CLS SERIES
TWO-WAY RADIO
MODELS CLS1810T

USER GUIDE

MOTOROLA SOLUTIONS

Contents

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Batteries, Chargers, and Audio Accessories Safety Information

This document contains important safety and operating instructions. Read these instructions carefully and save them for future reference. Before using the battery charger, read all the instructions and cautionary markings on:

- the charger
- the battery
- the radio attached with battery

1. To reduce risk of injury, charge only the rechargeable Motorola Solutions-authorized batteries. Charging the other batteries may cause explosion, personal injury, and damage.

2. Use of accessories not recommended by Motorola Solutions may result in fire, electric shock, or injury.

3. To reduce damage to the electric plug and cord, pull by plug rather than the cord when disconnecting the charger.

4. An extension cord should not be used unless necessary. Use of an improper extension cord may result in fire and electric shock. If an extension cord must be used, make sure that the cord size is 18 AWG for lengths up to 2.0 m (6.5 feet), and 16 AWG for lengths up to 3.0 m (9.8 feet).

5. Do not operate the charger if it has been broken or damaged in any way. Take it to any qualified Motorola Solutions service representatives.

6. Do not disassemble the charger; it is not repairable and replacement parts are not available. Disassembly of the charger may result in risk of electrical shock or

fire.

7. To reduce risk of electric shock, unplug the charger from the AC outlet before attempting any maintenance or cleaning.

Operational Safety Guidelines

- Turn off the radio while charging.
- The charger is not suitable for outdoor. Use only in dry locations or conditions.
- Connect charger to an appropriately fused and wired supply of the correct voltage (as specified on the product only).
- Disconnect charger from line voltage by removing main plug.
- Connect the equipment to an outlet which is easy to access and near.
- For equipment using fuses, replacements must comply with the type and rating specified in the equipment instructions.
- Maximum ambient temperature around the power supply equipment must not exceed 40 °C (104 °F).
- Power output from the power supply unit must not exceed the ratings stated on the product label located at the bottom of the charger.
- Make sure the cord is not stepped on, tripped over, subjected to water, damage, or stress.

Acoustic Safety

Caution

Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the radio volume, the less time is required before your hearing can be affected. Hearing damage from loud noises is sometimes undetectable at first and can have a cumulative effect.

To protect your hearing:

- Use the lowest volume necessary to do your job.
- Increase the volume only if you are in noisy surroundings.
- Reduce the volume before connecting headset or earpiece.
- Limit the amount of time you use headsets or earpieces at high volume.
- If you experience hearing discomfort, ringing in your ears, or speeches that are muffled, you should stop listening to your radio through your headset or earpiece, and have your hearing checked by your doctor.

Notes

FCC Licensing Information

This device complies with Parts 90 and 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the condition that this device does not cause harmful interference. The radio operates on radio frequencies that are regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you are required to have a license issued by the FCC. Application is made available on FCC Form 601 and Schedules D, H, and Remittance Form 159.

To obtain these FCC forms, request document 000601 which includes all forms and instructions. If you wish to have the document faxed, mailed or have questions, use the following contact information.

- Fax - Contact the Fax-On-Demand system at 1-202-418-0177
- Mail - Call the FCC forms hotline at 1-800-418-FORM or 1-800-418-3676
- Contact - For questions regarding FCC license, contact 1-888-CALL-FCC, 1-888-225-5322, or http://www.fcc.gov.

Before filling out your application, you must decide which frequency you can operate on. Refer to "Frequencies and Bandwidth" section for frequency information. For questions on determining the radio frequency, call Motorola Solutions Product Services at: 1-800-448-6686.

Changes or modifications not expressly approved by Motorola Solutions may void the user 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 such as crystal, semiconductor, and others 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.

Supplier's Declaration of Conformity

FC	**Supplier's Declaration of Conformity** Per FCC CFR 47 Part 2 Section 2.1077(a) Responsible Party Name: Motorola Solutions, Inc. Address: 2000 Progress Pkwy, Schaumburg, Il. 60196, U.S.A. Phone Number: 1-800-927-2744 Hereby declares that the product: Model Name: **CLS1810T** conforms to the following regulations: FCC Part 15, subpart B, section 15.107(a), 15.107(d), and section 15.109(a)

Class B Digital Device

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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 off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Radio Frequency Exposure Safety Standards

Product Safety and RF Exposure Compliance.

