies and Bandwidths

These charts provide frequency information and are useful when using Motorola **CLS** Series radios with other business radios. Frequency Display Number is identical to Spirit M, GT, and S-Series frequency position (where applicable), but bandwidth may be different.

UHF Frequencies

Display Number	Frequency (MHz)	Bandwidth
1	464.5000	12.5
2	464.5500	12.5
3	467.7625	12.5
4	467.8125	12.5
5	467.8500	12.5
6	467.8750	12.5
7	467.9000	12.5

Display Number	Frequency (MHz)	Bandwidth
8	467.9250	12.5
9	461.0375	12.5
10	461.0625	12.5
11	461.0875	12.5
12	461.1125	12.5
13	461.1375	12.5
14	461.1625	12.5

UHF Frequencies (Continued)

Display Number	Frequency (MHz)	Bandwidth
15	461.1875	12.5
16	461.2125	12.5
17	461.2375	12.5
18	461.2625	12.5
19	461.2875	12.5
20	461.3125	12.5
21	461.3375	12.5
22	461.3625	12.5
23	462.7625	12.5
24	462.7875	12.5
25	462.8125	12.5

Display Number	Frequency (MHz)	Bandwidth
26	462.8375	12.5
27	462.8625	12.5
28	462.8875	12.5
29	462.9125	12.5
30	464.4875	12.5
31	464.5125	12.5
32	464.5375	12.5
33	464.5625	12.5
34	466.0375	12.5
35	466.0625	12.5
36	466.0875	12.5

UHF Frequencies (Continued)

Display Number	Frequency (MHz)	Bandwidth
37	466.1125	12.5
38	466.1375	12.5
39	466.1625	12.5
40	466.1875	12.5
41	466.2125	12.5
42	466.2375	12.5
43	466.2625	12.5
44	466.2875	12.5
45	466.3125	12.5
46	466.3375	12.5

Display Number	Frequency (MHz)	Bandwidth
47	466.3625	12.5
48	467.7875	12.5
49	467.8375	12.5
50	467.8625	12.5
51	467.8875	12.5
52	467.9125	12.5
53	469.4875	12.5
54	469.5125	12.5
55	469.5375	12.5
56	469.5625	12.5

Interference Eliminator Codes

Display Number	Code (Hz)	Display Number	Code (Hz)	Display Number	Code (Hz)
1	67.0	14	107.2	27	167.9
2	71.9	15	110.9	28	173.8
3	74.4	16	114.8	29	179.9
4	77.0	17	118.8	30	186.2
5	79.7	18	123.0	31	192.8
6	82.5	19	127.3	32	203.5
7	85.4	20	131.8	33	210.7
8	88.5	21	136.5	34	218.1
9	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3
13	103.5	26	162.2		

Carrier Squelch (0) disables interference eliminator codes.

Digital Interference Eliminator Codes

Display Number	Digital Code
39	023
40	025
41	026
42	031
43	032
44	043
45	047
46	051
47	054
48	065
49	071
50	072
51	073
52	074
53	114

Display Number	Digital Code
54	115
55	116
56	125
57	131
58	132
59	134
60	143
61	152
62	155
63	156
64	162
65	165
66	172
67	174
68	205

Display Number	Digital Code
69	223
70	226
71	243
72	244
73	245
74	251
75	261
76	263
77	265
78	271
79	306
80	311
81	315
82	331
83	343

Digital Interference Eliminator Codes (Continued)

Display Number	Digital Code
84	346
85	351
86	364
87	365
88	371
89	411
90	412
91	413
92	423
93	431
94	432
95	445
96	464

Display Number	Digital Code
97	465
98	466
99	503
100	506
101	516
102	532
103	546
104	565
105	606
106	612
107	624
108	627
109	631

Display Number	Digital Code
110	632
111	654
112	662
113	664
114	703
115	712
116	723
117	731
118	732
119	734
120	743
121	754

Spirit GT Series Programming

The **GLS** Series platform is designed to replace the Spirit GT Series platform. The first eight frequencies and 38 interference eliminator codes of **GLS** Series are compatible with Spirit GT Series. To program your **GLS** Series radio to talk with a Spirit GT Series, verify or change your Spirit GT settings as follows.

To verify the frequency and code:

1. Press Menu 3 times. The channel number and frequency display.
2. Press Menu again. The interference eliminator code displays.