⚠ **Caution**

Before using the radio, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet contained with your radio.

ATTENTION

This radio is restricted to Occupational use only to satisfy FCC RF energy exposure requirements. Before using the radio, read the RF Energy Exposure and Product Safety Guide for Portable Two-Way Radios which contains important operating instructions for safe usage and RF energy awareness and control for Compliance with applicable standards and Regulations.

For a list of Motorola Solutions-approved antennas, batteries, and other accessories, visit the following website:

http://www.motorolasolutions.com

Notice to Users

This device complies with Part 15 of the FCC rules per the following conditions:

• This device may not cause harmful interference.

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

⚠️ **Caution**	Changes or modifications made to this device, not expressly approved by Motorola Solutions, could void the authority of the user to operate this equipment.

Introduction

This user guide covers the operation of your radios.

Your dealer or system administrator may have customized your radio for your specific needs. Check with your dealer or system administrator for more information.

You can consult your dealer or system administrator about the following:

• Is your radio programmed with any preset conventional channels?
• Which buttons have been programmed to access other features?
• What optional accessories may suit your needs?
• What are the best radio usage practices for effective communication?
• What maintenance procedures that helps promote longer radio life?

For product information, refer to www.motorolasolutions.com

For product related questions, contact **1-800-448-6686**

Radio Controls

Microphone

Use ⬭ to:
Turn radio on/off
Adjust radio volume

Use Push to Talk to:
Talk
Exit a menu

Accessory Jack

Use (MON) to:
Monitor the frequency

Use ⊖ and ⊕ to:
Change channels
Change menu settings

Speaker

Use (MENU) to:
Lock the keypad

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MIC

PUSH TO TALK

PUSH TO TALK

1
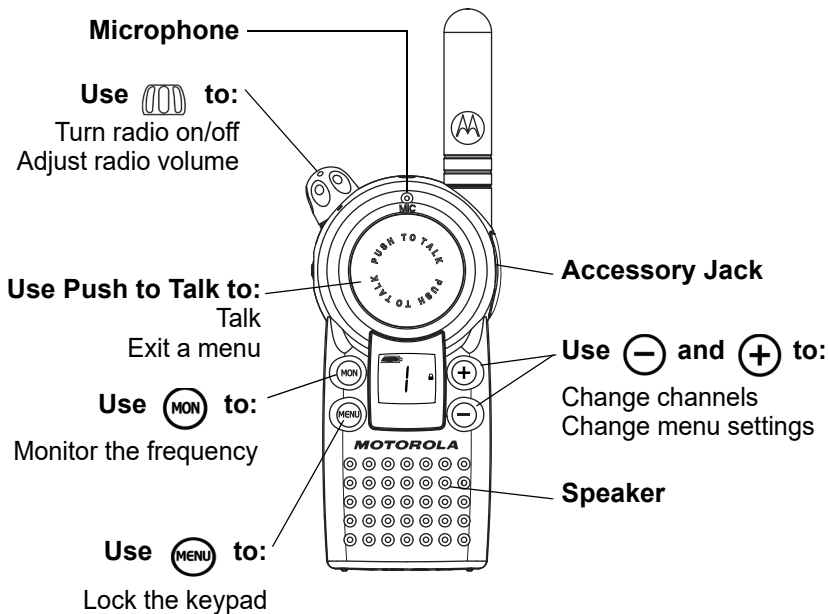
Installing the Batteries

Your radio uses a rechargeable Lithium Ion (Li-Ion) battery.

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 firmly in place.
3. Slide and snap the battery door into place.
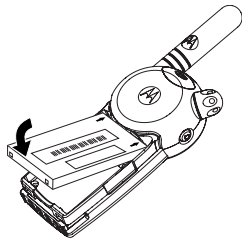
Charging the Battery

Use only the charger supplied with the radio, or other ⟁⟁⟁ 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 plug of the power cord into the jack on the charger.
3. Plug the cord into an AC outlet.
4. Turn the radio off.
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 will also sequentially charge a spare Li-Ion battery. The spare battery will not begin to charge until the radio battery is fully charged. Both batteries will charge in approximately 8 to 10 hours.
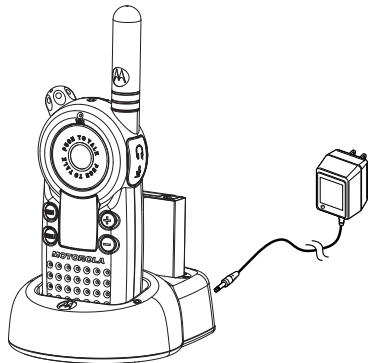
Using the 56531 Multi-Unit Charger
The Multi-Unit Charger (MUC) allows drop-in charging of up to 6 radios or batteries. Batteries can be charged inside the radios or removed and placed in the MUC separately. Each of the 6 charging pockets can hold a radio or battery, but not both.

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 the radio off.
5. Insert the radio or battery into the charging pocket.

Battery charging pocket

Radio charging pocket
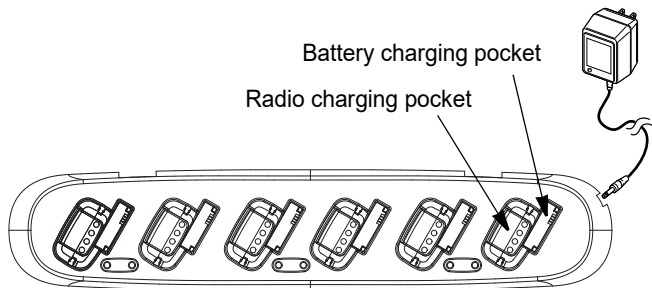
Charging Status LEDs

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 is complete.

Battery Meter

The battery meter in the upper left corner of the display shows how much battery power is remaining.

Battery Type	3 Bars	2 Bars	1 Bar	Blinking
	▰▰▰▭	▰▰▭	▰▭	▰
Li-Ion	100% – 70%	70% – 30%	30% – 10%	Final 10%

Battery Life

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

PMNN4497_ (CLS Li-Ion 1800mAh) - 18.0 Hours

SNN5571_ (CLS Li-Ion 1200mAh) - 12.5 Hours

Turning Your Radio On and Off

See page 12 for a basic radio diagram.

Turn 🎛 clockwise to turn the radio on, and counterclockwise to turn the radio off.

When the radio is on, the transmit light on the top of the radio blinks every 3 seconds.

When you turn the radio on, the radio chirps and the display briefly shows all features and display segments.

The radio then displays the current channel (larger number in the center) and the frequency assigned to that channel (on the right indicated by **FREQ**).

The Interference Eliminator Code displays briefly (indicated by **CODE**), then the current channel remains displayed.

Radio Controls
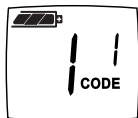
Adjusting the Volume

Turn ⬚ clockwise to increase the volume, and counterclockwise to decrease the volume.

Note: Do not hold the radio too close to your ear when adjusting the volume.

Reading the Display

Note: The radio display shown here is for icon location only. Each radio display may appear different (channel and code) based on the pre-programmed radio defaults.

Signal Strength and Channel Busy Indicator

Battery Meter

Frequency and Interference Eliminator Code

Channel

Keypad Lock

Interference Eliminator Code Indicator

Frequency Indicator

Programming Mode

VOX
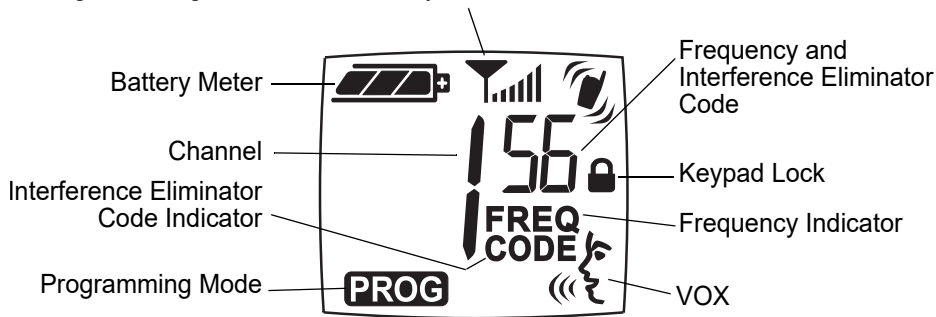
Talking and Receiving

Basic Radio Operation

1. Press and hold (MON) to check for channel activity. If you hear static, the channel is clear to use. Do not transmit if someone is speaking on the channel. Press (MON) again to stop monitoring.
2. To talk, press and hold **Push to Talk** and speak into the microphone. Hold the radio 2 to 3 inches away from your mouth.
3. To listen, release **Push to Talk**.