To change the frequency:

1. Enter programming mode by pressing and holding **Push to Talk** for approximately 5 seconds while turning the radio on, then release **Push to Talk**.
2. Use the Scroll button to select one the eight frequencies.

To change the interference eliminator code:

1. Enter programming mode by pressing and holding **Push to Talk** for approximately 5 seconds while turning the radio on, then release **Push to Talk**.
2. Press Menu. The code number flashes.
3. Use the Scroll button to select the code.

To exit programming mode on a Spirit GT Series radio, press **Push to Talk** or the radio will exit programming mode after five seconds.

Limited Warranty for Motorola Personal Communications Products Purchased in the United States and Canada

I. What This Warranty Covers

- **Products.** Defects in materials and workmanship in wireless cellular telephones, pagers, and/or two-way radios, and certain accessories that are sold with them, such as the battery, battery charger, and holster manufactured and/or sold by Motorola (Products).
- **Batteries.** Defects in materials and workmanship in batteries that are manufactured by Motorola and/or sold with Products are covered by this warranty only if the fully-charged capacity falls below 80% of rated capacity or they leak.
- **Software.** Physical defects in the media that tangibly embodies each copy of any software supplied with the Products.

II. What the Period of Coverage Is

From the date the Products are purchased by the first end-user:

- **Products.** The warranty is for one year. Exception: The warranty for Spirit GT Series and Talkabout Series two-way radio accessories (including the Spirit GT Series batteries) is for 90 days.
- **Software.** The warranty is for 90 days.
- **Repairs/Replacements.** The warranty is for the balance of the original warranty or for 90 days from the date you receive it, whichever is longer.

III. Who is Covered

This warranty extends to the first end-user purchaser only.

IV. What We Will Do to Correct Warranty Problems

At no charge to you, we have the option to repair or replace the Products or software that do not conform to the warranty, or to refund the Products' purchase price. We may use functionally equivalent reconditioned/refurbished/pre-owned or new Products or parts. No software updates are provided.

V. How to Obtain Warranty Service or Other Information

USA	Phones 1-800-331-6456 Pagers 1-800-548-9954 Two-Way Radios 1-800-448-6686
Canada	All Products 1-800-461-4575
TTY	TTY 1-888-390-6456
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 to Motorola. You must ship the Products to us with freight, duties and insurance prepaid. Along with the Products 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 this Product requires subscription service); (d) the name and location of the installation facility (if applicable) and, most importantly, (e) your address and telephone number. If requested, you must also return all detachable parts such as antennas, batteries and chargers. **RETAIN YOUR ORIGINAL PROOF OF PURCHASE.**

We will ship repaired or replacement Products at our expense for the freight and insurance, but at your expense for any duties. If additional information is needed, please contact us at the telephone number listed above.

VI. What This Warranty Does Not Cover

- Products that are operated in combination with ancillary or peripheral equipment or software not furnished by Motorola for use with the Products (“ancillary equipment”), or any damage to the Products or ancillary equipment as a result of such use. Among other things, “ancillary equipment” includes batteries, chargers, adaptors, and power supplies not manufactured or supplied by Motorola. Any of these voids the warranty.
- Someone other than Motorola (or its authorized service centers) tests, adjusts, installs, maintains, alters, modifies, or services the Products in any way. Any of these voids the warranty.

- Rechargeable batteries that: (a) are charged by other than the Motorola-approved battery charger specified for charging such batteries; (b) have any broken seals or show evidence of tampering; (c) are used in equipment other than the Product for which they are specified; or (d) are charged and stored at temperatures greater than 60 degrees centigrade. Any of these voids the warranty.
- Products that have: (a) serial numbers or date tags that have been removed, altered, or obliterated; (b) board serial numbers that do not match each other, or board serial numbers that do not match the housing; or (c) nonconforming or non-Motorola housings or parts. Any of these voids the warranty.
- Defects or damage that result from: (a) use of the Products in a manner that is not normal or customary; (b) improper operation or misuse; (c) accident or neglect such as dropping the Products onto hard surfaces; (d) contact with water, rain, extreme humidity, or heavy perspiration; (e) contact with sand, dirt or the like; or (f) contact with extreme heat, or spills of food or liquid.
- Physical damage to the surface of the Products, including scratches, cracks, or other damage to a display screen, lens, or other externally exposed parts.
- Failure of Products that is due primarily to any communication service or signal you may subscribe to or use with the Products.
- Coil cords that are stretched or that have any broken modular tabs.
- Products that are leased.

Flat-rate repair rates may apply to Products not covered by this warranty. To obtain information about Products needing repairs that are not covered by this warranty, please call the telephone number previously listed. We will provide information on repair availability, rates, methods of payment, where to send the Products, etc.

VII. Some Other Limitations

This is Motorola's complete warranty for the Products, and states your exclusive remedies. This warranty is given in lieu of all other express warranties. Implied warranties, including without limitation, the implied warranties of merchantability and fitness for a particular purpose, are given only if specifically required by applicable law. Otherwise, they are specifically excluded.

No warranty is made as to coverage, availability, or grade of service provided by the Products, whether through a service provider or otherwise.

No warranty is made that the software will meet your requirements or will work in combination with any hardware or applications software products 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.

In no event shall Motorola be liable, whether in contract or tort (including negligence) for damages in excess of the purchase price of the Product, 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, or other financial loss arising out of or in connection with the ability or inability to use the Products, to the full extent these damages may be disclaimed by law.

VIII. Patent and Software Provisions

At Motorola's expense, we will defend you, and pay costs and damages that may be finally awarded against you, to the extent that a lawsuit is based on a claim that the Products directly infringe a United States patent. Our obligation is conditioned on: (a) you notifying us promptly in writing when you receive notice of the claim; (b) you giving us sole control of the defense of the suit and all negotiations for its settlement or compromise; and (c) should the Products become, or in Motorola's opinion be likely to become, the subject of a claim of infringement of a United States patent, you permit us, at our option and expense, either to: procure for you the right to continue using the Products; replace or modify them so that they become non-infringing; or grant you a credit for such Products, as depreciated, and accept their return. The depreciation will be an equal amount per year over the lifetime of the Products, as established by Motorola.

Motorola will have no liability to you with respect to any claim of patent infringement that is based upon the combination of the Products or parts furnished under this limited warranty with ancillary equipment, as defined in VI., above.

This is Motorola's entire liability with respect to infringement of patents by the Products.

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

Some states and other jurisdictions do not allow the exclusion or limitation 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, which vary from jurisdiction to jurisdiction.

PRELIMINARY

Notes

Notes



QL Series Programming Quick Reference

To enter programming mode, press and hold **Push to Talk** and **Call** while turning on the radio. The radio beeps and the programming screen is displayed.

▶ Radio Config
Outgoing Calls
Caller ID
SELECT ↵ RESET

Select Radio Config	Press SELECT (⏏) and Radio Options is displayed.
Set Radio Options	Press SELECT (⏏).
Set Available Number of Channels	Press CHANGE (⏏) to select 1 through 4 channels.
Set Call Tone	Press CHANGE (⏏) to select a call tone (0-3).
Set Mic Gain	Press CHANGE (⏏) to select the desired gain (1-3).
Select Channel Config	Press SELECT (⏏) and Radio Options is displayed. Press ⏏ to scroll to ⏏ and press SELECT (⏏).
Select Channel	Press CHANGE (⏏) to select 1 of 4 channels.
Select Frequency	Press CHANGE (⏏) to select a frequency (1-56).
Select Code	Press CHANGE (⏏) to select a code (1-120).

Series Programming Quick Reference

Set Scan	Press CHANGE (⏏) to turn the scan mode on (Y) or off (N).
Set Outgoing Calls	Allowed: Press CHANGE (⏏) to select All Calls, Phonebook Only, or Extensions only. Prefix: To select digit to access outside number (if necessary).
View/Modify Caller IDs	Press SELECT (⏏) to view or modify your caller IDs.
Setup Phonebook	Press SELECT (⏏) to view or modify your phone book entries. Note: Phonebook entries are shared with all radios.
Set Ring Tone	Press CHANGE (⏏) change the ring tone (1-6).
Register Phone	Press SELECT (⏏) and follow the screen instructions.
Deregister Phone	Press SELECT (⏏) and follow the screen instructions.
Set Radio Name	Press SELECT (⏏) and enter your radio name using the keypad (up to 7 characters).
Set Tone/Pulse	Press CHANGE (⏏) to change the mode (tone or pulse).
Set Date/Time	Press CHANGE (⏏) to change to set the date and time.
Set Language	Press CHANGE (⏏) to choose the desired language.
Clone	Press START (⏏) to clone your radio (requires Multi Unit Charger).



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