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

Signal Strength and Channel Busy Indicators

When there is activity on a frequency, the radio displays 📶 and the transmit light blinks at a faster rate of once per second.

When there is activity on the same frequency and code as your radio (your radio is receiving), the radio displays 📶 and a signal strength from 1 (weakest) to 6 (strongest). This can help determine when a radio is moving out of range.
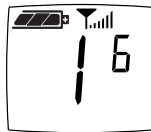
Note: Obstacles that block the signal path may affect the strength of the incoming signal.

Talk Range

Industrial	**Multi-Level**
Inside steel/concrete industrial buildings	**Inside multi-level buildings**
Up to 200,000 sq. ft.	**Up to 15 floors**

Locking the Keypad

You can lock the keypad to avoid accidentally changing your radio settings.

1. Press and hold (MENU) for 3 seconds.
2. To unlock, press and hold (MENU) for 3 seconds.

Monitoring a Channel

Monitoring allows you to check for activity on a channel.

1. Press and hold (MON) . If the channel is clear to use, you will hear static and ▼ and 📶 will display.
2. Press (MON) again to stop monitoring.

Programming Mode

Programming mode allows you to perform the following function on your radio:

• Cloning

Note: To talk with someone on your two-way radio, the channel, frequency, and interference eliminator code must be the same on both radios, which will depend on the store profile that has been preprogrammed on the radio**.**

Entering Programming Mode

Press and hold **Push to Talk** and (MON) for 7 seconds while turning the radio on. The radio beeps and displays **PROG**.
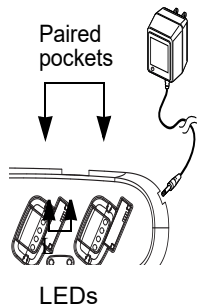
Note: If you press and release the Push to Talk button when programming, you will exit Programming Mode**.**

Cloning Radio Settings

You can copy non-repeater ⬛⬛⬛ Series radio profiles from one radio (the source) to a second radio using the a Multi-Unit Charger (MUC).

You can clone only one radio at a time. The MUC does not have to be plugged in for cloning, but both radios require charged batteries.

1. On the source radio, press and hold **Push to Talk** and (MON) for 7 seconds while turning the radio on. The radio beeps and displays **PROG**.
2. Place the source radio in one of the charging pockets.
3. Turn the target radio on and place it in the charging pocket that is paired with the pocket containing the source radio. There are 3 paired charging pockets as indicated by the 3 pairs of charging status LEDs.
4. Press and hold (MON) on the source radio. The source radio transmits its pre-programmed non-repeater customer specific profile to the second radio. If cloning was successful, P or Pass or "F" for Fail displays on the source radio and the target radio displays all feature icons. If cloning was not successful, F or Fail displays on the source radio.
5. Turn the target radio off and back on again to use.
6. To clone another radio, repeat steps 3 and 4.
7. To exit programming mode on the source radio, press and hold **Push to Talk** until **PROG** no longer appears.

Troubleshooting

Symptom	Try This:
No Power	Recharge or replace Li-Ion battery.
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.
Hearing other noises or conversation on a channel	Frequency may be in use.
Poor audio quality	Bandwidth does not match. For optimal audio quality when communicating with **CLS** Series radios, the bandwidth of other radios should be set to 12.5 kHz, if possible.
Charger light does not come on	Reinsert radio and/or battery. Clean battery and/or charger contacts. Verify that the charging pin on the transformer is inserted correctly into the drop-in charger.

Symptom	Try This:
Cannot enter PROG mode	Unplug audio accessories and retry.

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